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Lender identity, lender equity and project finance debt mandates

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Lkhagvajav Altansukh, declare that this thesis is submitted in fulfillment of the requirements for the award of Doctor of Philosophy, in the Business School at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

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Abstract

This thesis examines market reactions to project finance debt mandate announcements from mine developers listed on the Canadian and Australian equity markets. The thesis documents a significant mean (median) 3-day abnormal return of 5.0% (3.8%) for Australian sample and 4.2% (2.4%) for Canadian sample, consistent with screening benefits and information transfer from private lenders to equityholders. Daily market reactions are stronger for debt mandate announcements than for project finance approvals consistent with screening signals, a greater reduction in information asymmetry and/or the 'retention of the option to wait'. Cross-sectional tests indicate that debt mandates where lenders hold equity positions in the borrower experience higher abnormal returns, suggesting lender equity conveys important signals of information asymmetry reduction. In terms of lender identity tests, mandates from mining partners exhibit higher market reactions, suggesting that mining partners have a superior screening ability. Among non-bank lenders, mandates from investment funds exhibit lower market reactions consistent with the last resort theory and suggest that investment funds are likely to be akin to the lender of last resort for MEE's.

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1. Introduction

Recent data from Refinitiv suggests global project finance (PF) loans in 2020 totalled USD277.6 billion from 901 deals, a decline of 11% compared to the 2019 record amount of USD296.6 billion from 816 deals in 2019. The 2019 figure followed an increase of 5% in 2018 USD282.7 billion (871 deals) which itself was another record. Despite these record levels of PF deals, there is relatively little empirical work on different aspects of PF. A recent study, Ferguson and Lam (2023) (FL, 2023 hereafter) takes advantage of a unique setting in the Australian mining industry 'where Australian Securities Exchange (ASX) listed companies own the project companies that hold rights to mineral projects' (p.2). They investigate market reactions to PF loan approvals. The objective of this study is to extend work on aspects of capital market reactions to PF loan announcements, to consider the market reactions to an important event related to the PF loan cycle, the debt mandate.

Only limited prior work has considered capital market reactions to debt mandate announcements (Grosse, 2014; FL, 2023). Prior US work is confined to considering potential moral hazard issues associated with analysts of investment banks winning debt and equity underwriting mandates (Ljungqvist et al., 2006). The focus of this study however is more on the analyst forecast behaviour preceding the debt or equity mandate, as opposed to the process and implications of mandating. Despite the presence of only descriptive evidence in the literature to date, there is reason to believe debt mandate announcements should be of interest to accounting and finance researchers. The mandate constitutes a unique screening signal, connected to, but quite contractually distinct from a credit committee approved offer of PF (approval). The limited descriptive evidence available appears to support this conjecture. For example, FL, Table 5 reports a small sample of 45 debt mandates, the average three-day CAAR is 4.14% compared to a more modest three-day CAAR of 2.61% for loan approvals. These

descriptive statistics are similar to those reported in Grosse (2014). To the extent that debt mandating exists more broadly than just the PF context and be present in other syndicated finance and in other industries, this may constitute another possible reason why market reactions studies to bank loan announcements with larger samples have produced mixed results (Fery et al., 2003; Gonzalez, 2011; Maskara & Mullineaux, 2011).

Like FL, I take advantage of a high information asymmetry setting (Mining Exploration Entities or MEEs) to consider market reactions to announcements of debt mandates. MEEs comprise a significant proportion (around 25% of publicly listed companies in Australia according to Bui et al., 2021). The MEE setting is ideal to test whether debt mandates are informative to the equity market. Accordingly, the sample of this study comprises listed firms in a homogenous industry characterised by substantial information asymmetry, where most MEEs have no prior borrower track record.[1,2] Further, this thesis is interesting on the basis that MEEs have a high amount of intangible assets on balance sheet, meaning they lack tangible collateral for loans. This is known as the pledgeability problem for intangible assets and has been argued to be a cause of debt capacity constraints and a rise in cash holdings (Falato et al., 2022).

I consider a number of questions in relation to PF debt mandate announcements. First, I aim to provide more recent and large sample evidence of capital market reactions to borrowers announcing PF debt mandates compared to prior smaller sample descriptive analysis (Grosse, 2014; FL, 2023). Further, I expand sample coverage from a focus on descriptive analysis based

[1] There are examples where a MEEs obtain 'seed' loans from a lender for the completion of a feasibility study or pilot plant construction or a 'bridge' loan for either project acquisition finance or pre-construction activity prior to the approval of the PF loan facility. In addition, the MEE setting features the unique provision of small loans from directors to fund early-stage greenfields exploration activities.

[2] As ASX listed companies, announcements by MEEs are publicly available on a timely basis under the ASX continuous disclosure requirements, enabling PF debt mandate announcement dates to be precisely identified (see example in Appendix B).

on Australian evidence to include sampling across the world's two largest resource economies, namely Canada and Australia. Theories of adverse selection (Myers & Majluf, 1984; Nachman & Noe, 1994) suggest 'managers will prefer debt to equity financing when they have a substantial amount of private information'. The MEE project life cycle depicts sequential disclosure of mineral resources accompanied by economic feasibility studies. However, managers retain private information in relation to undisclosed geological perspectivity (Bui et al., 2021). Thus, the MEE setting has characteristics consistent with these prior theories, both high in information asymmetry (Leland & Pyle, 1977) and rich in private information.

Further, the setting is typified by low analyst coverage (Brown et al., 2014) and a lack of prior track record of PF lending to the MEE (Diamond, 1991; Botsch & Vanasco, 2019). Apart from any prior mezzanine (seed) or bridging loans, debt mandate announcements provide the first opportunity for the capital market to assimilate lender screening effort. This screening setting is interesting due to the high operation risk of MEEs (Rampini & Viswanathan, 2010), low collateral (Manove et al., 2001) and their small size (Lo & Thakor, 2023). Interestingly, MEEs are also rich in intangible assets with Exploration and Evaluation Expenditure (EEE) accounted for under IASB 6. More attention has been placed recently in the accounting and finance literature on the increasing importance of intangible assets (Falato et al., 2022).

Further, Leland and Pyle (1977) postulate that the very existence of financial intermediation is likely due to information asymmetry. MEEs are high in information asymmetry owing to the presence of small firms, highly technical geological information and high frequency of corporate failure (Shah & Thakor, 1987). Consequently, debt mandates convey important signals of private information regarding project quality (Diamond, 1991). I also test the conjecture that debt mandates will result in larger market reactions compared to PF loan approvals, as at the mandate stage, the level of contractual engagement by the borrower is lower

than for a PF loan approval. This effectively means that the debt mandate announcement has the benefits of information asymmetry reduction without the loss of the option to wait. The option to wait is extinguished when loan documentation is completed, soon after the loan approval is provided (FL, 2023, Appendix A).

Second, I examine whether unique lender characteristics in the Australian and Canadian setting contribute to our understanding of market reactions to debt mandate announcements. In particular, I observe lenders taking equity positions in some MEE borrowers. I envisage that in a high information asymmetry setting, the willingness of a bank to take an equity position in the borrower serves as a vote of confidence in the underlying project quality and mitigates bargaining problems (Mahrt-Smith, 2006). In contrast, other studies find negative effects of dual holdings (Chu et al., 2024). This thesis aims to provide further evidence on the effects of dual holdings or lender equity given these prior conflicting findings. In terms of capital markets evidence, prior studies including Grosse (2014) and FL (2023) consider lender equity effects on market reactions to PF approvals and find a positive market reaction when banks own an equity position. However, FL, 2023 find no significant association with lender equity while Grosse (2014) finds a marginally significant result (ρ=0.10). I broaden this prior capital market evidence based on PF approvals to investigate whether lender equity may impact market reactions to debt mandates. I expect to observe a positive market reaction where financial intermediaries own equity in the borrower.

Third, I re-examine the role of both specialist bank and non-bank PF lenders in the MEE setting. Interestingly, despite the high information asymmetry setting, FL (2023) find little in the way of either specialist or non-bank lender capital market reactions consistent with prior studies of bank loans (Preece & Mullineaux, 1994; Billett et al., 1995). However, the non-bank test in FL (2023) is constrained by a small sample size (13 deals). By extending the sample period and broadening the sample coverage to include both Australia and Canada, I can

examine any non-bank lender effects with a larger sample size (Denis & Mihov, 2003). This is interesting in light of recent evidence suggesting that lender identity plays an important role in closely related research questions such as loan pricing implications of non-banks in the middle tier lending market (Chernenko et al., 2022).

This thesis explores a number of different types of non-bank lenders. For example, this thesis further decomposes non-bank lenders examining the presence of mining partners, investment funds and other non-bank lenders assuming all non-bank lender categories may not be the same (some non-bank lenders may have positive market reactions and others negative). Among the non-bank categories, it is expected that the mining partners have a superior screening ability through their industry-specific expertise and convey important information about the project risks while the investment funds are lenders of last resort, having less monitoring roles and more risk-seeking behaviour.

Using the event study methodology, this thesis reports that announcements of PF debt mandates are associated with both positive and significant stock price reactions. On a descriptive level, these returns are similar to those reported for PF loan approvals documented in Grosse (2014) and FL (2023), suggesting that debt mandates are an important screening signal. In a pooled cross-sectional regression analysis, I find that abnormal returns are higher where the mandates are associated with lenders taking equity positions in the borrower. However, consistent with FL (2023), no significant wealth effects observed for projects financed by specialist banks. Rather, interesting results for certain non-bank lender proxies are observed, with mining producers (investment funds) exhibiting significant positive (negative) effects on abnormal returns in the cross-sectional model.

In summary, this thesis contributes to the existing literature in several new ways. First and foremost, this thesis develops prior literature that provides descriptive evidence on market

reactions to the debt mandate announcements (Grosse, 2014; FL, 2023) by providing large sample evidence across two jurisdictions (Australia and Canada). Second, this paper builds on prior evidence on the wealth effects of lender equity in the capital markets context (Grosse, 2014; FL, 2023). This evidence is important given mixed empirical evidence in the prior literature (Mahrt-Smith, 2006; Chu et al., 2024). Next, this thesis explores different categories of non-bank lenders (i.e., mining partners, investment funds). Non-bank lenders have been shown to be increasingly important in lending to smaller firms who are unable to access public debt markets (Denis & Mihov, 2003; Chernenko et al., 2022). It is shown, for the first time in the capital markets context, that mining or industry partners technical capacities have superior screening and information asymmetry mitigation abilities, reflected in higher market reactions. Further, negative market reactions are observed for mandates awarded to investment funds, consistent with lower quality screening. These findings are observed in a homogenous industry characterized by high information asymmetry where most MEEs have no prior bank relationship, no sales revenue, low collateral, high levels of intangible assets and high frequency of failures.

The remainder of this thesis is structured as follows. Section 2 discusses the thesis background and setting. Section 3 outlines the literature review and hypothesis development. Section 4 presents the data, descriptive statistics, and event study results. Section 5 discusses research design and primary results, whilst Section 6 discusses endogeneity issues and the results of additional tests. Sections 7 presents concluding remarks, describes limitations and contributions of analysis.

2. Background and setting

2.1. Economic significance of the mining industry

According to the recent statistics released by the Reserve Bank of Australia, the mining industry contributed 14.3 percent of Australia's GDP and 61.5 percent of total exports as at 8 February 2024[3]. Canada's mining sector contributed 7.9 percent of Canada's GDP, 22 percent of total exports and 6 percent of total foreign direct investment in 2021[4]. The Australian Securities Exchange (ASX) 2022 report indicates that materials sector (mostly driven by mining companies) accounted for 58 percent of new listings on ASX in 2022. Together, Canada and Australia accounted for 88 percent of the world's public mining companies through ASX, Toronto Stock Exchange (TSX), and TSX Venture Exchange (TSXV) according to the Mining Feeds[5]. Canada is the largest exploration destination in the world with $2.4 billion exploration allocation, followed by Australia with $2.2 billion in 2023. TSX remains the largest exchange in terms of junior and intermediate financings for the mining industry, followed by the ASX in 2023. The aggregate market capitalization of mining companies listed on the ASX is higher than TSX-listed companies[6]. Despite the significant contribution of mining sector to the economy of both countries, there is relatively little empirical work on different aspects of PF loan cycle.

[3] Reserve Bank of Australia; Composition of the Australian Economy; (see web-link accessed 11/2/2024; https://www.rba.gov.au/snapshots/economy-composition-snapshot/pdf/economy-composition-snapshot.pdf?v=2024-02-11-11-09-02

[4] Mining Association of Canada; The Canadian Mining Story; (see web-link accessed 11/2/2024; https://mining.ca/flippingbooks/mac-report-2023/4/

[5] Mining Feeds, (see web-link accessed 11/2/2024; Mining Stocks Companies Listed in All Countries (2024) (miningfeeds.com)

[6] S&P Global; Australian Mining by the Numbers 2024; (see web-link accessed 11/2/2024; https://www.spglobal.com/marketintelligence/en/news-insights/research/australia-mining-by-the-numbers-2024#:~:text=Australia%20is%20the%20second%2Dlargest,from%20%242.3%20billion%20in%202022.

2.2. Phases of a project finance loan

The key phases of a PF loan are detailed in Appendix A, with the process of obtaining a typical PF loan for a mine developer (project sponsor) in the mining industry commencing with the appointment of a financial advisor (FA). The role of the FA is to prepare a 'bank memorandum', which is essentially a marketing document promoting the project sponsors bankable feasibility study (BFS) outcomes to potential lenders.[7] The BFS contains estimates of project economic parameters such as capital expenditure (CAPEX), throughput and output rates, mine life assumptions, cash costs and commodity price assumptions. It also contains detailed information on a range of technical, geological, mining, environmental, social and other considerations. Based on these project valuation parameters, lenders are invited to submit 'indicative term sheets', which outline the specifics of the quantum of credit a lender may offer, the loan term, the loan pricing, security and 'pre-completion' recourse provisions and 'post-completion' covenants (Benning, 2000). In other words, the indicative term sheet is a summary of the terms and conditions of a potential PF facility. It bears similarities to a memorandum of understanding (MOU).

After receipt of all indicative term sheets, the project sponsor, with input from the FA, 'mandates' a preferred lender (or lenders in the case of syndicates) who then proceeds with detailed loan documentation and extensive borrower due diligence. The lender due diligence includes detailed input from independent technical experts or advisers in relation to the mineral deposit in question including any fatal flaws in engineering, construction, mining, geological, environmental or geopolitical risks. The due diligence (screening) process is extensive and in many cases the MEE project sponsor seeking PF has no prior credit history (Diamond, 1991). That is because MEEs who make discoveries and then conduct feasibility studies (See

[7] Philip Cornwell, Richard Gordon and Ben Farnsworth; (see web-link accessed 08/12/2019; https://www.allens.com.au/globalassets/pdfs/insights/banking-finance/papmar15.pdf.

Appendix B) are in most cases all equity financed prior to obtaining credit approval from the banks credit committee (Myers & Majluf, 1984; Bui et al., 2021).[8, 9]

Following the lenders credit committee approval and provision of a 'letter of offer' to the borrower, there are normally conditions precedent to be satisfied, which for mining developers normally includes required equity raisings ('pain money') to be conducted and any revenue protection (off-taking or hedging) measures to be completed by the borrower. Following the completion of all condition's precedent, loan drawdowns are able to commence, which will often involve multiple tranches, where the drawdown of subsequent loan tranches is conditional on satisfactory progress in relation to construction and development milestones and cost-to-completion checks (Benning, 2000; Bozanic et al., 2024). It is important to note that debt mandates are mostly associated with PF loans, but in some cases can be disclosed for lenders providing loans for project acquisitions, for bridging finance (often to cover pre-development costs or for paying deposits on long-lead time capital equipment orders), or for oil and gas drilling campaigns. Thus, whilst the mandate process is likely to have PF related idiosyncrasies, there may be similarities with corporate finance lending more broadly (Ljungqvist et al., 2006). In addition, mandating has been observed in other research and development intensive sectors such as pharmaceuticals and the circular economy projects[10].

[8] For a detailed discussion of what is involved in Bank memorandum's refer to 'A typical debt mandate' by Castle Partners Investment Bank. (see web-link accessed 19/01/2024). https://www.castlepartners.co.nz/services/a-typical-debt-mandate.html.

[9] In most cases Mining Exploration Entities (MEEs) are all equity financed prior to project development, but it is possible they have accessed loans from directors, engaged in convertible note issues (that typically result in equity issues), or have accessed minor mezzanine or seed loans from banks for completion of bankable feasibility studies which may or may not involve pilot plant construction.

[10] Announcement by a French speciality pharmaceutical company on its successful syndication of EUR123 million debt package. See web-link accessed 16/4/2024, https://www.biospace.com/article/releases/juvise-pharmaceuticals-successfully-syndicated-its-eur-213-million-financing-in-less-than-one-month/

2.3. Disclosure of lender identity

Many MEE companies struggle to secure financing for their capital-intensive projects. Data compiled by Bridgend Capital Advisory shows that aggregate exposure to the Australian resources industry by the big 4 banks has declined to A$40.4 billion in 2022, nearly A$25 billion (37%) below peak levels in 2013. This contrasts to significant overall balance sheet growth.[11] Prior literature asserts that this decline in bank funding of the mining industry is most likely due to increasing bank regulation (Chernenko et al., 2022) causing a reduction in bank risk tolerance. Chernenko et al. (2022) examine the US middle market lending, for companies with revenues between US$10 million and US$1 billion and find that non-bank lenders have experienced increasing market share (Denis & Mihov, 2003).

In addition, the decline in bank market share may be due to higher risk projects (critical metals projects) that government affiliated lenders are mandated to promote due to supply chain integrity issues. As Brett Hazelden, Managing Director of Australian rare earths exploration company OD6 Metals Limited (ASX: OD6) notes, "*To date, Australian banks have been rarely seen backing new commodities and new development projects until after the construction risk has passed and it is operational, producing to design capacity*"[12].

Due to increasing regulation of banks and growing complexity in the industry in terms of the critical minerals impetus, mining companies are increasingly seeking PF from development projects from non-bank lenders. In the context of MEE's such potential lenders include larger mining partners, government-affiliated financial institutions including export credit agencies, commodity traders, investment funds and other investors. Australian and Canadian debt

[11] Bridgend Capital Advisory: Can the Resources industry still bank on support from Big 4? (see web-link accessed 16/2/2024; https://bridgend.com.au/wp-content/uploads/2023/03/Can-the-Resources-industry-still-bank-on-support-from-Big-4.pdf

[12] Mining.com.au; (see web-link accessed 16/2/2024; https://mining.com.au/australian-resources-companies-targeting-new-financing-sources-as-banks-fly-the-coop/

mandate announcements disclose details of the deal, including the identification of lenders in some cases, allowing to identify specialist banks, syndication and distinguishing different types of non-bank lenders.

2.3.1. Government-affiliated financial institutions

In the extractive industries context, the most common form of government-affiliated financial institutions is export credit agencies (ECAs). The number of official ECAs was 115 in 2021[13]. ECAs are directed by respective national governments to provide finance to various projects that meet specific individual countries national interest objectives. ECA involvement is important in terms of mitigating risks particularly in complex, multi-metal, critical metal and multi-jurisdictional projects and conveys a positive investment signal. This is because ECA finance is likely to be concessional to the project sponsor, on the basis that the project meets national interest, as opposed to a purely commercial imperative. For example, Export Development Canada (EDC) lists renewables, sustainable technologies, energy, infrastructure, and extractive industries as their funding priorities. It lists the Australian market as 'open', meaning that EDC can provide the funding in this market.

ECAs have their own financing criteria and procedures. For example, Export Finance Australia (EFA), an Australian government agency with a purpose of supporting Australian export trade and overseas infrastructure development that delivers benefits to Australia, provides loans and project financing starting from US$100,000 for Australian registered businesses established for at least 2 years and shares risks with other financing partners for larger projects. However, EFA does not compete with commercial banks and only provides finance when a bank is not willing to do so. In 2021, ECA introduced two new financing

[13] PwC, Key issues for project management: Export credit agency financing, 2023 (see web-link accessed 14/4/2024; https://www.pwc.com.au/energy-transition/papers/10-export-credit-agency-financing.pdf

capabilities: equity finance for projects that align with Australia's national interests and priorities and AUD$4 billion loan facility for Australian critical minerals projects.[14] Another benefit of ECA financing is the provision of commercial or political risk insurance (the latter of which is either unobtainable or prohibitively expensive in the commercial marketplace), helping to avoid certain risks in complex jurisdictions. As suggested, it is also likely that ECAs charge lower loan prices as part of government incentives to meet national interest objectives, although this is an empirical question and outside the scope of this thesis. Therefore, it is expected that ECA involvement sends a positive signal to capital market (Appendix F).

2.3.2. Asset managers and investment funds

Annual alternative financing for global mining industry was $10-$15 billion in 2017, which is less than 1 percent of assets under management ($8 trillion) of top global asset managers[15]. This figure suggests that investment funds are underweight the mining industry. Despite this, there are some specialized mining investment funds such as Taurus Funds Management, Sprott and Orion Mine Finance. These funds accounted for 50% of all investment funds in our sample, implying that specialized funds are more likely to provide loan funding to mining developments. While these funds are mostly focused on exchange listed products, managed equities and brokerage, they also provide lending and streaming activities. For example, Sprott reported $28.7 billion in total asset under management in 2023, of which, only 9% ($2.6 billion) is allocated to lending and streaming finance while 81% ($23.2 billion) is allocated to physical trusts and ETFs, and 10% ($2.9 billion) to managed equities funds[16].

[14] Export Finance Australia; (see web-linked accessed 23/2/2024; https://www.exportfinance.gov.au/criticalminerals
[15] McKinsey; (see web-link accessed 23/2/2024; https://www.mckinsey.com/industries/metals-and-mining/our-insights/alternative-financing-in-mining
[16] Sprott, 2023 Annual report; (see web-link accessed 23/2/2023; https://sprott.com/media/6950/sii-2023-annual-report.pdf

Despite the overall small allocations to the mining sector, there is evidence asset managers or investment funds are becoming more important as a source of non-bank loans. Denis and Mihov (2003) observe that non-bank private borrowers had median total assets of USD220 million. In contrast, bank borrowers had median total assets of USD145 million. The proportion of sample of 1,560 public debt issue firms that was held by non-banks is 290/1560 or 18.59%. More recently, Chernenko et al. (2022) report that for a sample of middle market firms with revenues between $10 million and $1 billion, banks arranged 859 or 67.7% loans, whilst non-bank sources accounted for 410 or 32.3% of originated loans. In other words, non-bank sources are increasingly important in loan origination. Interestingly, in multinomial analysis reported in Appendix C, Chernenko et al. (2022) partition non-bank lenders into different types. There are 125 finance companies, 36 investment banks, 162 asset managers and 21 insurance companies. In other words, the largest portion of non-bank lenders are asset managers or investment funds which comprise 47% of non-bank lenders in this prior study. This thesis explores the importance of asset managers or investment funds in the MEE setting (Appendix G).

2.3.3. Mining industry participants

Considering the highly competitive nature of external funding, MEEs develop various strategies to manage perceptions of project risks to attract investors or lenders. For example, Kneas (2020) suggests that some MEEs market their projects in terms of high mineral demand and resource scarcity (Hotelling, 1931). To reinforce perceptions about the resources' potential, MEEs develop resource projections (Olofsson, 2020). While these strategies are key to MEEs to attract funding, despite these efforts funding mining developments is difficult for MEEs due to intense competition for funds and information asymmetry. Given that, only larger mining

firms are expected to have highly technical knowledge and expertise to reduce information asymmetry around geological risks.

Guj and Schodde (2013) find that senior or medium (larger) mining firms devote less time and effort to early-stage, grass-roots, high-risk exploration activities which is the 'bread and butter' operations of 'juniors' or MEEs. Once the project risk is low or reduced, larger mining firms tend to purchase that project from junior firm or fund them through joint ventures (Dougherty, 2013). Therefore, the willingness of a larger mining firm to provide a PF facility to a junior conveys important information about the project risk, implying that the mineral projects to be funded by larger mining firms are likely to have lower risks and higher quality mineral prospects that can be converted into production and cash flow. The partnership and integration between junior and larger mining firms is not only key in terms of understanding the project risk, but also brings other operational, networking and cost benefits in different stages of mine development (Appendix E).

3. Literature review and hypothesis development

3.1. Lender equity

Mahrt-Smith (2006) develops a theoretical model showing that a small equity stake held by a bank can have beneficial effects. Mahrt-Smith (2006) suggests lenders taking equity in borrowers reduces the ability of the lender to extract rents from the borrower. This is argued to be particularly the case for small firms, who are likely to suffer from weaker client bargaining (FL, 2023). Santos and Wilson (2009) find that banks charge lower rates on loans to firms in which they have voting stakes, suggesting that banks' stakes are effective in constraining the borrower's risk-shifting incentives. Jiang et al. (2010) find that syndicated loans with dual holder participation (focusing on the financial institutions that do not have major commercial banking service) have loan yield spreads that are 18-32 bps lower than those without, mitigating the conflicts between shareholders and creditors, thus lowering the cost of borrowing.

In contrast, Weinsten and Yafeh (1998), and Morck et al. (2000) examine the effects of bank-firm relationships on firm performance in Japan and find a positive relationship between bank ownership and interest costs. Chu et al. (2024) argue that within-syndicate conflicts caused by dual holdings impose greater costs on borrowers. These studies suggest the banks may use their voting rights as a form of bargaining. From this perspective, the dual holding or lender equity would result in higher funding costs, suggesting that lower market reactions might be observed for debt mandates featuring lender equity.

This thesis contributes to these competing explanations on potential market reactions for lender equity or dual holding effects in the MEE setting. In addition, this thesis differs from the existing studies in terms of *ex-ante* contractual incompleteness. In a high information asymmetry setting the screening role of financial intermediaries is argued to be more important. FL (2023) describe the high information asymmetry MEE setting summarizing an extensive

literature pertaining to the benefits of bank loans. Accordingly, bank loans will benefit MEEs characterised by a lack of monitoring (Diamond, 1984), a poor information environment (Dhaliwal et al., 2011), high information asymmetry (Boyd & Prescott, 1986), low analyst coverage (Best & Zhang, 1993; Brown et al., 2014), high risk (Diamond, 1991), small firm size (Fama, 1985) and rich in intangible assets (Falato et al., 2022). These are all characteristics of MEEs (Bui et al., 2021; Distadio & Ferguson, 2022; FL, 2023; Bozanic et al., 2024).

I predict that in a high information asymmetry MEE setting, the willingness of a bank to take an equity position in the borrowers who tend to have more risky projects serves as a vote of confidence in the underlying project quality, mitigates bargaining problems and shareholder-creditor conflicts. As a shareholder, the bank and non-bank lender can use their voting rights to limit the borrower's ability to pursue risky behaviour compared to a sole lender who has the right to intervene when the borrower violates a loan covenant. In addition, I argue that dual holders tend to seek out long-term opportunities since they supply debt for a long period, rather than being short-term opportunistic investors and potentially possess superior information, lowering the costs of debt. Accordingly, I expect to observe a positive market reaction where the lenders own equity in the borrower.

H1: *Market reactions will be positive and larger where the lender has equity in the borrower*.

3.2. Mining partners

James (1987) compares the announcement effects of bank loans and private placement to public debt financing and reported a significant average borrower abnormal return of 1.93 percent for bank loans and -0.91 percent for non-bank lenders (primarily with insurance company lenders). Preece and Mullineaux (1994) find significantly positive borrower returns for loans from commercial banks (0.79 percent), independent finance companies (1.84 percent), and non-bank subsidiaries of bank holding companies (2.77 percent), which contrast with those reported in James (1987) for private placements, where bank loans convey more positive information than insurance company financings.

Although Billett et al. (1995) find no significant difference between the market's reactions to bank and nonbank loans (consistent with FL, 2023), they suggest that a lender's identity may convey information to outside equity investors in two ways. First, the lenders obtain private information in the process of underwriting loans, their lending decisions would then convey valuable information about a borrower's true risks. Second, lenders may have different *monitoring* abilities which enhance a borrower's value by assuring that appropriate investment and spending decisions are implemented (Fama, 1985). This is true especially in the mining industry which is characterised by unique risks such as cost overruns, construction delays, productivity issues and volatile commodity prices (Benning, 2000). EY studied 192 global mining and metals projects with more than $1 billion and found that 64 percent ran over budget or schedule – or both -with the average cost overrun sitting at 39 percent[17].

The presence of mining companies funding MEEs is similar to the presence of large pharmaceutical companies funding biomedical innovation (Thakor et al., 2017; Lo & Thakor,

[17] EY; How better project management can boost mining's capital productivity; (see web-link accessed 11/2/2024; https://www.ey.com/en_au/mining-metals/how-better-project-management-can-boost-minings-capital-productivity

2023). Like large biopharma companies, larger mining companies may bring both financial resources (collateral) and other forms of technical and operational expertise to a project, which is critical due to the high technical, geological, and operational risks of mining projects (Benning, 2000; Distadio & Ferguson, 2022). Larger mining companies would also bring established relationships with an extensive range of expert consultants, crucial for the success of mining development projects (Benning, 2000).

Despite the mixed results of prior literature on a very broad category of non-bank lenders, I argue that the presence of a mining partner can provide valuable signalling benefits to outside investors via their access to technical, operational and supply chain expertise ("asymmetric information hypothesis") and their superior monitoring abilities than other bank and non-bank lenders ("monitoring hypothesis"). Accordingly, I expect debt mandates from a mining producers will lower information asymmetry and result in positive market reactions.

H2: *Market reactions to debt mandate announcements will be positive where the mining partners are the mandated lenders.*

3.3. Investment funds

Several prior studies find that hedge or mutual funds are superior to other institutional investors both at picking industries and stocks and forecasting short-term and long-term return (Chen et al., 2019; Jiang et al., 2014). However, these studies are focused on the stock selection skills and informativeness of fund manager holdings. Agarwal and Meneghetti (2011) examine the role of hedge funds as primary lenders and find that firms that borrow from hedge funds are less profitable, less creditworthy and have higher information asymmetry than firms that either issue public debt or request a bank loan. They also find that financial markets react favourably to hedge fund loans and borrowers' profitability and creditworthiness do improve one and two years after the loan. This suggests that hedge funds add value through their lending relationships and monitoring ability. This paper considers 44 announcements disclosed by firms obtaining only hedge fund-initiated loans for the period of 1999-2006 and measured the abnormal return on a 10-day and 20-day window.

Brophy et al. (2009) find empirical evidence that hedge funds are investors of last resort and provide equity funding for companies that are otherwise constrained from raising equity capital. They find that borrowers obtaining financing from hedge funds significantly underperform companies that obtain equity financing from other investors (corporations, banks, insurance companies etc.,) during the following two years. More recently, Chernenko et al. (2022) suggest that firms with negative EBITDA are 32 percent more likely to borrow from non-banks and such nonbank loans carry significantly higher interest rates. Logically, the high-risk borrowers with marginal mining projects that don't obtain bank or other debt sources will seek out PF from investment funds. These investment funds impose the highest risk premium among other non-bank lenders (Lim et al., 2014). This is particularly the case for the

MEEs having low collateral. This argument is consistent with the "selection effect hypothesis" and the "bargaining hypothesis".

Chernenko et al. (2022) also find that non-bank lenders are more likely to include warrants in their loans rather than financial covenants which are often imposed by banks to monitor borrower's ex post performance. Hedge funds look for quick payoffs rather than long-term opportunities (Ahmed, 2011). Firms that borrow from non-banks have worse performance following loan origination compared to firms that borrow from banks due to less intense monitoring (Biswas et al., 2021). Non-banks, particularly CLOs, closed-end funds, and mutual funds are more likely than bank lenders to exit the syndicate rather than to participate in the renegotiated loan due to their funding liquidity risks and less likely to be actively involved in covenant renegotiations than banks and finance companies (Beyhaghi et al., 2019). Institutional investors, particularly hedge funds, exploit material private information obtained from participating in loan syndicates to guide their equity trading activities (Massoud et al., 2011). Thus, in this context, I can assume two potential ways which the investment funds exit. First, in the debt mandating process characterised by contractual incompleteness, "high yield-seeking" or "opportunistic" investment funds with typical objective to exceed their return than pre-defined discount rate are more likely to exit the debt mandates if they fail to impose expected higher premiums. Second, investment funds are more likely to exit the loan even after PF approval when they realize unobservable risk factors which may undermine their expected return. These arguments are consistent with the opportunistic behaviour theory.

Sufi (2007), Drucker and Puri (2009) suggest that nonbank lenders may not be as adept at collecting private information as banks and less engaged in corporate governance than commercial banks. Lim et al. (2014) find that non-bank premiums are substantially larger when a hedge or private equity fund is one of the syndicate members, consistent with lenders of last resort assertions. This is intuitive that investment funds are more likely to be less informed and

impose higher premiums compared to banks and mining partners. Due to such costly information production, investment funds are less likely to convey important information about the project risks ("asymmetric information hypothesis"). Based on the above-mentioned rationale, mandates to investment funds are expected to exhibit a negative market reaction.

H3: *Market reaction to debt mandate announcements will be lower when investment funds are the mandated lenders.*

3.4. Other non-bank lenders

I expect that the market response will be negative to the debt mandate announcements from other non-bank lenders, consistent with the prior literature. However, monitoring activity may differ substantially across varieties of non-bank lenders as empirical evidence suggests that the mining mandatees have superior screening ability. I further explore the screening effects of government-affiliated financial institutions and traders and other financiers.

The presence of government affiliated lenders is another unique feature of the setting where governments in resource rich countries have built specific policy platforms to mitigate moral hazard by effectively co-investing in mining projects. A good example is the well-known Canadian Flow-Through-Share Scheme (Axiak, 2023). In Australia, respective state governments provide competitive exploration incentives, refundable tax credits for exploration and for mine developers, support in financing projects from government affiliated bodies like the Northern Australian Infrastructure Fund (NAIF) and Export Finance Australia. This thesis explores how government affiliated lenders effect market reactions to debt mandates.

Another category of non-bank lenders are commodity traders and other financiers. Carey et al. (1998) find that finance companies tend to serve observably risker borrowers. FL, 2023 finds no significant results on the market reactions to the project loan approvals from commodity traders and equipment suppliers. This thesis examines the role of commodity traders and other financiers in the debt mandate announcement context.

3.5. Specialist banks

Prior studies examining the certification effects of prestigious banks found a positive association between bank reputation and the market value of borrower. A specialist bank has a greater role in certifying the new (risky) issue price (Booth & Smith, 1986). Calem and Rizzo (1992) find a strong positive relationship between bank loans and profitability among hospitals, suggesting that banks are information specialists. Chemmanur and Fulghieri (1994a and 1994b) find that investment banks incur the cost to screen corporations raising capital and to monitor loans in order to maintain their reputation, implying that dominant banks may have a greater incentive to screen and monitor than other lenders. Billett et al. (1995) also find that an announced loan from a reputable bank coveys more positive information about the borrower's prospects than a "mediocre" bank, consistent with the hypothesis that the bank reputation has higher certification effects.

More recently, Fang (2005) demonstrates that a reputable bank tends to be more selective in its underwriting decisions which are positively associated with price improvements for the bond issuer, suggesting important certification role of underwriter. Ross (2010) finds that the syndicated loans from top three commercial banks are associated with positive borrower announcement returns in the US setting. In terms of PF evidence, Gatti et al. (2013) find that PF loans certified by prestigious lead arranging banks are associated with lower loan spread. These studies suggest positive market reactions to loans from specialist banks.

However, few empirical studies find evidence of negative certification effects with reputable banks. Stomper (2006) shows that the supply side of credits to the industry is characterized by a limited number of specialist banks with industry expertise and market power and a competitive fringe of lenders without such expertise. McCahery and Schwienbacher (2010) find that reputable lead arrangers exploit information advantage that enable them to

charge higher spreads and retain higher fractions of the loan in their syndicates, with the strongest effect found for borrowers that suffer from high information asymmetry. Cook et al. (2003) find a positive association between bank loan and market value of borrower, however, they suggest that reputable lenders extract a certification premium in absence of collateral. FL (2023) finds no significant evidence on specialist lender market reactions to project finance loan approval announcements. This thesis examines the certification and reputational effects of specialist banks in a debt mandating context. This setting features high information asymmetry and low collateral owing to the presence of a high level of intangible assets on the balance sheets of MEEs.

4. Data, descriptives and event study

4.1. Data sources

The sample consists of PF debt mandate announcements made on the ASX over the period from 1995-2022, extending the sample window in FL (2023) by 8 years. Like FL (2023), two primary sources are used to obtain mandate announcements (Morningstar Datanalysis Premium and Factiva). A sample of 225 debt mandates announced by ASX listed MEEs is obtained filtering on Energy and Materials Global Industry Classification (GICS) sectors. There are 7 missing observations due to the lack of useable stock returns data, and 20 (3) announcements are dropped for mining producers[18] (oil and gas firms) resulting in a usable sample of 195 observations (Table 1). For the Canadian sub-sample, PF debt mandate announcements are manually collected for MEEs listed on the Toronto Stock Exchange (TSX) from 1995 through 2022, resulting in 176 announcements on Factiva. There are 37 announcements made by firms for which stock prices are missing, and 22 (2) announcements by producing companies (oil and gas firms) resulting in a final sample of 115 observations. Thus, the pooled sample comprises 310 debt mandates announced by 258 unique MEEs. The difference (52) comprises mandate renewals (4) and re-mandates or switches (43) and project duplications (5).

[Insert Table 1 here]

4.2. Descriptives

4.2.1. Debt mandate by year, commodity, and host country

The distribution of debt mandates over time is shown in Table 2. Descriptive statistics in Table 2, Panel A indicate small numbers of mandates (4 or less) prior to 2005-2006 when a large spike occurs (11 in each year) for the Australian sample. Higher numbers of mandates

[18] Producing firms are dropped when sales revenues are equal or greater than $3 million.

(15 and 14) occur over 2011-2012 consistent with a period known as the 'mining boom'. In 2019 there were 16 announcements. By underlying commodity, precious metals (predominately gold projects) account for 55 mandates or 28.2% of the Australian sample, with 39 (20.0%) of mandates awarded for projects being non-ferrous (base) metals mandates and 52 mandates (26.7% of the sample) observed for speciality metals which includes some 'battery metals' such as lithium, graphite and rare earths. Panel B indicates a similar pattern for the Canadian sample with a small number of mandates prior to 2004 (3 or less) followed by the 'mining boom' when the number of mandates increases to 9 and 11 (7) in 2012 and 2013 (in 2004, 2005, 2007 and 2020), respectively. For the pooled sample, Panel C indicates the greatest number of debt mandates occurs over 2011-2012 (18 and 23, respectively) and 2019-2020 (20 and 21, respectively). In summary, the numbers of debt mandates appear to fluctuate with underlying commodity price cycles. However, in general terms, the numbers of mandates appear to be increasing in time.

[Insert Table 2 here]

Table 3 reports the distribution of debt mandates by commodity type and project host country. Panel A indicates that of the 195 mandates announced by ASX-listed MEEs, 46.7% are for projects located in Australia, whilst 53.3% are for offshore projects. The larger mandate sample has a slightly more international focus compared to FL (2023) who report 59.1% of their loan approvals being for domestic projects (40.9% offshore). This slight change may in part reflect the willingness of Australian project sponsors to seek projects internationally in the 'critical minerals' domain and larger sample size. For the Canadian sample (Panel B), most projects are located overseas (73.0%) while there are only 31 (27.0%) domestic projects. Panel C indicates that of the 310 mandates for the pooled sample, 29.4% are for projects located in Australia, 10.3% are located in Canada, and 5.5% are for US-based projects. Across the Australian, Canadian and pooled samples, the largest distribution of projects per commodity

type is for precious minerals with 28.2%, 48.7%, and 35.8%, respectively as reported in Figure 3.

[Insert Table 3 here]

4.2.2. Lender participation

Bank lender participation in debt mandate announcements is documented in Table 4, Panel A. There are many similarities between these mandate award descriptives and those PF reported for loan approvals in Table, 3, Panel A in FL (2023). For the Australian sample (Column A), Macquarie Bank is associated with the largest number of total mandates (16), with 9 as a sole/lead arrangements and 7 as a syndicate participant. Commonwealth Bank/Bankwest (Rothschild/Investec) is the second (third) largest lender with 7 (8) sole/lead arranger and 5 (2) syndicate participations. The largest lender in the Canadian sub-sample is Société Générale with 14 debt mandates, mostly comprising syndicated arrangements (13) compared to sole/lead arrangements (1). Macquarie and BNP Paribas (Barclays) are in the second (third) position with 9 (5) sole/lead arrangements, and 3 (7) syndicate participations, respectively. An interesting feature of Table 4 is the absence of any significant presence of Bank of Scotland. However, Bank of Scotland was the third largest originator of PF loan approvals (FL, 2023). This highlights the non-binding nature of mandate awards.[19] For the pooled sample (Column C), Macquarie Bank, Société Générale and Rothschild/Investec are the top three lenders with the largest number of total mandates (28, 22, and 19, respectively). Specifically, Macquarie Bank is associated with the largest number of total mandates (28), with

[19] Using recently hand collected mandate data, of the 115 sample constituents in FL (2023), 46 releasing debt mandate announcements are identified. Of these 46, 6 have mandates that involve the reversal of a prior mandate and the re-mandate of an alternative financier. A further 4 mandate awards are reversed at the financing stage (the ultimate project financier is different to the mandated financier). Lastly, 15 (32.6%) of the most recent mandate awards have a change in the syndicate participants (either adding further syndicated financiers, deleting a mandated financier or report another change in the composition of financiers) at the PF stage.

18 as a sole/lead arrangements and 10 as a syndicate participant. Société Générale (Rothschild/Investec) is the second (third) largest lender with 1 (14) sole or lead arranger and 21 (5) syndicate participations respectively.

Table 4, Panel B depicts non-bank lender participation. I document a total of 25 mandates awarded to government-affiliated financial institutions (19 sole arrangers and 6 syndicate participations) for the Australian sample reported in Column A. There are 16 mandates in total provided to investment funds (13 sole arrangers and 3 syndicate participations), 18 non-syndicated mandates awarded to mining partners (9 sole arrangers and 9 syndicate participation), and 22 to commodity traders (13, 9). Column B indicates a total of 17 mandates awarded to government-affiliated institutions (4 sole arrangers and 13 syndicate participation) for the Canadian sample. There are 8 mandates in total provided to investment funds (7, 1), and 8 awarded to mining partners (4, 4). For the pooled sample (Column C), there are 42 mandates awarded to government-affiliated institutions (23 sole arrangers and 19 syndicate participations), 24 provided to investment funds (20, 4), 26 provided to mining partners (13, 13), and 34 awarded to traders and financial services providers (17, 17). In summary, the increased incidence of government affiliated lenders is likely due to recent growing concerns about future supply chain integrity and critical metals supply. Rare earths projects typically have very large capital expenditure requirements, routinely running in excess of $1 billion. Private debt financiers are unwilling to provide facilities of this size due to technical risks including construction cost-overruns (pre-completion) and post-completion processing complexity (see Appendix F for an example of public financiers).

[Insert Table 4 here]

4.2.3. Mandate characteristics

Characteristics of debt mandates are reported in Table 5. For the Australian sample (Panel A), the average number of lenders in each mandate is 1.44 with the median being a sole mandate (FL, 1.58,1). The loan size is disclosed by 126 mandate announcers, with the average loan size being A$194.37 million (FL, A$107 million). The median loan size is smaller (A$75.84 million) (FL, A$53 million). For the 126 mandates disclosing loan amount, the loan amount scaled by total assets has a mean (median) of 5.65 (1.76) (FL, 2.31, 1.24). The increase in relation to FL is likely to reflect three factors. Firstly, the mandate award might be scaled back by the lender at credit approval. Secondly, more recent mandates, especially for some critical metals projects reflect significant recent project cost inflation. Lastly, it is possible that the 69 mandates not disclosing loan amounts are smaller, thus the descriptive statistics on loan amount is biased upwards.

It is observed that 18.5% of the sample are 4 renewals or 43 re-mandates (switches). 17.4% of projects involve joint-ventures, which is slightly less than the 27.8% reported in FL (2023). Foreign projects account for 52.8% of the sample compared with 40.9% in FL (2023). Syndication occurs in 30.8% of mandates, similar to 35.7% in FL (2023). Lender equity is observed in 14.9% of debt mandates. This is slightly lower than the 23.5% observed in FL (2023) but is likely to reflect that at the mandate stage, less is owing to the bank in terms of arrangement or commitment fees, which are often waived by the bank at credit committee approval in return for common stock or options in the borrower (Lo & Thakor, 2023). Hedging is required in 11.8% of mandates compared to 40% in FL (2023). Again, this likely reflects the preliminary stage of negotiation of the mandate vis a vis the loan approval and the fact that the output of a number of recent specialty metals projects are unhedged with revenue protection obtained by offtake agreements (Distadio & Ferguson, 2022).

There is disclosure of 56 (28.7%) mandates accompanied by a financial advisor. Burnvoir Corporate Finance is the clear market leader in terms of financial advisory roles disclosed in 7 debt mandates followed by Azure Capital disclosed in 4 debt mandates. Endeavour Financial, Noah's Rule, Optimum Capital and SMS Financial Services each are identified in 3 debt mandate announcements. In terms of specialist lenders, Macquarie bank is the leading bank in terms of mandates (8.2%), (FL, 21.7%). The Top 3 banks have 19.5% of mandate awards (FL, 42.6%).

Panel B reports the descriptives for the Canadian sample, where the average number of lenders in each mandate is 1.74 with the median being a sole mandate. There are 90 mandate announcements disclosing the loan size with a mean (median) of CA$159.60 million (CA$85.48 million). For these 90 mandates, the loan amount scaled by total assets has a mean (median) of 3.67 (1.54). It is observed that re-mandates comprise 9.6% of the Canadian sample, and 25.2% of projects involve joint-ventures. Foreign projects account for 73.0% of the sample compared with 52.8% in Australian mandates. Syndication occurs in 33.0% of mandates, and lender equity is observed in 21.70% of debt mandates. There is disclosure of an FA in 28 (23.5%) of Canadian mandates. Endeavour Financial is the clear market leader (7), followed by Cutfield Freeman & Co, Barclays and HCF International Advisors each disclosed in 2 debt mandates. In terms of specialist lenders, Société Générale is the leading bank in terms of mandates (9.8%). The top 3 Canadian banks have 21.3% of mandate awards.

Panel C indicates the descriptives for the pooled sample, where the average number of lenders in each mandate is 1.55 with the median being a sole mandate. In total, there are 216 mandate announcements disclosing the loan size with a mean (median) amount of US$161.91 million (US$73.39 million). Based on these 216 observations, the loan amount scaled by total assets has a mean (median) of 4.83 (1.67). The frequency of re-mandates comprises 15.2% of the pooled sample, and 20.3% of projects involve joint-ventures. Foreign projects account for

60.3%, syndication occurs in 31.6% of mandates, and lender equity is identified in 17.4% of debt mandates. There is disclosure of 83 (26.8%) of mandates accompanied by an FA. Endeavour Financial is the leader in terms of FA roles (10 debt mandates), followed by Burnvoir Corporate Finance (7 mandates). In terms of specialist lenders, Macquarie is the leading bank in terms of mandates (9.0%). The top 3 banks have 22.3% of the pooled mandate awards.

[Insert Table 5 here]

4.2.4. Borrower characteristics

In terms of borrower characteristics for the Australian sample (Table 5, Panel A), firms awarding debt mandates have mean (median) total assets of A$61.61 million (A$30.84 million) compared to A$71.9 million (A$41.5 million) in FL (2023) (Table 5, Panel B). In terms of market capitalization, firms awarding mandates have a mean market capitalization of A$131.21 million (A$50.80 million) compared to A$198 million (A$100 million) in FL (2023). This is intuitive since the debt mandate precedes the loan approval and a number of firms with lower quality projects may award mandates, but not get final bank credit committee approved PF offers. The revenue to total assets ratio has a mean (median) of .04 (0), similar to FL (2023), (.06, .01) reflecting the fact that MEEs are cash burners.

MEEs balance sheet consists primarily of cash and deferred exploration expenditure accounted for under IFRS 6 (Ferguson et al., 2021). MEEs awarding debt mandates have a mean (median) cash to total assets of .26 (.18), almost identical to FL (2023) (.28, .20) while the mean (median) cash is $14.38 million ($4.29 million). The mean (median) exploration and evaluation expenditure (EEE) are $41.05 million ($18.94 million) and the mean (median) EEE to total asset ratio is 0.63 (0.65), indicating that the majority of MEE assets are intangible assets. All the debt ratios exhibit means (medians) close to zero and are very similar to those

reported in FL (2023). The mean (median) accumulated losses are $-35.70 million ($-23.14 million) reflecting persistent loss-making of MEEs during the pre-project development phases (FL (2023), Appendix A). The mean substantial shareholding is 24%, but this can't be compared to the FL, 2023 figure (63%) as this relates to the figure for the top-20 shareholders for which there is no Canadian disclosure equivalent. On average, CEO's own a mean (median) of 4% (1%) of the issued capital of the MEE which is the same as in FL (2023). Combined, the CEO and other directors own a mean (median) 12% (7%) of the issued capital compared to 11% (7%) in FL (2023). This is intuitive as CEO and director shareholding is likely to be diluted after the debt mandate as many PF loan agreements require a significant equity issue as a condition precedent to loan approval ('pain money').

Table 5, Panel B indicates that for the Canadian sample, firms awarding debt mandates have mean (median) total assets of CA$123.11 million (CA$45.73 million). In terms of market capitalization, firms awarding mandates have a mean market capitalization of CA$567.70 million (CA$133.00 million). The revenue to total assets ratio has a mean (median) of .07 (0.00). MEEs hold a mean cash of CA$26.56 million (CA$5.60 million) and the cash to total asset ratio is a mean (median) of 0.21 (0.12). The mean (median) exploration and evaluation expenditure are CA$77.67 million (CA$30.22), and the mean (median) EEE to total asset ratio is 0.66 (0.72). The mean number of shares held by substantial shareholders is 19%. On average, CEO's own a mean (median) of 3% (1%) of the issued capital of the MEE. Combined, the CEO and other directors own a mean (median) 9% (5%) of the issued capital.

For the pooled sample (Table 5, Panel C), firms awarding debt mandates have mean (median) total assets of US$80.69 million (US$33.72 million). In terms of market capitalization, firms awarding mandates have a mean market capitalization of US$285.70 million (US$58.63 million). The MEEs have a mean (median) of US$18.04 million (US$4.20 million) and the cash to total assets ratio has a mean (median) of 0.24 (0.16). The revenue to

total assets ratio has a mean (median) of 0.05 (0.00). The exploration and evaluation expenditure has a mean (median) of US$52.40 million (US$20.53 million) and the mean (median) EEE to total asset ratio is 0.64 (0.68). The mean number of shares held by substantial shareholders is 22%. On average, CEO's own a mean (median) of 3% (1%) of the issued capital of the MEE. A mean (median) of 11% (6%) of the issued capital is held by the CEO and other directors of MEEs.

4.3. Market reactions to debt mandates

4.3.1. Stock price response

4.3.1.1. Empirical predictions

Banks provide screening benefits due to private information, which as suggested, is likely to be important for MEEs (Leland & Pyle, 1977; Ross, 1977). Banks and other financial intermediaries are in a good position to evaluate and appraise the potential profitability of planned investment projects in specific sectors of the economy, a process known as bank screening (Manove et al., 2001). Bank screening reduces adverse selection, which can lower financing costs for firms with good projects (Million & Thakor, 1985; Coval & Thakor, 2005). Banks also provide ex-post monitoring (Diamond, 1991; Faulkender & Petersen, 2006; Mester et al., 2007), part of the certification role in the PF literature which reduces potential moral hazard problems (Esty & Megginson, 2003).

An interesting case in the banking literature is loan initiation where bank or financial intermediary screening is conducted for the first time and a more unambiguous quality signal is sent to the market compared to subsequent loans (Diamond, 1984).[20] Apart from small seed

[20] Prior studies have examined the information content of new loans and loan renewals, but not loan initiations. For example, Lummer and McConnell (1989) classify a "new" loan as a firm that arranges a loan with a new bank where the firm has no prior credit history, stating: "Except for five cases, all of the firms in our sample that announce new credit agreements had some prior bank financing in place, albeit with a different bank". This approach has been adopted in subsequent studies, such as Slovin et al. (1992), who state: "New credit agreements with new banks are classified as initiations, even if other bank debt may exist." In other words, moving from an

and bridge loans obtained to undertake feasibility studies or to provide funding for the purchase of long lead time capital items, MEEs have no prior relationships with banks or other financial intermediaries prior to PF. In other words, the screening signal in a debt mandate is provided to the market in the absence of relationship banking which would otherwise serve to reduce adverse selection (Rajan, 1992; Boot, 2000; Boot & Thakor, 2000). MEEs also feature minimal collateral (Manove et al., 2000; Lo & Thakor, 2023). For these reasons, I expect that debt mandates as a signal of bank screening preceding PF approval will have beneficial implications for a reduction in information asymmetry and lead to positive market reactions (Appendix C).

Mining projects are richly endowed with embedded options (Brennan & Schwartz, 1985). One key option parameter is the timing of project development or the option to wait (Paddock et al., 1988). In mining projects, this option to wait is likely to be important to the project sponsor owing to the long project development lead times and the presence of cyclical commodity prices. For example, FL (2023) compare the mining project life cycle with the biotechnology drug development process (Robinson & Stuart, 2007; Lerner et al., 2003; Lo & Thakor, 2023). For projects that can last up to 30 years pre-development, optimal timing of the development decision is likely to be significant. Other studies like Ingersoll & Ross (1992) suggest project valuation is highly sensitive to future interest rate movements, whilst McDonald and Siegel (1986) suggest managers of projects should wait to invest until such time as the present value of the project exceeds certain benchmarks in terms of capital investment. Little descriptive evidence exists on investment hurdles or profitability benchmarks in PF loans, but heuristics likely exist given a number of PF loan approvals refer to 'standard' debt/equity or capital structure ratios used in relation to project capital expenditure. There are

environment of no bank monitoring to one with bank monitoring in our setting is arguably more informative than an existing borrower obtaining a new (additional) loan from another bank.

also anecdotal references to the use of debt service coverage ratios in some PF announcements[21].

Bernanke (1983) discusses the option to wait from an information arrival perspective, suggesting deferral of investment decisions is optimal if improved information allows managers to make better decisions. The importance of information arrival in the mining industry extends beyond information on interest rates to changes in the underlying commodity price and other factors such as political uncertainty (Ferguson et al., 2022). The key distinction then between the award of the debt mandate and the subsequent loan approval is effectively the loan approval marks the beginning of the formal contractual relationship with the bank, whilst the debt mandate is simply selection of a preferred financier, with less in the way of contractual commitment and enforceability. The mandate could be likened to a memorandum of understanding (MOU). This means that at the debt mandate stage, the option to wait is retained by the borrower, while at the PF approval stage, the option is, or soon after when loan documentation is complete, extinguished. Whilst this thesis does not formally hypothesise and test this, a point estimate comparison is undertaken to consider merits of the conjecture that the market reaction to the debt mandates will be both positive and of a greater magnitude than the market reaction to the subsequent loan approval reported in FL, 2023.

In summary, this thesis examines the role of both specialist PF lenders and non-bank lenders in the MEE setting. Interestingly, despite the information asymmetry present in the setting, FL (2023) find little in the way of either specialist or non-bank lender capital market reactions consistent with prior studies of bank loans (Preece & Mullineaux, 1994; Billett et al., 1995). However, the FL (2023) non-bank test is constrained by a small sample size (13 deals).

[21] ASX announcement by Walkabout Resources on US$20 million senior debt facility, see web-link accessed 14/4/2024; https://www.aspecthuntley.com.au/asxdata/20230704/pdf/02682897.pdf

By extending the sample period this thesis can investigate any non-bank lender effects using a larger sample size.

4.3.2. Announcement return measure

Stock price reactions to firms' announcements of debt mandates are calibrated by computing daily abnormal stock returns surrounding loan announcements as follows:

$$AR_{i,t} = ln\left[\frac{P_{i,t}}{P_{i,t-1}}\right] - ln\left[\frac{P_{m,t}}{P_{m,t-1}}\right], \quad (1)$$

where $AR_{i,t}$ is the abnormal (market-adjusted) return of firm i on day t, $P_{i,t}$ is the closing stock price of firm i on day t, and $P_{m,t}$ is the closing value of ASX's All Ordinaries Index for the Australian sample and TSX's Total Composite Index for the Canadian sample m on day t.[22,23] The cumulative abnormal return (CAR) for firm i is the summation of the daily abnormal returns over the event window (q, s), calculated as:

$$CAR_i(q, s) = \sum_{t=q}^{s} AR_{i,t} \quad (2)$$

For each announcement type, I average CAR_i across the sample firms to obtain a cumulative average abnormal return ($CAAR$). It is expected that $CAAR(q, s)$ will be positive and significant, implying PF loans are value enhancing.

4.3.3. Event study results

Table 6 reports evidence on share price reactions to firms making debt mandate announcements. For the Australian sample (Panel A) of 195 debt mandate announcements over a the standard event window (-1,0,1), I observe an average (median) CAR of 5.00% (3.77%),

[22] All prices are adjusted for changes in the basis of quotation, such as dividends on the ex-dividend day and, more likely in this setting, capital reconstructions.

[23] The All Ordinaries Index is a market capitalization-weighted index comprising the largest 500 ASX-listed companies and represents over 99% of market capitalization of the ASX.

significant at the 1% level using both parametric (BMP) and non-parametric (CZ rank) tests.[24] For alternative event windows of (0,1) and (-1,0), I report mean (median) abnormal returns of 5.39% (3.86%) and 4.09% (2.34%) respectively, again both parametric and non-parametric tests statistics are significant at the $p<.01$ level in each case. The daily abnormal return on (-1) has a mean (median) of -.29% (-.12%) respectively, indicating the absence of any information leakage. Panel B indicates that of 115 debt mandate announcements made by Canadian MEEs, the average (median) CAR over the three-day window is 4.23% (2.38%), significant at the $p<.01$ level using both parametric (BMP) and non-parametric (CZ rank) tests. The average (median) CAR for the alternative event windows (0, 1) and (-1, 0) is 3.78% and 2.68% (1.21% and 1.87%), respectively. The daily abnormal return on (-1) has a mean (median) of .25% (-.31%) respectively. Overall, this univariate result provides strong support for assertions that PF debt mandate announcements are associated with positive abnormal returns.

[Insert Table 6 here]

[24] The BMP test is a parametric test based on standardized residuals corrected for event-induced changes in volatility (Boehmer et al., 1991). The CZ rank test is the Corrado and Zivney non-parametric rank test corrected for event-induced volatility of rankings (Corrado & Zivney, 1992).

5. Research design and empirical findings

5.1. Factors influencing wealth effects of debt mandate announcements

To provide insights on the cross-sectional variation of the abnormal returns surrounding announcements of PF debt mandates, this thesis employs a pooled OLS regression approach and specify the regression model as follows:

$$CAR_i = \beta_0 + \beta_1 LenderEq_i + \beta_2 Specialist_i + \beta_3 NonBank_i + \beta_4 JV_i + \beta_5 GPU_i + \beta_6 Advisor_i + \beta_7 LogCRBVol_i + \beta_8 Remandate_i + \beta_9 LogVolatility_i + \beta_{10} Log(MCap)_i + \beta_{11} AccLoss/TA_i + \beta_{12} Substantial\ Shdg_i + \beta_{13} MgntShdg_i + \beta_{14} CanadianDummy_i + \beta_{15} Syndication_i + \varepsilon_i, \quad (7)$$

where the dependent variable CAR_i is the two-day (-1, 0) CAR for firm i, calculated as per Equation (2). For testing the effect of lender equity, the variable $LenderEquity$, is included in the model specification. $LenderEquity$ is a binary variable with a value of one if it is disclosed within the PF loan announcement or prior fiscal year annual report that the lender(s) own shares, warrants or options in the borrower, and zero otherwise. A positive association is predicted between lenders holding equity in the firm and the market reaction on the basis that the lender believes the project has upside potential and may signal lender private information (Leland & Pyle, 1977; Mahrt-Smith, 2006; Chu et al., 2024).

In an augmented specification of Equation (7), two proxies of specialist lender are constructed in a similar manner to Lin et al. (2012) and FL (2023). The lender awarded the greatest number of mandates (Macquarie Bank) is denoted specialist lender ($Specialist\ Bank1$), whilst a second proxy ($Specialist\ Bank3$) extends the definition of specialist lender to the top-three banks (Macquarie Bank, BNP Paribas and Rothschild/Investec). In addition, a $NonBank$ indicator variable is constructed with a value of

one if none of the lenders awarded the mandate is (are) classified as a commercial bank, and zero otherwise. $Specialist\ Bank1$, $Specialist\ Bank3$ and $NonBank$ are collectively referred to as "lender identity" proxies. If the specialist banks are superior in screening potential borrowers, a positive coefficient on $Specialist\ Bank1$ and $Specialist\ Bank3$ is expected.

In further tests of lender identity, given the larger number of $Nonbank$ lenders compared to FL (2023), this category is partitioned into a number of sub-categories: $Mining$, denoting mining industry participants, $Government$ denotes nonbank lenders affiliated with respective governments, $Investment\_Fund$ referring to nonbank lenders who are asset managers or investment funds and lastly $Traders$ who are other financiers and or commodity traders. Where the identity of the lender is unknown, a separate variable $Unknown$ is created and added to the model specification.

Several firm-level controls in the regression model are included. $Log(MCap)$ measures firm size and is computed as the natural logarithm of the borrower's market capitalization five days before the loan announcement. I expect firm size to have a negative relation with abnormal returns. Smaller firms are likely to have higher levels of information asymmetry and benefit more from signals of successful financing (Fama, 1985; Diamond, 1989; Slovin et al., 1992). In addition, the same amount of extra value created would translate into a smaller percentage gain for larger firms. $AcctLoss/TA$ to control for project sunk costs. The larger the spend on the project pre-development, the more likely the project is an older, better-known project or one with more exploration and expensive feasibility studies conducted. In terms of other project level controls, GPU, a control for government policy uncertainty and $JointVenture$, a control for projects not owned 100% by the project sponsor in the model specification. $LogVolatility$ is measured as the standard deviation of daily stock returns in the 12 months preceding the announcement date of a loan. Stock volatility is a measure of total firm risk, proxying for investors' perception of the uncertainty regarding the expected future cash flows of the MEE.

Firms with higher volatility would benefit more from the debt mandate, which helps to lower the uncertainty surrounding future project funding. Thus, I expect a positive association between stock volatility and announcement returns. $SubstantialShdg$ is the percentage shareholding of the top shareholders in the MEE.[25] Large shareholders play a significant monitoring role in the corporate governance structure of firms to mitigate agency problems (Claessens et al., 2002). A positive association between $SubstantialShdg$ and announcement returns is expected. $MgntShdg$ is the percentage shareholding of the corporate insiders (directors and CEO). A higher percentage of insider shareholding implies a better alignment of management incentives with the interests of the shareholders and therefore a positive association with abnormal returns is expected. As suggested by Leland and Pyle (1977), a manager's investment in a project serves as a signal of project quality. In addition, a control for price changes in the commodities market by including $LogCRBVol$, computed as the return on the Thomson Reuters/Core Commodity CRB Index over the 12 months immediately preceding the PF loan announcement is included in the empirical model. A positive relationship between commodity price changes abnormal returns is expected. Two disclosure related variables are also included. $Advisor$ indicates the presence of an FA disclosed in the debt mandate announcement. The variable $Remandate$ is included to control for mandate announcements preceded by another debt mandate (i.e., a mandate reversal or renewal).

The model specification in Equation (7) and the augmented model with alternative lender identity partitions are estimated using a pooled OLS regression procedure with robust standard errors (Petersen, 2009) to correct for potential industry and time clustering.

[25] Shareholders with stakes equal or greater than 10% based on the MEE's annual report disclosure in the year prior to the debt announcement date.

5.2. Cross-sectional results

Table 7 presents OLS regression results for the determinants of market reactions to PF debt mandate announcements. The dependent variable used is the two-day cumulative abnormal return, $CAR(-1, 0)$ as this is descriptively the highest abnormal return window observed in pooled analysis.

[Insert Table 7 here]

Column 1 (2-8) report(s) regression results for the baseline model using $Specialist\ Bank1$ ($Specialist\ Bank3$, and alternative $Nonbank$ lender identity proxies) and has an adjusted R^2 of 0.062 (ranging from 0.060 to 0.103 in Columns 2-8), with the F statistics ranging from 2.31 to 3.35, significant at the p<.01 level. The coefficient on $Canadian\ Dummy$, indicating observations from the Canadian sample, is negative (-0.0211) and significant at p<0.10 across all models, except for those results reported in Column 3. This indicates that Canadian mandates perform worse. The coefficient on $JointVenture$ (-0.0263) is negative and significant at p<0.05 across all models except the results reported in Column 4, where it is significant at p<0.10. The coefficient on $Advisor$ (-0.0168) is negative and insignificant across all models. The other control variables including $Syndication$, $LogVolatility$, $Log(MCap)$, $MgntShdg$ $(GPU, CRBVol,\ Remandate$, and $SubstantialShdg)$ are positive (negative) but not significant in explaining the cross-sectional variation in the announcement CAR.

In terms of test variables, the coefficient on $Lender\_Equity$ is positive (ranging from 0.0354 to 0.0486) and significant at the p<.01 level across all columns. This suggests that debt mandates where lenders hold equity in the project sponsor exhibit stronger market reactions, consistent with a reduction in bargaining power of the bank and lower information asymmetry (Mahrt-Smith, 2006). This result supports H1, which asserts that market reactions will be

greater where mandatees hold equity in the project sponsor at the debt mandate announcement date. This finding is in line with theory assertions in Mahrt-Smith (2006), and contrasts with recent work suggesting costs associated with dual holdings (Chu et al., 2024).

Columns 1–8 exhibit results for testing the lender identity proxies (specialist banks and nonbanks). The effect of specialist lender is assessed by including $Specialist\ Bank1$ and $Specialist\ Bank3$ in the model. However, the estimated coefficient on $Specialist\ Bank1$ in Column 1 is insignificant, indicating no support for the reputation, or certification effects based on the identification of the top lender. Similarly for $Specialist\ Bank3$, reported in Columns 2-8 where the coefficients are negative and insignificant, there is no support for the reputation, certification or of a broader definition of specialist banks. In contrast, the absence of any difference in terms of announcement CAR for the specialist lenders may be more consistent with a bargaining power argument (Stomper, 2006; McCahery & Schwienbacher, 2010; FL, 2023). That is, positive reputation or certification effects are offset by the negative effects of tougher bargaining. These results may suggest that any positive lender reputation effects are offset by market awareness of tougher loan terms imposed by larger specialist banks.

When the lender type variable $NonBank$ is added to the model in Column 3, the model reports an adjusted R^2 of .062, with an F-statistic of 2.36, significant at the p<.01 level. The estimated coefficient on $NonBank$ is positive and insignificant. Results partitioning $NonBank$ into four sub-groups being $Mining, Government, Investment\_Fund$ and $Traders$ is then undertaken. Results are shown in Columns 4-8.

In Column 4, the dummy variable $Mining$ replaces the $NonBank$ dummy in Column 3. The coefficient on $Mining$ is positive (.079), and significant at the p<.01 level. The adjusted R^2 of the model is 0.102 and has an F-statistic of 3.35, significant at the p<.01 level. This suggests that mandates awarded to mining companies, enjoy stronger market reactions,

consistent with the presence of a mining partner mitigating project risk. Thus, these findings are consistent with H2.

In Column 5, the lender identity variable of interest is $Government$. The model in Column 5 reports and adjusted R^2 of .060, significant at the p<.01 level. The coefficient on $Government$ is negative (-.01), but not significant. Consequently, mandate awards to government affiliated lenders have no effect on market reactions. In Column 6, I replace the non-bank lender identity dummy variable with $Investment\_Fund$, denoting non-bank mandatees who are asset managers or investment funds, consistent with tests of H3. The adjusted $R2$ of the model increases to .088 and has an F-statistic of 3.00, significant at p<.01 level. The coefficient on $Investment\_Fund$ is negative (-.06) and significant at p<.01 level. This suggests mandate awards to asset managers/investment funds results in lower market reactions, supporting H3. Columns (7) and (8) report results for separate dummy variables for $Unknown\ Lender$ and $Traders$, however both these coefficients are insignificant.

In summary, I report results consistent with lender equity having a positive impact on returns, consistent with H1. Further, contrasting results for two significant individual non-bank lender proxies. $Mining$ has a positive effect on market reactions, whilst the $Investment\_Fund$ has a negative effect on market reactions, controlling for other factors. These findings are interesting suggesting that not all non-bank lender have the same effect in capital markets. These findings are further consistent with H2 and H3.

6. Endogeneity and additional tests

6.1. Determinants of mining partners in debt mandates

The determinants of having non-bank mining partners awarded debt mandates is investigated, where these counterparties are unlikely to be assigned randomly to these deals. The first determinant ($Profitability\ Index$) is a measure of project profitability. $JointVenture$ is a binary variable indicating projects with multiple sponsor firms. Age is the announcing firm's listing tenure. $CRBVol$ is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. At the firm level, I control for $Log(MCap)$, which is the natural logarithm of market capitalization used to proxy for borrower's bargaining power (Dennis & Sharpe, 2005). $AccLoss/TA$ is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. Accordingly, the mining partner selection (choice) model is specified as follows:

$$Prob(MiningPartner_i = 1) = \beta_0 + \beta_1 ProfitabilityIndex_i + \beta_2 JointVenture_i + \beta_3 Age_i + \beta_4 CRBVol_i + \beta_5 Log(MCap)_i + \beta_6 AccLoss/TA_i + \varepsilon_i \quad (8)$$

The model depicted in Equation (8) is based on a probit regression for the sample of 310 debt mandates, where the results are reported in Table 8. The coefficient on $ProfitabilityIndex$, $JointVenture$, $CRBVol$, and $Log(Mcap)$ (Age) are negative (positive) and insignificant. The coefficient on $AccLoss/TA$ is negative and significant at p<0.05, indicating that MEEs with higher sunk costs are less likely to have a debt mandate awarded to a mining partner. This finding indicates that a mining partner is likely to select project partnerships with smaller companies, which are less likely to suffer EEE impairment after controlling for project quality.

[Insert Table 8 here]

The finding discussed in the main results, where a positive association is found between mining partners and announcement return is subject to potential endogeneity issues. Firstly, there could be omitted variables that are correlated with both mining partner and announcement returns despite the efforts to include controls at both project and firm levels. Furthermore, the analysis of Table 8 above indicates that having mining partners awarded debt mandates is likely to be endogenous. Accordingly, I adopt a treatment effects modelling approach to analyse the relationship between mining partners and announcement returns of debt mandates.

Following the determinants model of mining partners awarded debt mandates reported in Equation (8), I utilize a treatment effects model following Bharath et al. (2011). Table 9 (Columns 1 and 2) reports the results of the treatment model for mining partners with $Specialist\ Bank1$ proxying for specialist lenders. The first-stage results for mining partners (Column 1) are similar to the ones reported in Table 8. Accordingly, I use the predicted probability of having mining partners awarded debt mandates from the first equation in the second-stage announcement returns (*CARs*) regression. Column 2 shows that, controlling for endogeneity using this treatment effects approach, the relationship between mining partners and announcement returns remains positive and significant at $p<0.01$. Columns 5 and 6 follows a similar approach with $Specialist\ Bank3$ proxying for specialist lenders, where the coefficient on Pr ($Mining$) remains positive and significant at $p<0.01$.

In order to confirm that this positive relationship between mining partners and announcement returns is not caused by omitted variables correlated with both terms, I include a control for the borrower's project location as a potential omitted variable in Columns 3 and 4 (7 and 8) is included. This is based on the argument that the more distant the project location from its sponsor's headquarters, the more difficult it is for the project sponsor to monitor its project operations, where a mining partner can be beneficial. The use of geographical distance has been used in the financial literature to proxy for information gathering and processing by

lenders (Berger et al., 2005; Bharath et al., 2011; Coval & Moskowitz, 2001; Dass & Massa, 2011). For each debt mandate, the geographic location of the project's coordinates are collected from S&P Capital IQ Pro Market Intelligence. Following Bharath et al. (2011), I use the natural logarithm of the distance between the project location and sponsor's headquarters $Log(Project\ Distance)$. Columns 3 and 4 (7 and 8) report the results of the treatment model for mining partners with $Specialist\ Bank1$ ($Specialist\ Bank3$) proxying for specialist lenders and $Log(Project\ Distance)$. Results suggest that the positive relationship between mining partner and announcement returns holds while the coefficients on both $Specialist\ Bank1$ and $Specialist\ Bank3$ remain negative and insignificant. In the model reported in Column (4 and 8), the coefficient on $Log(Project\ Distance)$ is positive and significant at the p<.10 level (one-tailed test), suggesting a partial control for endogeneity problems.

Results discussed using this treatment effects approach are consistent with those reported in the main analysis, suggesting a positive relationship between mining partners and debt mandate announcements. Further, there is no of evidence of the presence of bank specialisation having any effect on debt mandate market reactions.

[Insert Table 9 here]

6.2. Additional Analysis

6.2.1. Inclusion of loan size

FL (2023) include $LoanTA$, measured as loan amount divided by total assets to control for the relative size of the PF loan. However, loan amount is only disclosed in 216 mandate announcements. Loan disclosure is controlled for by including a dummy variable, $Loan\ Disclosure$, to control for disclosure of the loan amount as a separate term in the model specification in (7). Table 10 shows that adding a control variable controlling for loan amount disclosure does not alter primary results. Coefficients on $LenderEquity$, $Investment\_Fund$, and $Mining$ remain significant at the p<.01 level across all models.

[Insert Table 10 here]

6.2.2. Hedging requirement

Hedging requirements play a less important role at the debt mandate stage compared to the PF approval phase with a smaller number of observations discussing hedging requirements in mandate award announcements. However, consistent with FL, 2023, a separate control variable is added to the primary model in (7) to control for required hedging. Table 11 shows that the coefficient on $Hedging$ is negative (with coefficients ranging from -0.0244 to -0.0295) and insignificant across the different model specifications, except for Column 6 where the coefficient on *Hedging* is negative (-.0295) and significant at the p<.10 level. Coefficients on $LenderEquity$, $Investment\_Fund$, and $Mining$ remain significant at the p<.01 level.

[Insert Table 11 here]

6.2.3. Borrower track record

Project finance sponsors can obtain small 'seed' or mezzanine loans earlier in the mine development life cycle normally for the purposes of conducting what are known as bankable

feasibility studies (BFS). The BFS normally takes around one to two years to complete and is quite expensive for MEE's who can obtain small seed loans of between $1m-4m for these purposes. A number of seed loans are written by Macquarie Bank and other bank lenders, but investment funds have recently begun to engage with project sponsors at this stage of the mine life cycle. This means the MEE's banking relationship can start before the PF debt mandating (Diamond, 1991). Where seed loans are present, some of the screening benefits and information asymmetry reduction may be priced at the seed or mezzanine announcement date and so would expect a negative coefficient on $Track\_Record$ at the debt mandate announcement stage. However, Table 12 exhibits a positive and insignificant coefficient on $Track\_Record$. There is no change to the strength of the coefficients on $LenderEquity$, $Investment\_Fund$, and $Mining$ that remain significant at the p<.01 level.

[Insert Table 12 here]

6.2.4. Oil and gas

In the data collection process, 5 debt mandates announced by oil and gas firms are identified (Distadio et al., 2023). When the dummy control variable $Oil\ and\ Gas$, is added to the primary model in (7). As reported in Table 13, the coefficient on $Oil\ and\ Gas$ is negative but insignificant while the coefficients on $MiningLender\ Equity$ ($Investment\_Fund$) remain positive (negative) and significant at the p<.01 level.

[Insert Table 13 here]

6.2.5. Alternate event windows

The primary model tests in (7) are re-run using the cumulative return based on the event window (-1,0,1), (0,1) and (0) as the alternative dependent variables.

Table 14, Panel A shows the results of the three-day (-1,0,1) CAR, where the coefficient on $Mining$ remains unchanged while the coefficient on $Lender\ Equity$ ($Investment\_Fund$) remains positive (negative) but its significance in each case weakens to the p<.05 level.

Table 14, Panel B shows the results of the two-day (0,1) cumulative market-adjusted abnormal return. The coefficient on $Mining$ ($Investment\_Fund$) remains positive (negative) but its significance weakens to the p<.05 (p<.10) level. The coefficient on *Lender Equity* remains positive, but its significance also weakens to the p<.05 and p<.10 levels and it becomes insignificant Column 3 and 4, respectively.

Table 14, Panel C shows the results of the event day (0) market-adjusted abnormal return. The coefficient on $Mining$ ($Investment\_Fund$) remains positive (negative), but the significance of $Investment\_Fund$ weakens to the p<.05 level. The coefficient on *Lender Equity* remains positive and significant only at the p<.05 level with the presence of $Investment\_Fund$ while it is not significant across all other models.

Thus, the strength of reported results is partially sensitive to alternative event windows.

[Insert Table 14 here]

6.2.6. Loan interest rate

Interest rates are disclosed in 45 mandate announcements. To control for this disclosure of the loan terms, a separate dummy variable, $Interest\ Rate$, is included in the model specification in (7). Table 15 shows that adding a control variable controlling for loan interest rate disclosure does not alter primary results. Coefficients on $LenderEquity,\ Mining$ and ($Investment\_Fund$) remain positive (negative) and significant at the p<.01 level.

[Insert Table 15 here]

6.2.7. Security for loan

The security for loan (in the form of the existing and future tangible and intangible assets) is mentioned in 62 debt mandates. If collateral and security serve as incentives to monitor, a dummy variable, $Security$, is included in the model specification. Table 16 shows that adding this variable does not alter our primary results while the coefficient on $Security$ is positive and significant at the p<.10 level in the model testing for $Investment\_Fund$ lender identity effects only. After controlling for $Security$, the main results are unchanged and coefficients on $LenderEquity,\ Mining$ and $(Investment\_Fund)$ remain positive (negative) and significant at the p<.01 level.

[Insert Table 16 here]

6.2.8. Big 4 auditor

The economics of auditing literature suggests that credible auditors can convey monitoring cost advantages (Menon & Williams, 1991; DeAngelo, 1981a and 1981b; Simunic & Benedetto, 1987). I included a dummy variable, $Big4Auditor$, in the model specification to test whether the credible and reputable auditors mitigate the information asymmetry problems associated with disclosures by MEEs. In this sample, the Big 4 auditors refer to Deloitte, KPMG, EY, and PwC who signed off the financial statements in the prior fiscal year. As shown in Table 17, the inclusion of $Big4Auditor$ does not change primary results with coefficients on $LenderEquity,\ Mining$ and $(Investment\_Fund)$ remain positive (negative) and significant at the p<.01 level. Thus, it is concluded there are no apparent auditor effects in this setting.

[Insert Table 17 here]

6.2.9. Exploration and evaluation expenditure

Exploration and evaluation expenditure (EEE) can be capitalized and deferred on balance under the Area of Interest method in AASB 6 (Australian equivalent IASB 6) subject to certain requirements in the standard (refer Appendix I). These requirements ensure the presence of valid mineral tenure and the ability for EEE costs to be recouped, or that exploration activity in the *Area of Interest* is ongoing. The standard allows immediate expensing, or partial capitalization as alternative treatments. The requirement for exploration activity in the Area of Interest to be ongoing implies the presence of future economic benefits in future exploration. This is because an MEE is unlikely to commit more exploration budget to an Area of Interest if the costs of exploration would be greater than the benefits of that future exploration. Consequently, capitalized EEE likely contains valuable information about the project exploration potential and geological prospectivity (Bui et al., 2021). Descriptive statistics in Table 5 also show the materiality of this account with mean (median) EEE scaled by TA (EEE/TA) equal to .63 (.65) in the Australian sub-sample, .66 (.72) in the Canadian sub-sample and .64 (.68) in the pooled sample. These descriptive statistics indicate that the intangible asset is by far the largest balance sheet account for MEEs. By comparison the mean (median) cash to total assets in the pooled sample is .24(.16), suggesting EEE is more than double the size of cash holdings.

To test for possible impacts of the EEE intangible asset on returns around this important financing event (debt mandating), firms with '0' EEE (that is immediate expensers) are dropped from the sample. There are only a small number of immediate expensers across the Canadian and Australian samples (17) as the vast majority of MEEs capitalize EEE. For the reduced sample of 293 (310-17), primary tests are re-run dropping the existing variable, $AccLoss/TA$, and include a new variable, EEE/TA (EEE scaled by total assets) in the primary

model specification. Table 18 shows that the coefficient of EEE to total asset ratio, EEE/TA, is positive and significant at the $p<.05$ level except for column 4 where it is significant at the $p<.10$ level. The addition of EEE/TA to the model does not change primary results with the coefficients on $LenderEquity,\ Mining\ and\ Investment_Fund,$remain positive (negative) significant at the $p<.01$ level. It is noted that the significance of *Lender Equity* weakens to the $p<.05$ level in tests conducted and reported in Columns 3 and 4.

I conclude that capitalized EEE is used by the market to infer future project prospectivity at this key project milestone and adding a proxy for this intangible asset does not alter primary findings in relation to lender equity and lender identity.

[Insert Table 18 here]

7. Summary and conclusions

7.1. Summary

Mine development is a high information asymmetry setting. Using a hand-collected sample of debt mandates announced by Canadian and Australian MEEs, I provide evidence showing these announcements convey important information to the capital markets in consistent with theories of adverse selection. On a descriptive level, debt mandates are shown to exhibit abnormal returns of greater magnitude than point estimates of market reactions to PF loan approvals in FL, 2023. This is an interesting finding given the differing level of contractual completeness in different stages of the PF loan cycle.

This thesis develops prior corporate finance evidence on lenders taking equity in the holding company project sponsors (Grosse, 2014; FL, 2023). Lender equity has been controversial in the banking industry (Mahrt-Smith, 2006; Chu et al., 2024). Mahrt-Smith (2006) provides a theoretical model suggesting lender equity reduces the bargaining power of the bank, resulting in beneficial loan pricing for the borrower. Mahrt-Smith argues that this is particularly the case for small firms. I hypothesize that market reactions will be positive and larger when the lender has equity. If lenders hold equity positions in the mandatee, but these holdings fall outside of the Top 20 shareholders and are not disclosed in the debt mandate announcement, they are coded as not having lender equity, when in fact they do. As expected, the coefficient on $Lender\_Equity$ is positive and significant at the $p<.01$, suggesting that debt mandates where lenders hold equity in the project sponsor exhibit positive and larger market reactions. This supports H1, consistent with arguments in Mahrt-Smith (2006).

I also hypothesize that market reactions to debt mandate announcements will be positive (negative) where the mining partners (investment funds) are the mandated lenders. The coefficient on *Mining* is .079 ($p<.01$) while the coefficient on $Investment\_Fund$ is -.06 ($p<.01$). Thus, these results support H2 and H3, suggesting that non-bank lender market

reaction effects for mining partners (positive) and investment funds (negative), suggesting all non-bank lenders may not be the same. This is an interesting finding considering recent work highlighting the growing importance of the shadow banking sector (Chernenko et al., 2022). Thus, the evidence in this thesis implies that mining partners have superior screening abilities, whilst mandates to investment funds and asset managers result in lower market reactions. Lastly, this thesis provides evidence suggesting specialist banks do not show any difference in market reactions to other lenders consistent with a bargaining interpretation.

This thesis raises a number of opportunities for future research. First, if the debt mandate could be viewed as a form of 'voluntary' screening that precedes the PF approval, an interesting question would be whether the choice to disclose debt mandate results in higher market reactions compared to PF approval. Second, future studies may investigate the effects of mandate symmetry where the mandate and the PF financier switch or remain the same. Third, future studies can address the effects of long-run performance between MMEs choosing not or to disclose the debt mandate. Finally, future studies can re-examine the effects of debt mandates in different lifecycles of MMEs such as production.

7.2. Contributions and limitations

I acknowledge the following potential limitations of our study. This study is subject to generalizability limitations in the form of a small sample of small-sized firms, confined to the development stage in the mining industry in Canada and Australia. In addition, measures such as Lender Equity suffer from an observability problem. If lenders hold equity positions in the mandatee, but these fall outside of the Top 20 shareholders, they are coded as not having lender equity, when in fact they do. Likewise, the absence of Top 20 disclosure in Canada, could worsen this problem. To the extent that only a noisy measure of lender equity is available to the researcher, this should bias against any findings for dual holdings. A further potential

omitted variable is the absence of loan pricing data to be included in the model specification, the collection of which, is outside the scope of this thesis due to data collection time constraints.

This thesis contributes to the existing literature in several new ways. First and foremost, this thesis develops prior literature that provides descriptive evidence on market reactions to the debt mandate announcements (Grosse, 2014; FL, 2023) by providing large sample evidence across two jurisdictions (Australia and Canada). Second, this thesis builds on prior evidence on the wealth effects of lender equity in the capital markets context (Grosse, 2014; FL, 2023). This evidence is important given mixed empirical evidence in the prior literature (Mahrt-Smith, 2006; Chu et al., 2024). Next, this thesis explores different categories of non-bank lender identities (i.e., mining partners, investment funds). Non-bank lenders have been shown to be increasingly important in lending to smaller firms who are unable to access public debt markets (Denis & Mihov, 2003; Chernenko et al., 2022). This thesis contributes to the literature by showing for the first time that mining or industry partners technical capacities have superior screening and information asymmetry mitigation abilities, reflected in higher market reactions.

The context of this thesis is a study of MEEs, which are rich in intangible assets. Given funding constraints of small firms, mandating may present an avenue by which small firms mitigate collateral constraints with banks and non-bank lenders alike.

Tables

Table 1 – Sample selection

Description	Firms	Projects	Announcements
A. Australian sample			
All debt mandate announcements (1995-2022)	171	182	225
Less: observations with missing stock prices	8	9	7
Less: observations with sales revenues	9	12	20
Less: observations from oil and gas firms	3	3	3
Final sample	151	158	195
B. Canadian sample			
All debt mandate announcements (1995-2022)	144	155	176
Less: observations with missing stock prices	28	28	37
Less: observations with sales revenues	15	22	22
Less: observations from oil and gas firms	2	2	2
Final sample	99	103	115
C. Full sample			
All debt mandate announcements (1995-2022)	315	337	401
Less: observations with missing stock prices	36	37	44
Less: observations with sales revenues	24	34	42
Less: observations from oil and gas firms	5	5	5
Less: observations duplicated in sub-samples	0	3	0
Final sample	250	258	310

The sample is drawn from public announcements made by mining exploration entities (MEEs) over the period 1995-2022. The Australian (Canadian) sample comprises MEEs listed on the Australian Securities Exchange-ASX (Toronto Stock Exchange-TSX).

Table 2 – Debt mandates frequency over time

Year	Ferrous	Non-ferrous	Precious	Specialty	Various	Total	%	Cum.%
Panel A. Australian sample								
1997	0	0	1	0	0	1	1%	1%
1998	0	1	0	0	0	1	1%	1%
1999	1	1	0	0	1	3	2%	3%
2000	0	2	0	0	0	2	1%	4%
2001	0	1	3	0	0	4	2%	6%
2002	0	0	1	0	1	2	1%	7%
2003	0	0	3	0	1	4	2%	9%
2004	0	1	2	1	0	4	2%	11%
2005	1	1	5	2	2	11	6%	16%
2006	1	3	2	2	3	11	6%	22%
2007	2	1	3	1	1	8	4%	26%
2008	0	3	6	1	1	11	6%	32%
2009	1	2	6	1	0	10	5%	37%
2010	5	1	1	0	0	7	4%	41%
2011	3	5	4	2	1	15	8%	48%
2012	6	0	5	3	0	14	7%	55%
2013	1	3	1	0	0	5	3%	58%
2014	1	1	3	0	0	5	3%	61%
2015	2	1	3	4	0	10	5%	66%
2016	2	0	0	0	0	2	1%	67%
2017	2	1	2	3	1	9	5%	71%
2018	1	4	1	6	1	13	7%	78%
2019	2	2	0	12	0	16	8%	86%
2020	2	2	1	8	1	14	7%	93%
2021	1	2	2	4	1	10	5%	98%
2022	0	1	0	2	0	3	2%	100%
Total	34 17.4%	39 20.0%	55 28.2%	52 26.7%	15 7.7%	195 100%	100%	-

This table reports the distribution of debt mandates announced by ASX-listed mining exploration entities across the sample period 1995-2022.

Year		Ferrous	Non-ferrous	Precious	Total	%	Cum.%
Panel B. Canadian sample							
1997	0	1	1	0	2	2%	2%
1998	0	0	0	1	1	1%	3%
1999	0	0	2	0	2	2%	4%
2000	0	0	2	1	3	3%	7%
2001	0	0	0	1	1	1%	8%
2002	0	0	0	0	0	0%	8%
2003	0	0	2	0	2	2%	10%
2004	0	3	4	0	7	6%	16%
2005	0	6	1	0	7	6%	22%
2006	0	3	4	1	8	7%	29%
2007	0	5	2	0	7	6%	35%
2008	0	2	3	0	5	4%	39%
2009	0	0	4	0	4	3%	43%
2010	0	2	4	0	6	5%	48%
2011	0	1	2	0	3	3%	50%
2012	0	5	4	0	9	8%	58%
2013	3	2	2	4	11	10%	68%
2014	0	2	3	1	6	5%	73%
2015	0	1	1	0	2	2%	75%
2016	0	0	3	1	4	3%	78%
2017	0	0	5	1	6	5%	83%
2018	0	0	0	0	0	0%	83%
2019	1	0	1	2	4	3%	87%
2020	0	2	2	3	7	6%	93%
2021	0	1	4	1	6	5%	98%
2022	0	1	0	1	2	2%	100%
Total	4	37	56	18	115	100%	-
	3.4%	32.2%	48.7%	15.7%	100%		

Year	Ferrous	Non-ferrous	Precious	Specialty	Various	Total	%	Cum.%
Panel C. Full sample								
1997	0	1	2	0	0	3	1%	1%
1998	0	1	0	1	0	2	1%	2%
1999	1	1	2	0	1	5	2%	3%
2000	0	2	2	1	0	5	2%	5%
2001	0	1	3	1	0	5	2%	6%
2002	0	0	1	0	1	2	1%	7%
2003	0	0	5	0	1	6	2%	9%
2004	0	4	6	1	0	11	4%	13%
2005	1	7	6	2	2	18	6%	18%
2006	1	6	6	3	3	19	6%	25%
2007	2	6	5	1	1	15	5%	29%
2008	0	5	9	1	1	16	5%	35%
2009	1	2	10	1	0	14	5%	39%
2010	5	3	5	0	0	13	4%	43%
2011	3	6	6	2	1	18	6%	49%
2012	6	5	9	3	0	23	7%	56%
2013	4	5	3	4	0	16	5%	62%
2014	1	3	6	1	0	11	4%	65%
2015	2	2	4	4	0	12	4%	69%
2016	2	0	3	1	0	6	2%	71%
2017	2	1	7	4	1	15	5%	76%
2018	1	4	1	6	1	13	4%	80%
2019	3	2	1	14	0	20	6%	86%
2020	2	4	3	11	1	21	7%	93%
2021	1	3	6	5	1	16	5%	98%
2022	0	2	0	3	0	5	2%	100%
Total	38 12.3%	76 24.5%	111 35.8%	70 22.6%	15 4.8%	310 100%	100%	-

This table reports the distribution of full sample of debt mandates announced by mining exploration entities across the sample period 1995-2022.

Table 3 – Debt mandates project location

Country	Ferrous	Non-ferrous	Precious	Specialty	Various	Total	%
Panel A. Australian sample							
Argentina	1	0	0	1	0	2	1.0%
Australia	15	15	24	28	9	91	46.7%
Bosnia and Herzegovina	0	0	1	0	0	1	0.5%
Botswana	0	1	1	0	0	2	1.0%
Brazil	1	1	2	1	0	5	2.6%
Burkina Faso	0	1	1	0	0	2	1.0%
Cameroon	2	0	0	0	0	2	1.0%
Canada	0	1	0	0	0	1	0.5%
Chile	3	1	0	0	0	4	2.1%
China	0	0	1	0	0	1	0.5%
Congo	0	2	0	1	0	3	1.5%
Dominican Republic	0	0	1	0	0	1	0.5%
Egypt	0	0	2	4	0	6	3.1%
England	1	0	0	1	0	2	1.0%
Eritrea	0	0	0	1	0	1	0.5%
Ethiopia	0	0	0	0	0	0	0.0%
Fiji	0	0	1	1	0	2	1.0%
Finland	0	1	0	0	0	1	0.5%
Ghana	0	0	2	0	0	2	1.0%
Greenland	0	2	0	0	0	2	1.0%
Indonesia	1	1	2	0	0	4	2.1%
Ivory Coast	0	0	1	0	0	1	0.5%
Kenya	0	0	0	0	1	1	0.5%
Kyrgyz	0	0	1	0	0	1	0.5%
Laos	0	0	2	0	1	3	1.5%
Malawi	0	0	0	1	0	1	0.5%
Malaysia	0	3	1	0	0	4	2.1%
Mongolia	2	0	0	0	0	2	1.0%
Mozambique	0	0	0	1	0	1	0.5%
Namibia	0	0	0	1	0	1	0.5%
Papua New Guinea	0	0	3	0	0	3	1.5%
Philippines	0	0	4	0	4	8	4.1%
Poland	1	0	0	0	0	1	0.5%
Saudia Arab	0	1	0	0	0	1	0.5%
Senegal	0	0	3	1	0	4	2.1%
Solomon Islands	0	2	0	0	0	2	1.0%
South Africa	5	0	1	0	0	6	3.1%
Spain	1	0	0	2	0	3	1.5%
Sweden	0	0	1	0	0	1	0.5%
Tanzania	0	0	0	5	0	5	2.6%
Turkey	0	1	0	0	0	1	0.5%
USA	2	2	0	2	0	6	3.1%
Vietnam	0	1	0	0	0	1	0.5%
Zambia	0	2	0	0	0	2	1.0%
Zimbabwe	0	0	0	1	0	1	0.5%
Sub-Total	35	38	55	52	15	195	100.0%
	17.9%	**19.5%**	**28.2%**	**26.7%**	**7.7%**	**100.0%**	

Country	Ferrous	Non-ferrous	Precious	Specialty	Total	%
Panel B. Canadian sample						
Botswana	0	0	0	1	1	0.9%
Brazil	0	1	2	1	4	3.5%
Burkina Faso	0	0	6	0	6	5.2%
Cameroon	1	0	0	0	1	0.9%
Canada	1	13	10	7	31	27.0%
Central African Republic	0	0	2	0	2	1.7%
Chile	0	1	2	0	3	2.6%
China	0	1	2	0	3	2.6%
Congo	0	5	0	0	5	4.3%
Costa Rica	0	0	2	0	2	1.7%
Czech Republic	0	0	0	1	1	0.9%
Denmark	0	0	0	1	1	0.9%
Dominican Republic	0	1	0	0	1	0.9%
Ethiopia	0	0	0	1	1	0.9%
Ghana	0	0	1	0	1	0.9%
Guyana	0	0	1	0	1	0.9%
Kazakhstan	0	1	0	0	1	0.9%
Kenya	0	0	0	1	1	0.9%
Macedonia	0	1	0	0	1	0.9%
Madagascar	0	0	0	1	1	0.9%
Mali	0	0	2	0	2	1.7%
Mexico	0	1	6	0	7	6.1%
Mongolia	1	0	1	0	2	1.7%
Niger	0	0	1	0	1	0.9%
Peru	0	1	3	0	4	3.5%
Russia	0	0	2	0	2	1.7%
Solomon Islands	0	0	1	0	1	0.9%
South Africa	0	0	3	1	4	3.5%
Spain	0	3	1	0	4	3.5%
Thailand	0	0	2	0	2	1.7%
Turkey	0	0	3	0	3	2.6%
Ukraine	1	0	0	0	1	0.9%
USA	0	6	4	1	11	9.6%
Venezuela	0	0	1	0	1	0.9%
Vietnam	0	1	0	0	1	0.9%
Zambia	0	1	0	0	1	0.9%
Sub-Total	**4**	**37**	**56**	**18**	**115**	**100.0%**
	3.5%	**32.2%**	**48.7%**	**15.7%**	**100.0%**	

Country	Ferrous	Non-ferrous	Precious	Specialty	Various	Total	%
Panel C. Full sample							
Argentina	1	0	0	1	0	2	0.6%
Australia	15	15	24	28	9	91	29.4%
Bosnia and Herzegovina	0	0	1	0	0	1	0.3%
Botswana	0	1	1	1	0	3	1.0%
Brazil	1	2	4	2	0	9	2.9%
Burkina Faso	0	1	7	0	0	8	2.6%
Cameroon	3	0	0	0	0	3	1.0%
Canada	1	14	10	7	0	32	10.3%
Central African Republic	0	0	2	0	0	2	0.6%
Chile	3	2	2	0	0	7	2.3%
China	0	1	3	0	0	4	1.3%
Congo	0	7	0	1	0	8	2.6%
Costa Rica	0	0	2	0	0	2	0.6%
Czech Republic	0	0	0	1	0	1	0.3%
Denmark	0	0	0	1	0	1	0.3%
Dominican Republic	0	1	1	0	0	2	0.6%
Egypt	0	0	2	4	0	6	1.9%
England	1	0	0	1	0	2	0.6%
Eritrea	0	0	0	1	0	1	0.3%
Ethiopia	0	0	0	1	0	1	0.3%
Fiji	0	0	1	1	0	2	0.6%
Finland	0	1	0	0	0	1	0.3%
Ghana	0	0	3	0	0	3	1.0%
Greenland	0	2	0	0	0	2	0.6%
Guyana	0	0	1	0	0	1	0.3%
Indonesia	1	1	2	0	0	4	1.3%
Ivory Coast	0	0	1	0	0	1	0.3%
Kazakhstan	0	1	0	0	0	1	0.3%
Kenya	0	0	0	1	1	2	0.6%
Kyrgyz	0	0	1	0	0	1	0.3%
Laos	0	0	2	0	1	3	1.0%
Macedonia	0	1	0	0	0	1	0.3%
Madagascar	0	0	0	1	0	1	0.3%
Malawi	0	0	0	1	0	1	0.3%
Malaysia	0	3	1	0	0	4	1.3%
Mali	0	0	2	0	0	2	0.6%
Mexico	0	1	6	0	0	7	2.3%
Mongolia	3	0	1	0	0	4	1.3%
Mozambique	0	0	0	1	0	1	0.3%
Namibia	0	0	0	1	0	1	0.3%
Niger	0	0	1	0	0	1	0.3%
Papua New Guinea	0	0	3	0	0	3	1.0%
Peru	0	1	3	0	0	4	1.3%
Philippines	0	0	4	0	4	8	2.6%
Poland	1	0	0	0	0	1	0.3%
Russia	0	0	2	0	0	2	0.6%
Saudia Arab	0	1	0	0	0	1	0.3%
Senegal	0	0	3	1	0	4	1.3%
Solomon Islands	0	2	1	0	0	3	1.0%
South Africa	5	0	4	1	0	10	3.2%
Spain	1	3	1	2	0	7	2.3%
Sweden	0	0	1	0	0	1	0.3%

Tanzania	0	0	0	5	0	5	1.6%
Thailand	0	0	0	2	0	2	0.6%
Turkey	0	1	3	0	0	4	1.3%
Ukraine	1	0	0	0	0	1	0.3%
USA	2	8	4	3	0	17	5.5%
Venezuela	0	0	1	0	0	1	0.3%
Vietnam	0	2	0	0	0	2	0.6%
Zambia	0	3	0	0	0	3	1.0%
Zimbabwe	0	0	0	1	0	1	0.3%
Total	**39**	**75**	**111**	**70**	**15**	**310**	**100.0%**
	12.6%	**24.2%**	**35.8%**	**22.6%**	**4.8%**	**100.0%**	

This table reports the distribution of debt mandates by commodity type and project host country announced by mining exploration entities across the sample period 1995-2022. Panel A (B) reports debt mandates announced by ASX (TSX) listed mining exploration entities. Panel C reports debt mandates for the full sample.

Table 4 - Identification of lender participants in debt mandates

Lender	Non-synd	Synd	Total	Non-synd	Synd	Total	Non-synd	Synd	Total
	A. Australian sample			*B. Canadian sample*			*C. Full sample*		
Panel A. Banks									
Macquarie Bank	9	7	16	9	3	12	18	10	28
Société Générale	0	8	8	1	13	14	1	21	22
Rothschild/Investec	8	2	10	6	3	9	14	5	19
BNP Paribas	2	4	6	5	7	12	7	11	18
Standard Bank	4	6	10	1	5	6	5	11	16
Barclays	3	2	5	6	4	10	9	6	15
Commonwealth Bank/Bankwest	7	5	12	0	4	4	7	9	16
KfW IPEX-Bank	5	5	10	2	4	6	7	9	16
RMB Resources Limited	6	2	8	5	1	6	11	3	14
Nedbank	2	3	5	1	5	6	3	8	11
WestLB AG	0	3	3	2	5	7	2	8	10
Credit Suisse	2	5	7	1	2	3	3	7	10
UniCredit	0	2	2	0	6	6	0	8	8
China Development Bank	3	4	7	0	0	0	3	4	7
Standard Chartered	0	5	5	0	2	2	0	7	7
International Finance Corporation	2	0	2	3	1	4	5	1	6
Bayerische Hypo-und Vereinsbank AG	1	0	1	4	1	5	5	1	6
ING Bank	0	3	3	0	3	3	0	6	6
ANZ	4	1	5				4	1	5
Korean Development Bank	0	1	1	0	4	4	0	5	5
NAB National Australia Bank	1	4	5	0	0	0	1	4	5
Natixis	0	2	2	0	3	3	0	5	5
Absa	0	2	2	0	0	0	0	2	2
Deutsche Bank AG	2	1	3	0	1	1	2	2	4
European Investment Bank	0	2	2	1	1	2	1	3	4
HSBC	0	3	3	0	0	0	0	3	3
ICBC	0	3	3	0	1	1	0	4	4
Westpac	1	2	3	0	0	0	1	2	3
Mizuho	0	0	0	0	3	3	0	3	3
African Development Bank	0	1	1	0	2	2	0	3	3
African Export-Import Bank	1	2	3	0	0	0	1	2	3
Royal Bank of Scotland	0	1	1	1	0	1	1	1	2
ABN AMRO	1	1	2	0	0	0	1	1	2
Banco da Amazonia	1	1	2	0	0	0	1	1	2
Banco Santander	0	2	2	0	0	0	0	2	2
EXIM Bank of China	1	1	2	0	0	0	1	1	2
EXIM Bank of the USA	1	0	1	0	1	1	1	1	2
Merrill Lynch	2	0	2	0	0	0	2	0	2
FirstRand	0	2	2	0	0	0	0	2	2
Bank of Scotland	0	1	1	0	0	0	0	1	1
ABG Sundal Collier	1	0	1	0	0	0	1	0	1
Bank Audi sae	0	1	1	0	0	0	0	1	1
Bank of China	0	1	1	0	0	0	0	1	1
Bank of Deyang	0	1	1	0	0	0	0	1	1
Bank of Montreal	0	0	0	0	1	1	0	1	1
Banque de Caire	0	1	1	0	0	0	0	1	1
Banque Misr	0	1	1	0	0	0	0	1	1
BBVA	0	0	0	1	0	1	1	0	1
China Construction Bank	0	1	1	0	0	0	0	1	1

China Minsheng Banking Corp	0	1	1	0	0	0	0	1	1
Commercial International Bank	0	1	1	0	0	0	0	1	1
Coris Bank	1	0	1	0	0	0	1	0	1
Credit Agricole	0	0	0	0	1	1	0	1	1
Dresdner	0	1	1	0	0	0	0	1	1
EXIM Bank of Korea	0	0	0	0	1	1	0	1	1
Goldman Sachs	0	0	0	1	0	1	1	0	1
Inter-American Development Bank	0	1	1	0	0	0	0	1	1
JP Morgan	0	1	1	0	0	0	0	1	1
Morgan Stanley	0	1	1	0	0	0	0	1	1
National Bank of Canada	0	0	0	0	1	1	0	1	1
Riyad Bank	1	0	1	0	0	0	1	0	1
Sub-Total	*72*	*111*	*183*	*50*	*89*	*139*	*122*	*200*	*322*
Panel B. Non-banks									
Government-affiliated organisations	19	6	25	4	13	17	23	19	42
Investment fund	13	3	16	7	1	8	20	4	24
Industry partner	9	9	18	4	4	8	13	13	26
Trader & financial service providers	13	9	22	4	8	12	17	17	34
Sub-Total	*54*	*27*	*81*	*19*	*26*	*45*	*73*	*53*	*126*
Non-identified	9	4	13	7	2	9	16	6	22
Total	**135**	**142**	**277**	**76**	**117**	**193**	**211**	**259**	**470**

This table reports the identity of the lenders that participated in the sample of debt mandates, where *Banks* indicate all commercial bank lenders, with each bank individually listed together with the number of deals they were involved in and their role as either sole lender/lead arranger (non-syndicated) or joint lender (syndicated); *Non-banks* report the details for non-bank lenders, which are classified into government-affiliated financial institutions, investment funds, commodity trading houses, industry partners, and equipment suppliers. Since multiple lenders can participate in a debt mandate (i.e., a syndicated loan), the total number of participations by all lenders exceeds the total number of debt mandates in the sample. Column A (B) reports lenders that participated in the sample of debt mandates announced by ASX (TSX) listed mining exploration entities. Column C reports lenders that participated in debt mandates for the full sample.

Table 5 - Debt mandate and firm characteristics

Lender	N	% Yes	Mean	Median	SD	Min	Max
Panel A. Australian sample							
Debt mandate characteristics							
Number of lenders excl. unknown	185		1.44	1.00	0.94	1.00	7.00
Loan amount (A$ m)	126		194.37	75.84	392.95	1.13	3,000.00
Loan/Total assets	126		5.65	1.76	13.81	0.03	109.63
GPU	195		0.29	0.25	0.11	0.13	0.61
Re-mandate	195	18.5%					
Joint venture	195	17.4%					
Foreign	195	52.8%					
Syndication	195	30.8%					
Lender equity	195	14.9%					
Hedging	195	11.8%					
Advisor	195	28.7%					
Non-bank lender	195	40.5%					
Specialist bank 1 (Macquarie)	195	8.2%					
Specialist bank 3 (Top 3 banks)	195	19.5%					
Firm characteristics							
Volatility	195		0.06	0.05	0.02	0.02	0.19
CRB Commodity price volatility	195		0.03	0.01	0.18	-0.38	0.62
Total assets (A$ m)	195		61.61	30.84	85.84	0.68	724.10
Market capitalization (A$ m)	195		131.21	50.80	201.61	1.93	1,130.00
Total revenue/Total assets	195		0.04	0.00	0.13	0.00	0.97
Cash (A$ m)	195		14.38	4.29	25.16	0.01	216.30
Cash/Total assets	195		0.26	0.18	0.24	0.00	0.97
EEE (A$ m)	195		41.05	18.94	72.22	0.03	679.69
EEE/Total assets	195		0.63	0.65	0.26	0.00	0.99
Short-term debt/Total assets	195		0.04	0.00	0.15	0.00	1.71
Long-term debt/Total assets	195		0.03	0.00	0.09	0.00	0.53
Total debt/Total assets	195		0.07	0.00	0.18	0.00	1.71
Accumulated losses (A$ m)	195		-35.70	-23.14	45.91	-279.3	193.50
Accumulated losses/Total assets	195		-1.80	-0.67	3.51	-30.84	0.58
Substantial shareholding	195		0.24	0.22	0.20	0.00	0.83
CEO shareholding	195		0.04	0.01	0.07	0.00	0.53
Director shareholding	195		0.08	0.04	0.16	0.00	1.59
Mgnt (CEO & Director) shareholding	195		0.12	0.07	0.20	0.00	2.12
Panel B. Canadian sample							
Debt mandate characteristics							
Number of lenders excl. unknown	106		1.74	1.00	1.56	1.00	12.00
Loan amount (CA$ m)	90		159.6	85.48	196.93	6.03	968.52
Loan/Total assets	90		3.67	1.54	7.56	0.03	62.47
GPU	115		0.31	0.33	0.10	0.17	0.55
Re-mandate	115	9.6%					
Joint venture	115	25.2%					
Foreign	115	73.0%					
Syndication	115	33.0%					
Lender equity	115	21.7%					
Hedging	115	10.4%					
Advisor	115	23.5%					
Non-bank lender	115	23.5%					
Specialist bank 1 (Société Générale)	115	12.2%					
Specialist bank 3 (Top 3 banks)	115	33.0%					

Firm characteristics							
Volatility	115		0.06	0.05	0.02	0.02	0.13
CRB Commodity price volatility	115		0.04	0.0	0.18	-0.34	0.62
Total assets (CA$ m)	115		123.11	45.73	276.1	0.68	2417
Market capitalization (CA$ m)	115		567.70	133.00	1217.35	4.90	8190
Total revenue/Total assets	115		0.07	0.00	0.20	0.00	1.41
Cash (CA$ m)	115		26.56	5.60	61.98	0.01	401.10
Cash/Total assets	115		0.21	0.12	0.22	0.00	0.98
EEE (CA$ m)	115		77.67	30.22	173.46	0.51	1553.95
EEE/Total assets	115		0.66	0.72	0.23	0.02	0.99
Short-term debt/Total assets	115		0.03	0.00	0.13	0.00	1.14
Long-term debt/Total assets	115		0.04	0.00	0.10	0.00	0.49
Total debt/Total assets	115		0.07	0.00	0.16	0.00	1.14
Accumulated losses (CA$ m)	115		-40.00	-26.41	59.34	-381.8	229.50
Accumulated losses/Total assets	115		-2.60	-0.49	10.88	-98.89	0.86
Substantial shareholding	115		0.19	0.14	0.21	0.00	0.90
CEO shareholding	115		0.03	0.01	0.06	0.00	0.54
Director shareholding	115		0.06	0.02	0.10	0.00	0.75
Mgnt (CEO & Director) shareholding	115		0.09	0.05	0.12	0.00	0.78
Panel C. Full sample							
Debt mandate characteristics							
Number of lenders excl. unknown	291		1.55	1.00	1.21	1.00	12.00
Loan amount (US$ m)	216		161.91	73.39	275.60	1.00	2,249.70
Loan/Total assets	216		4.83	1.67	11.64	0.03	109.63
GPU	310		0.30	0.29	0.11	0.13	0.61
Re-mandate	310	15.2%					
Joint venture	310	20.3%					
Foreign	310	60.3%					
Syndication	310	31.6%					
Lender equity	310	17.4%					
Hedging	310	11.3%					
Advisor	310	26.8%					
Non-bank lender	310	34.2%					
Specialist bank 1 (Macquarie)	310	9.0%					
Specialist bank 3 (Top 3 banks)	310	22.3%					
Firm characteristics							
Volatility	310		0.06	0.05	0.02	0.02	0.19
CRB Commodity price volatility	310		0.04	0.00	0.18	-0.38	0.62
Total assets (US$ m)	310		80.69	33.72	182.51	0.50	2,379.29
Market capitalization (US$ m)	310		285.70	58.63	786.29	1.59	8,062.24
Total revenue/Total assets	310		0.05	0.00	0.16	0.00	1.41
Cash (US$ m)	310		18.04	4.20	43.24	0.01	412.17
Cash/Total assets	310		0.24	0.16	0.23	0.00	0.98
EEE (US$ m)	310		52.40	20.53	120.41	0.02	1529.71
EEE/Total assets	310		0.64	0.68	0.25	0.00	0.99
Short-term debt/Total assets	310		0.04	0.00	0.14	0.00	1.71
Long-term debt/Total assets	310		0.03	0.00	0.09	0.00	0.53
Total debt/Total assets	310		0.07	0.00	0.17	0.00	1.71
Accumulated losses (US$ m)	310		-33.87	-21.84	48.91	-382.9	246.90
Accumulated losses/Total assets	310		-2.10	-0.58	7.18	-98.89	0.86
Substantial shareholding	310		0.22	0.19	0.21	0.00	0.90
CEO shareholding	310		0.03	0.01	0.07	0.00	0.54
Director shareholding	310		0.07	0.03	0.14	0.00	1.59
Mgnt (CEO & Director) shareholding	310		0.11	0.06	0.17	0.00	2.12

This table reports descriptive statistics on project loan attributes and firm-level characteristics for debt mandates. Panel A (B) reports descriptive statistics for debt mandates announced by ASX (TSX) listed exploration mining entities. Panel C reports descriptive statistics for the full sample. Amounts reported in US dollars in Panel C are converted from the local currency based on the exchange rate of the announcement date retrieved from the Reserve Bank of Australia and Bank of Canada.

Table 6 – Sponsor firm stock price return to debt mandate announcements

Variable	N	Positive %	Mean	Median	SD	Min	Max	BMP test	CZ rank test
Panel A. Australian sample									
CAR[0,1]	195	70.8%	0.0539	0.0386	0.1001	-0.2232	0.4864	7.9036***	5.3919***
CAR[-1,0]	195	66.7%	0.0409	0.0234	0.1029	-0.4275	0.5152	4.9751***	4.0270***
CAR[-1,1]	195	68.7%	0.0500	0.0377	0.1110	-0.3517	0.5618	6.0168***	4.1256***
AR(-1)	195	46.2%	-0.0029	-0.0012	0.0529	-0.2579	0.2205	-1.1969***	-0.4866***
AR(0)	195	71.3%	0.0446	0.0286	0.0945	-0.2989	0.5134	6.7710***	6.1445***
AR(1)	195	49.7%	0.0091	-0.0001	0.0783	-0.2701	0.3653	2.1572***	1.4822***
Panel B. Canadian sample									
CAR[0,1]	115	59.1%	0.0378	0.0121	0.0998	-0.1626	0.4263	4.5196***	3.6384***
CAR[-1,0]	115	67.0%	0.0268	0.0187	0.0759	-0.2016	0.3508	3.8097***	2.7620***
CAR[-1,1]	115	64.3%	0.0423	0.0238	0.1034	-0.2191	0.4041	4.4907***	3.3253***
AR(-1)	115	43.5%	0.0025	-0.0031	0.0426	-0.1574	0.1365	0.7734***	0.6040***
AR(0)	115	53.9%	0.0232	0.0025	0.0723	-0.1497	0.2964	3.9731***	3.2662***
AR(1)	115	53.0%	0.0151	0.0027	0.0757	-0.1590	0.3855	2.2519***	1.9125***

This table reports the stock price reactions to firms making debt mandate announcements. (Cumulative) abnormal returns AR (CAR) based on the market-model approach are winsorised at 1% and 99%. If an announcement is made after trading hours, the next available trading day is considered as the announcement day (t_0). BMP test is a non-parametric test based on standardised residuals corrected for event-induced changes in volatility (Boehmer, Masumeci, and Poulsen 1991). CZ rank test is based on Corrado and Zivney's (1992) non-parametric rank test corrected for event-induced changes in volatility. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 7 – Determinants of market reactions to debt mandate announcements

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Specialist Bank1	-0.0127							
	(-0.73)							
Specialist Bank3		-0.0111	-0.0079	-0.0059	-0.0118	-0.0156	-0.0109	-0.0115
		(-0.89)	(-0.60)	(-0.48)	(-0.94)	(-1.26)	(-0.87)	(-0.91)
NonBank			0.0096					
			(0.81)					
Mining				0.0797				
				(3.74)***				
Government					-0.0103			
					(-0.53)			
Investment Fund						-0.0605		
						(-3.03)***		
Unknown Lender							0.0018	
							(0.09)	
Traders								-0.0070
								(-0.33)
Canadian Dummy	-0.0211	-0.0199	-0.0184	-0.0188	-0.0206	-0.0218	-0.0199	-0.0201
	(-1.88)*	(-1.75)*	(-1.60)	(-1.70)*	(-1.80)*	(-1.95)*	(-1.75)*	(-1.77)*
Syndication	0.0043	0.0055	0.0071	0.0033	0.0045	0.0017	0.0056	0.0054
	(0.38)	(0.49)	(0.62)	(0.30)	(0.40)	(0.15)	(0.49)	(0.47)
GPU	-0.0233	-0.0243	-0.0232	-0.0337	-0.0277	-0.0306	-0.0243	-0.0255
	(-0.49)	(-0.51)	(-0.48)	(-0.72)	(-0.57)	(-0.65)	(-0.51)	(-0.53)
Joint-venture	-0.0263	-0.0262	-0.0261	-0.0231	-0.0263	-0.0240	-0.0262	-0.0264
	(-2.12)**	(-2.12)**	(-2.11)**	(-1.90)*	(-2.12)**	(-1.96)*	(-2.11)**	(-2.13)**
Lender Equity	0.0398	0.0387	0.0369	0.0354	0.0381	0.0486	0.0386	0.0385
	(3.02)***	(2.97)***	(2.79)***	(277)***	(2.91)***	(3.67)***	(2.96)***	(2.95)***
Advisor	-0.0168	-0.0171	-0.0173	-0.0123	-0.0168	-0.0133	-0.0171	-0.0174
	(-1.47)	(-1.50)	(-1.51)	(-1.09)	(-1.47)	(-1.17)	(-1.49)	(-1.52)
CRBVol	-0.0362	-0.0361	-0.0369	-0.0357	-0.0357	-0.0291	-0.0360	-0.0362
	(-1.27)	(-1.27)	(-1.29)	(-1.28)	(-1.25)	(-1.03)	(-1.26)	(-1.27)
Remandate	-0.0190	-0.0172	-0.0174	-0.0191	-0.0171	-0.0213	-0.0172	-0.0171
	(-1.35)	(-1.23)	(-1.24)	(-1.39)	(-1.21)	(-1.53)	(-1.22)	(-1.21)
LogVolatility	0.0185	0.0189	0.0173	0.0197	0.0199	0.0194	0.0190	0.0196
	(1.20)	(1.22)	(1.11)	(1.30)	(1.28)	(1.27)	(1.22)	(1.26)
Log (MCap)	0.0006	0.0007	0.0006	0.0015	0.0009	0.0016	0.0007	0.0007
	(0.15)	(0.18)	(0.14)	(0.38)	(0.24)	(0.41)	(0.18)	(0.18)
AccLoss/TA	-0.0013	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0013
	(-1.85)*	(-1.83)*	(-1.65)*	(-1.11)	(-1.83)*	(-1.82)*	(-1.83)*	(-1.85)*
Substantial Shdg	-0.0245	-0.0244	-0.0248	-0.0243	-0.0252	-0.0224	-0.0244	-0.0244
	(-1.00)	(-1.00)	(-1.01)	(-1.01)	(-1.02)	(-0.93)	(-1.00)	(-1.00)
Mgnt Shdg	0.0083	0.0084	0.0062	0.0052	0.0075	0.0111	0.0085	0.0082
	(0.29)	(0.29)	(0.21)	(0.18)	(0.26)	(0.39)	(0.29)	(0.29)
Constant	0.1038	0.1034	0.0969	0.0898	0.1049	0.0944	0.1032	0.1069
	(1.50)	(1.50)	(1.39)	(1.33)	(1.51)	(1.38)	(1.49)	(1.53)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0622	0.0630	0.0619	0.1026	0.0607	0.0883	0.0598	0.0601

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components:

government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 8 – Propensity model of mining financier

	(1)
Constant	0.416
	(0.26)
Profitability Index	-0.004
	(-0.08)
Joint-venture	-0.379
	(-1.09)
Age	0.000
	(1.39)
CRBVol	-0.445
	(-0.64)
Log (MCap)	-0.122
	(-1.39)
AccLoss/TA	-0.026
	(-1.98)**
Observations	310
Pseudo R^2	0.087
Chi-sq	12.00

This table reports probit regression results for a propensity model of the mining financier for debt mandates as specified in Eq.(8). The dependent variable is *Prob*(*Mining*=1), the likelihood of having a debt mandated awarded to a mining partner. *Profitability Index* (PI) is calculated (PI=NPV/CAPEX) based on the project's NPV and CAPEX disclosed in corporate documents prior to the debt announcement. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *Age* is the firm's listing tenure in years. *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 9 - Treatment effects model

	Mining (1)	*CAR* (2)	*Mining* (3)	*CAR* (4)	*Mining* (5)	*CAR* (6)	*Mining* (7)	*CAR* (8)
Constant	-0.452	0.099	-0.458	0.057	-0.440	0.099	-0.447	0.059
	(-0.29)	(2.20)**	(-0.29)	(1.08)	(-0.28)	(2.21)**	(-0.29)	(1.12)
Pr(Mining)		0.187		0.185		0.187		0.185
		(6.45)***		(6.30)***		(6.50)***		(6.40)***
Specialist Bank1		-0.008		-0.012				
		(-0.63)		(-0.93)				
Specialist Bank3						-0.006		-0.008
						(-0.56)		(-0.68)
Canadian Dummy		-0.018		-0.019		-0.017		-0.018
		(-1.94)*		(-2.04)**		(-1.86)*		(-1.95)*
Syndication		0.002		0.002		0.003		0.003
		(0.18)		(0.22)		(0.25)		(0.29)
GPU		-0.042		-0.088		-0.043		-0.087
		(-0.94)		(-1.52)		(-0.95)		(-1.52)
Lender Equity		0.042		0.042		0.041		0.041
		(3.49)***		(3.59)***		(3.45)***		(3.50)***
Advisor		-0.013		-0.013		-0.013		-0.013
		(-1.27)		(-1.28)		(-1.29)		(-1.29)
Remandate		-0.017		-0.017		-0.016		-0.015
		(-1.10)		(-1.14)		(-1.02)		(-1.03)
LogVolatility		0.017		0.015		0.018		0.015
		(1.18)		(1.03)		(1.18)		(1.03)
Substantial Shdg		-0.018		-0.019		-0.018		-0.019
		(-0.79)		(-0.83)		(-0.78)		(-0.82)
Mgnt Shdg		0.003		0.004		0.003		0.004
		(0.11)		(0.13)		(0.12)		(0.14)
Log (Project Distance)				0.006				0.006
				(1.28)				(1.26)
Profitability Index	-0.002		-0.002		-0.002		-0.002	
	(-0.05)		(-0.06)		(-0.06)		(-0.06)	
Joint-venture	-0.606		-0.592		-0.609		-0.596	
	(-1.76)*		(-1.73)*		(-1.77)*		(-1.74)*	
Age	0.000		0.000		0.000		0.000	
	(2.25)**		(2.15)**		(2.23)**		(2.14)**	
AccLoss/TA	-0.027		-0.027		-0.027		-0.027	
	(-4.48)***		(-4.49)***		(-4.48)***		(-4.48)***	
CRBVol	-0.551		-0.537		-0.547		-0.534	
	(-1.05)		(-1.00)		(-1.05)		(-1.00)	
Log (MCap)	-0.073		-0.073		-0.074		-0.073	
	(-0.83)		(-0.82)		(-0.84)		(-0.83)	
Observations	310		310		310		310	
ρ	-0.61		-0.60		-0.61		-0.60	
Wald test p=0: $\chi^2(1)$	6.06		5.30		6.12		5.43	
Probability > χ^2	0.014		0.021		0.013		0.020	

This table reports results of the treatment effects model to control for endogeneity between having a mining partner awarded a debt mandate and announcement returns. Columns (1) and (3) are results from the first-stage regression with mining partner as the dependent variable. Columns (2) and (4) are results from the second-stage outcome regression. *Prob*(*Mining*) is the probability of having a mining partner awarded a debt mandate estimated from the first-stage model. *Log(Project Distance)* is the natural logarithm of the distance between the firm's headquarters and the project location. All other variables are defined in Table 7. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 10 - Further results with loan size

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0106							
	(-0.61)							
Specialist Bank3		-0.0114	-0.0076	-0.0061	-0.0118	-0.0162	-0.0113	-0.0117
		(-0.92)	(-0.58)	(-0.50)	(-0.94)	(-1.31)	(-0.90)	(-0.93)
NonBank			0.0114					
			(0.97)					
Mining				0.0825				
				(3.88)***				
Government					-0.0059			
					(-0.30)			
Investment Fund						-0.0633		
						(-3.18)***		
Unknown Lender							0.0010	
							(0.05)	
Traders								-0.0046
								(-0.22)
Loan Disclosure	0.0164	0.0172	0.0182	0.0201	0.0166	0.0198	0.0171	0.0170
	(1.49)	(1.56)	(1.64)	(1.86)*	(1.49)	(1.82)*	(1.55)	(1.53)
Canadian Dummy	-0.0229	-0.0217	-0.0201	-0.0209	-0.0221	-0.0240	-0.0217	-0.0218
	(-2.03)**	(-1.91)*	(-1.75)*	(-1.88)*	(-1.93)*	(-2.14)**	(-1.90)*	(-1.91)*
Syndication	0.0022	0.0034	0.0053	0.0008	0.0030	-0.0009	0.0035	0.0034
	(0.20)	(0.30)	(0.46)	(0.07)	(0.26)	(-0.08)	(0.30)	(0.30)
GPU	-0.0231	-0.0236	-0.0222	-0.0332	-0.0255	-0.0300	-0.0236	-0.0244
	(-0.48)	(-0.49)	(-0.46)	(-0.71)	(-0.53)	(-0.64)	(-0.49)	(-0.51)
Joint-venture	-0.0253	-0.0252	-0.0250	-0.0217	-0.0252	-0.0226	-0.0252	-0.0253
	(-2.04)**	(-2.03)**	(-2.02)**	(-1.79)*	(-2.04)**	(-1.85)*	(-2.03)**	(-2.04)**
Lender Equity	0.0393	0.0384	0.0362	0.0349	0.0381	0.0488	0.0384	0.0383
	(2.99)***	(2.95)***	(2.75)***	(2.74)***	(2.92)***	(3.69)***	(2.95)***	(2.94)***
Advisor	-0.0166	-0.0169	-0.0171	-0.0119	-0.0168	-0.0128	-0.0169	-0.0171
	(-1.45)	(-1.48)	(-1.50)	(-1.06)	(-1.46)	(-1.13)	(-1.48)	(-1.49)
CRBVol	-0.0340	-0.0337	-0.0345	-0.0328	-0.0335	-0.0259	-0.0336	-0.0337
	(-1.20)	(-1.18)	(-1.21)	(-1.18)	(-1.17)	(-0.92)	(-1.18)	(-1.18)
Remandate	-0.0188	-0.0171	-0.0173	-0.0190	-0.0170	-0.0214	-0.0171	-0.0170
	(-1.34)	(-1.22)	(-1.24)	(-1.39)	(-1.21)	(-1.54)	(-1.22)	(-1.21)
LogVolatility	0.0188	0.0193	0.0173	0.0201	0.0198	0.0198	0.0193	0.0197
	(1.22)	(1.25)	(1.11)	(1.34)	(1.27)	(1.31)	(1.25)	(1.26)
Log (MCap)	0.0000	0.0001	-0.0001	0.0008	0.0002	0.0009	0.0001	0.0001
	(0.01)	(0.02)	(0.03)	(0.20)	(0.06)	(0.24)	(0.02)	(0.02)
AccLoss/TA	-0.0014	-0.0014	-0.0013	-0.0009	-0.0014	-0.0014	-0.0014	-0.0015
	(-2.03)**	(-2.00)**	(-1.81)*	(-1.30)	(-2.00)**	(-2.03)**	(-2.00)**	(-2.01)**
Substantial Shdg	-0.0247	-0.0245	-0.0250	-0.0245	-0.0250	-0.0225	-0.0246	-0.0246
	(-1.01)	(-1.00)	(-1.02)	(-1.03)	(-1.02)	(-0.93)	(-1.00)	(-1.00)
Mgnt Shdg	0.0092	0.0092	0.0065	0.0059	0.0086	0.0121	0.0092	0.0090
	(0.32)	(0.32)	(0.23)	(0.21)	(0.30)	(0.43)	(0.32)	(0.31)
Constant	0.1039	0.1041	0.0963	0.0901	0.1049	0.0947	0.1039	0.1063
	(1.50)	(1.51)	(1.39)	(1.34)	(1.52)	(1.39)	(1.50)	(1.52)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0660	0.0675	0.0673	0.1100	0.0646	0.0954	0.0643	0.0645

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable

indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *LoanDisclosure* is a binary variable for disclosure of loan amount (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 11 - Further results with hedging

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0021							
	(-0.12)							
Specialist Bank3		-0.0049	-0.0030	-0.0007	-0.0056	-0.0088	-0.0047	-0.0053
		(-0.38)	(-0.22)	(-0.05)	(-0.43)	(-0.68)	(-0.36)	(-0.41)
NonBank			0.0068					
			(0.57)					
Mining				0.0779				
				(3.66)***				
Government					-0.0129			
					(-0.67)			
Investment Fund						-0.0630		
						(-3.17)***		
Unknown Lender							0.0026	
							(0.13)	
Traders								-0.0072
								(-0.34)
Hedging	-0.0271	-0.0259	-0.0244	-0.0224	-0.0268	-0.0295	-0.0260	-0.0259
	(-1.63)	(-1.59)	(-1.48)	(-1.40)	(-1.64)	(-1.83)*	(-1.59)	(-1.59)
Canadian Dummy	-0.0214	-0.0208	-0.0197	-0.0196	-0.0218	-0.0229	-0.0209	-0.0210
	(-1.91)*	(-1.84)*	(-1.71)*	(-1.77)*	(-1.91)*	(-2.05)**	(-1.84)*	(-1.85)*
Syndication	0.0024	0.0031	0.0044	0.0013	0.0018	-0.0012	0.0032	0.0030
	(0.21)	(0.27)	(0.38)	(0.12)	(0.16)	(0.10)	(0.28)	(0.26)
GPU	-0.0251	-0.0249	-0.0240	-0.0340	-0.0292	-0.0315	-0.0250	-0.0262
	(-0.52)	(-0.52)	(-0.50)	(-0.73)	(-0.61)	(-0.67)	(-0.52)	(-0.55)
Joint-venture	-0.0272	-0.0272	-0.0270	-0.0239	-0.0273	-0.0249	-0.0272	-0.0274
	(-2.20)**	(-2.20)**	(-2.18)**	(-1.97)**	(-2.20)**	(-2.04)*	(-2.19)**	(-2.21)**
Lender Equity	0.0411	0.0409	0.0395	0.0374	0.0403	0.0516	0.0409	0.0408
	(3.12)***	(3.13)***	(2.97)***	(2.91)***	(3.07)***	(3.88)***	(3.12)***	(3.11)***
Advisor	-0.0162	-0.0164	-0.0166	-0.0117	-0.0160	-0.0122	-0.0164	-0.0167
	(-1.42)	(-1.43)	(-1.45)	(-1.04)	(-1.39)	(-1.08)	(-1.43)	(-1.45)
CRBVol	-0.0370	-0.0366	-0.0372	-0.0362	-0.0361	-0.0294	-0.0364	-0.0367
	(-1.30)	(-1.29)	(-1.31)	(-1.30)	(-1.27)	(-1.05)	(-1.28)	(-1.29)
Remandate	-0.0179	-0.0173	-0.0174	-0.0191	-0.0171	-0.0216	-0.0172	-0.0171
	(-1.28)	(-1.23)	(-1.24)	(-1.39)	(-1.22)	(-1.56)	(-1.23)	(-1.22)
LogVolatility	0.0155	0.0158	0.0149	0.0170	0.0170	0.0159	0.0159	0.0166
	(1.00)	(1.02)	(0.95)	(1.12)	(1.09)	(1.04)	(1.02)	(1.05)
Log (MCap)	0.0006	0.0007	0.0006	0.0014	0.0010	0.0016	0.0007	0.0006
	(0.16)	(0.17)	(0.14)	(0.37)	(0.24)	(0.41)	(0.17)	(0.16)
AccLoss/TA	-0.0013	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0013
	(-1.84)*	(-1.82)*	(-1.68)*	(-1.11)	(-1.82)*	(-1.81)*	(-1.82)*	(-1.84)*
Substantial Shdg	-0.0236	-0.0234	-0.0237	-0.0235	-0.0244	-0.0212	-0.0234	-0.0234
	(-0.97)	(-0.96)	(-0.97)	(-0.98)	(-0.99)	(-0.88)	(-0.96)	(-0.96)
Mgnt Shdg	0.0085	0.0082	0.0066	0.0051	0.0071	0.0110	0.0083	0.0080
	(0.29)	(0.29)	(0.23)	(0.18)	(0.25)	(0.39)	(0.29)	(0.28)
Constant	0.0968	0.0976	0.0932	0.0851	0.0992	0.0873	0.0972	0.1011
	(1.40)	(1.41)	(1.34)	(1.26)	(1.43)	(1.28)	(1.40)	(1.45)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0674	0.0678	0.0657	0.1055	0.0660	0.0956	0.0647	0.0650

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank

lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Hedging* is a binary variable for hedging requirement discussed in mandate award announcements (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 12 - Further results with borrower track record

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0127							
	(-0.73)							
Specialist Bank3		-0.0111	-0.0079	-0.0059	-0.0118	-0.0156	-0.0110	-0.0115
		(-0.89)	(-0.60)	(-0.48)	(-0.94)	(-1.25)	(-0.87)	(-0.91)
NonBank			0.0096					
			(0.81)					
Mining				0.0796				
				(3.73)***				
Government					-0.0101			
					(-0.53)			
Investment Fund						-0.0604		
						(-3.02)***		
Unknown Lender							0.0017	
							(0.08)	
Traders								-0.0065
								(-0.30)
Track Record	0.0029	0.0029	0.0030	0.0017	0.0028	0.0016	0.0029	0.0026
	(0.29)	(0.29)	(0.30)	(0.17)	(0.28)	(0.17)	(0.29)	(0.26)
Canadian Dummy	-0.0211	-0.0199	-0.0184	-0.0188	-0.0206	-0.0218	-0.0200	-0.0201
	(-1.88)*	(-1.75)*	(-1.60)	(-1.69)*	(-1.80)*	(-1.94)*	(-1.75)*	(-1.76)*
Syndication	0.0039	0.0052	0.0068	0.0031	0.0042	0.0015	0.0052	0.0051
	(0.35)	(0.45)	(0.59)	(0.28)	(0.37)	(0.13)	(0.46)	(0.44)
GPU	-0.0233	-0.0242	-0.0231	-0.0336	-0.0276	-0.0305	-0.0243	-0.0254
	(-0.48)	(-0.51)	(-0.48)	(-0.72)	(-0.57)	(-0.64)	(-0.51)	(-0.53)
Joint-venture	-0.0262	-0.0261	-0.0260	-0.0230	-0.0262	-0.0239	-0.0261	-0.0263
	(-2.11)**	(-2.11)**	(-2.10)**	(-1.89)*	(-2.11)**	(-1.95)*	(-2.10)**	(-2.12)**
Lender Equity	0.0395	0.0384	0.0366	0.0352	0.0379	0.0485	0.0384	0.0383
	(2.99)***	(2.94)***	(2.76)***	(2.74)***	(2.89)***	(3.64)***	(2.93)***	(2.93)***
Advisor	-0.0168	-0.0172	-0.0173	-0.0123	-0.0169	-0.0133	-0.0172	-0.0174
	(-1.47)	(-1.50)	(-1.51)	(-1.09)	(-1.47)	(-1.17)	(-1.49)	(-1.51)
CRBVol	-0.0367	-0.0366	-0.0374	-0.0360	-0.0362	-0.0294	-0.0365	-0.0366
	(-1.28)	(-1.28)	(-1.31)	(-1.29)	(-1.26)	(-1.04)	(-1.27)	(-1.28)
Remandate	-0.0191	-0.0173	-0.0175	-0.0192	-0.0171	-0.0214	-0.0173	-0.0171
	(-1.36)	(-1.23)	(-1.24)	(-1.39)	(-1.22)	(-1.53)	(-1.22)	(-1.22)
LogVolatility	0.0182	0.0186	0.0170	0.0195	0.0196	0.0192	0.0186	0.0193
	(1.17)	(1.20)	(1.08)	(1.28)	(1.25)	(1.26)	(1.20)	(1.23)
Log (MCap)	0.0006	0.0008	0.0006	0.0015	0.0010	0.0016	0.0008	0.0007
	(0.16)	(0.19)	(0.16)	(0.39)	(0.25)	(0.42)	(0.20)	(0.19)
AccLoss/TA	-0.0013	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0013
	(-1.83)*	(-1.80)*	(-1.63)	(-1.10)	(-1.81)*	(-1.80)*	(-1.80)*	(-1.82)*
Substantial Shdg	-0.0250	-0.0250	-0.0253	-0.0246	-0.0257	-0.0227	-0.0250	-0.0249
	(-1.02)	(-1.01)	(-1.03)	(-1.02)	(-1.04)	(-0.93)	(-1.01)	(-1.01)
Mgnt Shdg	0.0084	0.0086	0.0063	0.0052	0.0077	0.0112	0.0086	0.0084
	(0.29)	(0.30)	(0.22)	(0.19)	(0.27)	(0.39)	(0.30)	(0.29)
Constant	0.1005	0.1001	0.0934	0.0880	0.1017	0.0925	0.0999	0.1036
	(1.43)	(1.43)	(1.32)	(1.28)	(1.45)	(1.34)	(1.42)	(1.46)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0593	0.0601	0.0590	0.0996	0.0578	0.0853	0.0569	0.0572

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable

indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Track Record* is a binary variable for borrower track record (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 13 - Further results with oil and gas industry

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0128							
	(-0.75)							
Specialist Bank3		-0.0111	-0.0080	-0.0060	-0.0118	-0.0155	-0.0110	-0.0115
		(-0.91)	(-0.62)	(-0.50)	(-0.96)	(-1.28)	(-0.89)	(-0.93)
NonBank			0.0096					
			(0.82)					
Mining				0.0800				
				(3.78)***				
Government					-0.0105			
					(-0.55)			
Investment Fund						-0.0606		
						(-3.06)***		
Unknown Lender							0.0018	
							(0.09)	
Traders								-0.0070
								(-0.33)
Oil and Gas	-0.0283	-0.0278	-0.0253	-0.0275	-0.0290	-0.0316	-0.0277	-0.0281
	(-0.71)	(-0.70)	(-0.64)	(-0.71)	(-0.73)	(-0.81)	(-0.70)	(-0.71)
Canadian Dummy	-0.0211	-0.0199	-0.0185	-0.0189	-0.0207	-0.0218	-0.0200	-0.0202
	(-1.90)*	(-1.78)*	(-1.63)	(-1.72)*	(-1.83)*	(-1.97)**	(-1.78)*	(-1.79)*
Syndication	0.0041	0.0053	0.0069	0.0032	0.0043	0.0015	0.0054	0.0052
	(0.37)	(0.47)	(0.61)	(0.29)	(0.38)	(0.13)	(0.48)	(0.46)
GPU	-0.0244	-0.0256	-0.0244	-0.0348	-0.0291	-0.0318	-0.0256	-0.0268
	(-0.51)	(-0.54)	(-0.51)	(-0.75)	(-0.61)	(-0.68)	(-0.54)	(-0.56)
Joint-venture	-0.0254	-0.0251	-0.0250	-0.0221	-0.0252	-0.0230	-0.0251	-0.0253
	(-2.09)**	(-2.07)**	(-2.06)**	(-1.85)*	(-2.08)**	(-1.92)*	(-2.07)**	(-2.08)**
Lender Equity	0.0397	0.0386	0.0368	0.0353	0.0380	0.0485	0.0385	0.0384
	(3.03)***	(2.98)***	(2.80)***	(2.78)***	(2.93)***	(3.68)***	(2.97)***	(2.97)***
Advisor	-0.0168	-0.0171	-0.0173	-0.0123	-0.0168	-0.0132	-0.0171	-0.0174
	(-1.48)	(-1.51)	(-1.52)	(-1.09)	(-1.48)	(-1.17)	(-1.50)	(-1.53)
CRBVol	-0.0375	-0.0374	-0.0383	-0.0370	-0.0369	-0.0302	-0.0373	-0.0375
	(-1.34)	(-1.33)	(-1.36)	(-1.35)	(-1.31)	(-1.09)	(-1.32)	(-1.33)
Remandate	-0.0190	-0.0172	-0.0174	-0.0191	-0.0171	-0.0213	-0.0172	-0.0171
	(-1.36)	(-1.23)	(-1.25)	(-1.40)	(-1.22)	(-1.54)	(-1.23)	(-1.22)
LogVolatility	0.0197	0.0200	0.0184	0.0207	0.0210	0.0206	0.0200	0.0207
	(1.30)	(1.32)	(1.20)	(1.40)	(1.38)	(1.38)	(1.32)	(1.35)
Log (MCap)	0.0010	0.0011	0.0010	0.0018	0.0014	0.0020	0.0011	0.0011
	(0.27)	(0.30)	(0.26)	(0.50)	(0.36)	(0.53)	(0.30)	(0.29)
AccLoss/TA	-0.0013	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0013
	(-1.87)*	(-1.84)*	(-1.66)*	(-1.12)	(-1.85)*	(-1.83)*	(-1.84)*	(-1.87)*
Substantial Shdg	-0.0252	-0.0253	-0.0256	-0.0250	-0.0261	-0.0234	-0.0253	-0.0253
	(-1.04)	(-1.05)	(-1.06)	(-1.06)	(-1.08)	(-0.98)	(-1.05)	(-1.05)
Mgnt Shdg	0.0081	0.0083	0.0060	0.0049	0.0074	0.0112	0.0084	0.0081
	(0.29)	(0.29)	(0.21)	(0.18)	(0.26)	(0.40)	(0.29)	(0.29)
Constant	0.0997	0.0994	0.0927	0.0860	0.1010	0.0910	0.0991	0.1028
	(1.47)	(1.47)	(1.36)	(1.30)	(1.49)	(1.36)	(1.46)	(1.50)
Observations	315	315	315	315	315	315	315	315
Adjusted R^2	0.0620	0.0628	0.0617	0.1026	0.0606	0.0882	0.0597	0.0600

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable

indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 14 – Further results with alternative event windows

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. *three-day CAR*								
Specialist Bank1	-0.0221							
	(-1.07)							
Specialist Bank3		-0.0054	-0.0050	-0.0010	-0.0058	-0.0094	-0.0053	-0.0066
		(-0.36)	(-0.32)	(-0.07)	(-0.39)	(-0.63)	(-0.35)	(-0.44)
NonBank			0.0013					
			(0.09)					
Mining				0.0678				
				(2.64)***				
Government					-0.0051			
					(-0.22)			
Investment Fund						-0.0538		
						(-2.25)**		
Unknown Lender							0.0016	
							(0.07)	
Traders								-0.0205
								(-0.81)
Canadian Dummy	-0.0032	-0.0029	-0.0027	-0.0020	-0.0033	-0.0046	-0.0030	-0.0036
	(-0.24)	(-0.21)	(-0.20)	(-0.15)	(-0.24)	(-0.34)	(-0.22)	(-0.26)
Syndication	0.0100	0.0101	0.0103	0.0083	0.0096	0.0067	0.0102	0.0097
	(0.75)	(0.75)	(0.75)	(0.62)	(0.70)	(0.50)	(0.75)	(0.72)
GPU	-0.0067	-0.0100	-0.0099	-0.0180	-0.0117	-0.0156	-0.0101	-0.0137
	(-0.12)	(-0.18)	(-0.17)	(-0.32)	(-0.20)	(-0.28)	(-0.18)	(-0.24)
Joint-venture	-0.0419	-0.0417	-0.0417	-0.0390	-0.0417	-0.0397	-0.0417	-0.0423
	(-2.84)***	(-2.83)***	(-2.82)***	(-2.66)***	(-2.82)***	(-2.70)***	(-2.82)***	(-2.86)***
Lender Equity	0.0371	0.0348	0.0345	0.0320	0.0345	0.0436	0.0348	0.0344
	(2.37)**	(2.24)**	(2.19)**	(2.08)***	(2.21)**	(2.74)***	(2.24)**	(2.22)**
Advisor	-0.0123	-0.0124	-0.0124	-0.0082	-0.0122	-0.0089	-0.0124	-0.0132
	(-0.91)	(-0.91)	(-0.91)	(-0.60)	(-0.89)	(-0.65)	(-0.90)	(-0.97)
CRBVol	-0.0276	-0.0290	-0.0291	-0.0286	-0.0287	-0.0227	-0.0288	-0.0291
	(-0.82)	(-0.85)	(-0.86)	(-0.85)	(-0.85)	(-0.67)	(-0.85)	(-0.86)
Remandate	-0.0201	-0.0184	-0.0185	-0.0201	-0.0184	-0.0221	-0.0184	-0.0180
	(-1.21)	(-1.10)	(-1.10)	(-1.21)	(-1.10)	(-1.32)	(-1.10)	(-1.07)
LogVolatility	0.0062	0.0063	0.0061	0.0070	0.0068	0.0067	0.0063	0.0083
	(0.34)	(0.34)	(0.33)	(0.38)	(0.37)	(0.37)	(0.34)	(0.45)
Log (MCap)	-0.0061	-0.0059	-0.0059	-0.0052	-0.0058	-0.0051	-0.0059	-0.0059
	(-1.32)	(-1.27)	(-1.27)	(-1.14)	(-1.24)	(-1.11)	(-1.27)	(-1.28)
AccLoss/TA	-0.0013	-0.0014	-0.0013	-0.0009	-0.0014	-0.0013	-0.0014	-0.0015
	(-1.57)	(-1.61)	(-1.56)	(-1.09)	(-1.61)	(-1.60)	(-1.61)	(-1.71)*
Substantial Shdg	-0.0108	-0.0117	-0.0117	-0.0116	-0.0121	-0.0099	-0.0117	-0.0117
	(-0.37)	(-0.40)	(-0.40)	(-0.40)	(-0.41)	(-0.34)	(-0.40)	(-0.40)
Mgnt Shdg	0.0335	0.0353	0.0349	0.0325	0.0348	0.0376	0.0353	0.0347
	(0.98)	(1.03)	(1.01)	(0.95)	(1.01)	(1.10)	(1.03)	(1.01)
Constant	0.1837	0.1800	0.1791	0.1685	0.1807	0.1720	0.1798	0.1900
	(2.23)**	(2.19)**	(2.16)**	(2.06)**	(2.19)**	(2.10)**	(2.18)**	(2.28)**
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0425	0.0392	0.0360	0.0584	0.0361	0.0523	0.0360	0.0381

Panel B. *two-day CAR*

Specialist Bank1	-0.0277							
	(-1.42)							
Specialist Bank3		-0.0132	-0.0119	-0.0095	-0.0127	-0.0162	-0.0138	-0.0153
		(-0.94)	(-0.81)	(-0.68)	(-0.89)	(-1.14)	(-0.97)	(-1.08)
NonBank			0.0038					
			(0.29)					
Mining				0.0566				
				(2.32)**				
Government					0.0079			
					(0.36)			
Investment Fund						-0.0395		
						(-1.74)*		
Unknown Lender							-0.0076	
							(-0.33)	
Traders								-0.0361
								(-1.51)
Canadian Dummy	-0.0058	-0.0045	-0.0039	-0.0038	-0.0039	-0.0058	-0.0042	-0.0057
	(-0.46)	(-0.35)	(-0.30)	(-0.30)	(-0.30)	(-0.45)	(-0.32)	(-0.45)
Syndication	0.0146	0.0157	0.0163	0.0141	0.0164	0.0132	0.0154	0.0149
	(1.16)	(1.23)	(1.26)	(1.11)	(1.27)	(1.03)	(1.21)	(1.17)
GPU	-0.0055	-0.0088	-0.0084	-0.0155	-0.0062	-0.0129	-0.0086	-0.0154
	(-0.10)	(-0.16)	(-0.16)	(-0.29)	(-0.11)	(-0.24)	(-0.16)	(-0.28)
Joint-venture	-0.0361	-0.0358	-0.0358	-0.0336	-0.0358	-0.0343	-0.0358	-0.0368
	(-2.59)**	(-2.57)**	(-2.56)**	(-2.42)**	(-2.56)**	(-2.46)**	(-2.56)**	(-2.64)***
Lender Equity	0.0279	0.0252	0.0245	0.0228	0.0256	0.0317	0.0252	0.0246
	(1.89)*	(1.72)*	(1.64)	(1.56)	(1.74)*	(2.10)**	(1.72)*	(1.68)*
Advisor	-0.0122	-0.0125	-0.0126	-0.0091	-0.0128	-0.0100	-0.0125	-0.0141
	(-0.95)	(-0.97)	(-0.97)	(-0.70)	(-0.99)	(-0.77)	(-0.97)	(-1.09)
CRBVol	-0.0188	-0.0198	-0.0201	-0.0195	-0.0202	-0.0152	-0.0205	-0.0201
	(-0.59)	(-0.62)	(-0.63)	(-0.61)	(-0.63)	(-0.47)	(-0.64)	(-0.63)
Remandate	-0.0055	-0.0028	-0.0028	-0.0041	-0.0029	-0.0054	-0.0030	-0.0019
	(-0.35)	(-0.17)	(-0.18)	(-0.26)	(-0.18)	(-0.34)	(-0.19)	(-0.12)
LogVolatility	0.0038	0.0041	0.0035	0.0047	0.0034	0.0045	0.0040	0.0077
	(0.22)	(0.24)	(0.20)	(0.27)	(0.19)	(0.26)	(0.23)	(0.44)
Log (MCap)	-0.0104	-0.0101	-0.0102	-0.0096	-0.0103	-0.0095	-0.0102	-0.0102
	(-2.37)**	(-2.31)**	(-2.32)**	(-2.20)**	(-2.34)**	(-2.18)**	(-2.32)**	(-2.34)**
AccLoss/TA	-0.0007	-0.0007	-0.0006	-0.0003	-0.0007	-0.0007	-0.0007	-0.0009
	(-0.84)	(-0.85)	(-0.79)	(-0.40)	(-0.85)	(-0.84)	(-0.83)	(-1.07)
Substantial Shdg	0.0140	0.0133	0.0132	0.0134	0.0139	0.0146	0.0134	0.0133
	(0.51)	(0.48)	(0.48)	(0.49)	(0.50)	(0.53)	(0.48)	(0.48)
Mgnt Shdg	0.0145	0.0159	0.0150	0.0136	0.0166	0.0177	0.0157	0.0149
	(0.45)	(0.49)	(0.46)	(0.42)	(0.51)	(0.55)	(0.48)	(0.46)
Constant	0.2504	0.2472	0.2446	0.2376	0.2461	0.2413	0.2484	0.2649
	(3.22)***	(3.17)***	(3.12)***	(3.07)***	(3.15)***	(3.11)***	(3.18)***	(3.37)***
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0343	0.0306	0.0276	0.0448	0.0277	0.0372	0.0276	0.0348

Panel C. *(one-day AR)*								
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Specialist Bank1	-0.0092							
	(-0.53)							
Specialist Bank3		-0.0081	-0.0036	-0.0038	-0.0076	-0.0115	-0.0084	-0.0098
		(-0.64)	(-0.27)	(-0.30)	(-0.60)	(-0.92)	(-0.67)	(-0.77)
NonBank			0.0133					
			(1.12)					
Mining				0.0657				
				(3.04)***				
Government					0.0066			
					(0.34)			
Investment Fund						-0.0466		
						(-2.31)**		
Unknown Lender							-0.0051	
							(-0.25)	
Traders								-0.0297
								(-1.39)
Canadian Dummy	-0.0175	-0.0166	-0.0146	-0.0158	-0.0161	-0.0181	-0.0164	-0.0176
	(-1.55)	(-1.46)	(-1.27)	(-1.40)	(-1.40)	(-1.60)	(-1.43)	(-1.55)
Syndication	0.0118	0.0127	0.0150	0.0109	0.0133	0.0098	0.0126	0.0121
	(1.05)	(1.12)	(1.29)	(0.97)	(1.15)	(0.86)	(1.10)	(1.06)
GPU	-0.0316	-0.0323	-0.0307	-0.0400	-0.0301	-0.0371	-0.0321	-0.0376
	(-0.66)	(-0.67)	(-0.64)	(-0.84)	(-0.62)	(-0.78)	(-0.67)	(-0.78)
Joint-venture	-0.0194	-0.0194	-0.0192	-0.0168	-0.0193	-0.0176	-0.0194	-0.0202
	(-1.56)	(-1.55)	(-1.54)	(-1.36)	(-1.55)	(-1.42)	(-1.55)	(-1.62)
Lender Equity	0.0211	0.0203	0.0178	0.0176	0.0207	0.0280	0.0203	0.0198
	(1.59)	(1.55)	(1.34)	(1.36)	(1.57)	(2.08)**	(1.55)	(1.52)
Advisor	-0.0164	-0.0166	-0.0169	-0.0126	-0.0168	-0.0137	-0.0167	-0.0179
	(-1.42)	(-1.45)	(-1.46)	(-1.10)	(-1.46)	(-1.19)	(-1.44)	(-1.55)
CRBVol	-0.0426	-0.0426	-0.0437	-0.0423	-0.0429	-0.0372	-0.0430	-0.0428
	(-1.49)	(-1.49)	(-1.53)	(-1.50)	(-1.49)	(-1.30)	(-1.50)	(-1.50)
Remandate	0.0008	0.0021	0.0018	0.0005	0.0020	-0.0011	0.0020	0.0028
	(0.06)	(0.15)	(0.13)	(0.04)	(0.14)	(-0.08)	(0.14)	(0.20)
LogVolatility	0.0042	0.0045	0.0023	0.0052	0.0039	0.0049	0.0044	0.0075
	(0.27)	(0.29)	(0.15)	(0.34)	(0.25)	(0.32)	(0.28)	(0.48)
Log (MCap)	-0.0055	-0.0054	-0.0056	-0.0047	-0.0055	-0.0047	-0.0054	-0.0054
	(-1.39)	(-1.38)	(-1.43)	(-1.23)	(-1.40)	(-1.21)	(-1.38)	(-1.39)
AccLoss/TA	-0.0013	-0.0013	-0.0011	-0.0008	-0.0013	-0.0013	-0.0013	-0.0014
	(-1.80)*	(-1.78)*	(-1.55)	(-1.18)	(-1.77)*	(-1.77)*	(-1.76)*	(-1.97)**
Substantial Shdg	-0.0022	-0.0021	-0.0026	-0.0021	-0.0016	-0.0006	-0.0021	-0.0022
	(-0.09)	(-0.09)	(-0.11)	(-0.08)	(-0.07)	(-0.02)	(-0.08)	(-0.09)
Mgnt Shdg	-0.0118	-0.0117	-0.0149	-0.0144	-0.0112	-0.0097	-0.0119	-0.0125
	(-0.41)	(-0.40)	(-0.51)	(-0.50)	(-0.38)	(-0.34)	(-0.41)	(-0.43)
Constant	0.1667	0.1664	0.1573	0.1552	0.1655	0.1595	0.1672	0.1810
	(2.40)**	(2.39)**	(2.25)**	(2.26)**	(2.38)**	(2.31)**	(2.40)**	(2.58)**
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0316	0.0320	0.0328	0.0584	0.0291	0.0460	0.0289	0.0351

This table presents the estimated coefficients from the regression of the three-day cumulative market-model abnormal return *CAR*[-1, 0, 1], one-day cumulative market-model abnormal return *CAR*[0, 1] and event-day market-model abnormal return *AR* [0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates

announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 15 - Further results with interest rate

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0125							
	(-0.72)							
Specialist Bank3		-0.0108	-0.0076	-0.0057	-0.0115	-0.0154	-0.0106	-0.0112
		(-0.86)	(-0.58)	(-0.46)	(-0.91)	(-1.24)	(-0.84)	(-0.89)
NonBank			0.0094					
			(0.80)					
Mining				0.0794				
				(3.73)***				
Government					-0.0093			
					(-0.48)			
Investment Fund						-0.0656		
						(-3.23)***		
Unknown Lender							0.0025	
							(0.12)	
Traders								-0.0066
								(-0.31)
Interest Rate	0.0091	0.0088	0.0086	0.0077	0.0081	0.0180	0.0089	0.0086
	(0.64)	(0.62)	(0.60)	(0.55)	(0.57)	(1.26)	(0.62)	(0.60)
Canadian Dummy	-0.0217	-0.0205	-0.0190	-0.0193	-0.0211	-0.0232	-0.0206	-0.0207
	(-1.92)*	(-1.80)*	(-1.65)	(-1.73)*	(-1.84)*	(-2.06)**	(-1.80)*	(-1.81)*
Syndication	0.0045	0.0057	0.0073	0.0035	0.0048	0.0017	0.0058	0.0055
	(0.40)	(0.50)	(0.63)	(0.31)	(0.42)	(0.15)	(0.51)	(0.49)
GPU	-0.0209	-0.0219	-0.0209	-0.0315	-0.0252	-0.0262	-0.0220	-0.0231
	(-0.43)	(-0.46)	(-0.43)	(-0.67)	(-0.52)	(-0.55)	(-0.46)	(-0.48)
Joint-venture	-0.0260	-0.0259	-0.0258	-0.0228	-0.0260	-0.0231	-0.0259	-0.0261
	(-2.09)**	(-2.08)**	(-2.08)**	(-1.87)*	(-2.09)**	(-1.88)*	(-2.08)**	(-2.09)**
Lender Equity	0.0391	0.0380	0.0362	0.0348	0.0375	0.0481	0.0380	0.0379
	(2.95)***	(2.90)***	(2.73)***	(2.71)***	(2.86)***	(3.63)***	(2.90)***	(2.89)***
Advisor	-0.0167	-0.0171	-0.0172	-0.0122	-0.0168	-0.0128	-0.0171	-0.0173
	(-1.46)	(-1.49)	(-1.50)	(-1.08)	(-1.46)	(-1.12)	(-1.49)	(-1.51)
CRBVol	-0.0338	-0.0338	-0.0347	-0.0337	-0.0336	-0.0238	-0.0336	-0.0339
	(-1.18)	(-1.18)	(-1.21)	(-1.20)	(-1.17)	(-0.84)	(-1.16)	(-1.18)
Remandate	-0.0184	-0.0167	-0.0169	-0.0187	-0.0166	-0.0206	-0.0166	-0.0166
	(-1.31)	(-1.19)	(-1.20)	(-1.35)	(-1.18)	(-1.48)	(-1.18)	(-1.17)
LogVolatility	0.0184	0.0187	0.0171	0.0195	0.0197	0.0191	0.0188	0.0194
	(1.19)	(1.21)	(1.10)	(1.29)	(1.26)	(1.25)	(1.21)	(1.24)
Log (MCap)	0.0005	0.0006	0.0004	0.0013	0.0008	0.0014	0.0006	0.0006
	(0.12)	(0.15)	(0.11)	(0.35)	(0.20)	(0.36)	(0.15)	(0.14)
AccLoss/TA	-0.0013	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0013
	(-1.87)*	(-1.84)*	(-1.67)*	(-1.13)	(-1.84)*	(-1.85)*	(-1.84)*	(-1.86)*
Substantial Shdg	-0.0256	-0.0255	-0.0259	-0.0253	-0.0261	-0.0245	-0.0256	-0.0255
	(-1.04)	(-1.04)	(-1.05)	(-1.05)	(-1.06)	(-1.01)	(-1.04)	(-1.04)
Mgnt Shdg	0.0083	0.0084	0.0062	0.0052	0.0076	0.0113	0.0085	0.0082
	(0.29)	(0.29)	(0.21)	(0.18)	(0.26)	(0.40)	(0.29)	(0.28)
Constant	0.1038	0.1035	0.0970	0.0899	0.1048	0.0937	0.1031	0.1067
	(1.50)	(1.50)	(1.39)	(1.33)	(1.51)	(1.37)	(1.49)	(1.52)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0603	0.0610	0.0599	0.1004	0.0585	0.0901	0.0579	0.0581

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable

indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Interest Rate* is a binary variable for disclosure of the loan interest rate (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 16 - Further results with security for loan

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0116							
	(-0.67)							
Specialist Bank3		-0.0102	-0.0072	-0.0050	-0.0109	-0.0148	-0.0099	-0.0106
		(-0.82)	(-0.55)	(-0.40)	(-0.87)	(-1.19)	(-0.79)	(-0.85)
NonBank			0.0092					
			(0.78)					
Mining				0.0801				
				(3.76)***				
Government					-0.0097			
					(-0.50)			
Investment Fund						-0.0670		
						(-3.31)***		
Unknown Lender							0.0038	
							(0.19)	
Traders								-0.0072
								(-0.34)
Security	0.0141	0.0139	0.0136	0.0146	0.0138	0.0214	0.0141	0.0140
	(1.15)	(1.13)	(1.11)	(1.21)	(1.12)	(1.74)*	(1.14)	(1.13)
Canadian Dummy	-0.0220	-0.0209	-0.0194	-0.0199	-0.0216	-0.0236	-0.0210	-0.0211
	(-1.96)*	(-1.84)*	(-1.69)	(-1.79)*	(-1.88)*	(-2.10)**	(-1.84)*	(-1.85)*
Syndication	0.0046	0.0057	0.0073	0.0035	0.0048	0.0016	0.0058	0.0056
	(0.41)	(0.50)	(0.63)	(0.32)	(0.42)	(0.14)	(0.51)	(0.49)
GPU	-0.0242	-0.0251	-0.0240	-0.0346	-0.0283	-0.0325	-0.0252	-0.0264
	(-0.51)	(-0.52)	(-0.50)	(-0.74)	(-0.59)	(-0.69)	(-0.53)	(-0.55)
Joint-venture	-0.0255	-0.0254	-0.0253	-0.0221	-0.0255	-0.0224	-0.0254	-0.0256
	(-2.05)**	(-2.05)**	(-2.04)**	(-1.82)*	(-2.05)**	(-1.83)*	(-2.04)**	(-2.06)**
Lender Equity	0.0398	0.0388	0.0371	0.0355	0.0383	0.0499	0.0388	0.0387
	(3.02)***	(2.98)***	(2.81)***	(2.78)***	(2.93)***	(3.77)***	(2.97)***	(2.97)***
Advisor	-0.0174	-0.0178	-0.0179	-0.0129	-0.0175	-0.0138	-0.0178	-0.0181
	(-1.52)	(-1.55)	(-1.56)	(-1.14)	(-1.52)	(-1.22)	(-1.55)	(-1.57)
CRBVol	-0.0338	-0.0338	-0.0346	-0.0333	-0.0334	-0.0247	-0.0334	-0.0338
	(-1.18)	(-1.18)	(-1.21)	(-1.19)	(-1.17)	(-0.88)	(-1.17)	(-1.18)
Remandate	-0.0182	-0.0166	-0.0167	-0.0184	-0.0164	-0.0207	-0.0164	-0.0164
	(-1.29)	(-1.18)	(-1.19)	(-1.34)	(-1.17)	(-1.49)	(-1.17)	(-1.16)
LogVolatility	0.0185	0.0189	0.0173	0.0197	0.0198	0.0194	0.0189	0.0196
	(1.20)	(1.22)	(1.11)	(1.30)	(1.27)	(1.28)	(1.22)	(1.25)
Log (MCap)	0.0008	0.0009	0.0008	0.0017	0.0011	0.0020	0.0009	0.0009
	(0.21)	(0.23)	(0.20)	(0.44)	(0.29)	(0.52)	(0.24)	(0.23)
AccLoss/TA	-0.0014	-0.0013	-0.0012	-0.0008	-0.0014	-0.0014	-0.0014	-0.0014
	(-1.93)*	(-1.90)*	(-1.73)*	(-1.19)	(-1.90)*	(-1.94)*	(-1.90)*	(-1.93)*
Substantial Shdg	-0.0254	-0.0253	-0.0256	-0.0253	-0.0260	-0.0235	-0.0253	-0.0253
	(-1.04)	(-1.03)	(-1.05)	(-1.05)	(-1.06)	(-0.98)	(-1.03)	(-1.03)
Mgnt Shdg	0.0090	0.0092	0.0070	0.0059	0.0083	0.0125	0.0093	0.0090
	(0.31)	(0.32)	(0.24)	(0.21)	(0.29)	(0.44)	(0.32)	(0.31)
Constant	0.0971	0.0969	0.0907	0.0829	0.0983	0.0833	0.0962	0.1004
	(1.40)	(1.40)	(1.30)	(1.22)	(1.42)	(1.22)	(1.38)	(1.43)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0632	0.0639	0.0626	0.1040	0.0615	0.0946	0.0608	0.0611

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable

indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Security* is a binary variable for disclosure of security or collateral (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 17 - Further results with big 4 auditors

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0128							
	(-0.74)							
Specialist Bank3		-0.0109	-0.0074	-0.0057	-0.0116	-0.0155	-0.0108	-0.0113
		(-0.87)	(-0.56)	(-0.46)	(-0.92)	(-1.24)	(-0.85)	(-0.90)
NonBank			0.0104					
			(0.88)					
Mining				0.0799				
				(3.75)***				
Government					-0.0091			
					(-0.47)			
Investment Fund						-0.0599		
						(-2.99)***		
Unknown Lender							0.0020	
							(0.10)	
Traders								-0.0073
								(-0.34)
Big 4 Auditor	0.0066	0.0062	0.0072	0.0067	0.0057	0.0032	0.0062	0.0063
	(0.62)	(0.59)	(0.68)	(0.65)	(0.54)	(0.31)	(0.59)	(0.60)
Canadian Dummy	-0.0223	-0.0211	-0.0197	-0.0201	-0.0216	-0.0224	-0.0212	-0.0213
	(-1.96)*	(-1.83)*	(-1.69)*	(-1.78)*	(-1.86)*	(-1.97)**	(-1.83)*	(-1.84)*
Syndication	0.0035	0.0047	0.0064	0.0025	0.0040	0.0013	0.0048	0.0046
	(0.31)	(0.42)	(0.55)	(0.22)	(0.34)	(0.12)	(0.42)	(0.40)
GPU	-0.0258	-0.0266	-0.0258	-0.0362	-0.0295	-0.0317	-0.0267	-0.0280
	(-0.53)	(-0.55)	(-0.54)	(-0.77)	(-0.61)	(-0.67)	(-0.55)	(-0.58)
Joint-venture	-0.0260	-0.0259	-0.0257	-0.0227	-0.0260	-0.0238	-0.0259	-0.0261
	(-2.09)**	(-2.08)**	(-2.07)**	(-1.86)*	(-2.09)**	(-1.94)*	(-2.08)**	(-2.10)**
Lender Equity	0.0405	0.0393	0.0375	0.0361	0.0388	0.0489	0.0393	0.0392
	(3.06)***	(3.01)***	(2.83)***	(2.81)***	(2.95)***	(3.67)***	(3.00)***	(2.99)***
Advisor	-0.0168	-0.0172	-0.0173	-0.0123	-0.0169	-0.0133	-0.0171	-0.0175
	(-1.47)	(-1.50)	(-1.51)	(-1.09)	(-1.47)	(-1.17)	(-1.49)	(-1.52)
CRBVol	-0.0355	-0.0355	-0.0363	-0.0351	-0.0352	-0.0288	-0.0353	-0.0356
	(-1.24)	(-1.25)	(-1.27)	(-1.26)	(-1.23)	(-1.02)	(-1.23)	(-1.25)
Remandate	-0.0192	-0.0174	-0.0177	-0.0194	-0.0173	-0.0214	-0.0174	-0.0173
	(-1.37)	(-1.24)	(-1.26)	(-1.44)	(-1.23)	(-1.54)	(-1.23)	(-1.23)
LogVolatility	0.0183	0.0187	0.0169	0.0195	0.0196	0.0193	0.0188	0.0194
	(1.19)	(1.21)	(1.08)	(1.29)	(1.26)	(1.27)	(1.21)	(1.24)
Log (MCap)	0.0003	0.0004	0.0002	0.0012	0.0007	0.0014	0.0004	0.0004
	(0.08)	(0.11)	(0.06)	(0.30)	(0.17)	(0.37)	(0.11)	(0.11)
AccLoss/TA	-0.0014	-0.0013	-0.0012	-0.0008	-0.0013	-0.0013	-0.0013	-0.0014
	(-1.91)*	(-1.88)*	(-1.70)*	(-1.17)	(-1.87)*	(-1.84)*	(-1.88)*	(-1.90)*
Substantial Shdg	-0.0267	-0.0265	-0.0273	-0.0266	-0.0270	-0.0235	-0.0266	-0.0266
	(-1.08)	(-1.07)	(-1.10)	(-1.10)	(-1.09)	(-0.96)	(-1.07)	(-1.07)
Mgnt Shdg	0.0088	0.0090	0.0066	0.0057	0.0081	0.0114	0.0090	0.0088
	(0.30)	(0.31)	(0.23)	(0.20)	(0.28)	(0.40)	(0.31)	(0.30)
Constant	0.1066	0.1060	0.0993	0.0926	0.1071	0.0958	0.1057	0.1096
	(1.54)	(1.53)	(1.42)	(1.36)	(1.54)	(1.40)	(1.52)	(1.56)
Observations	310	310	310	310	310	310	310	310
Adjusted R^2	0.0602	0.0609	0.0602	0.1008	0.0584	0.0855	0.0577	0.0581

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *AccLoss/TA* is the total accumulated loss in the year prior to the debt mandate announcement scaled by total assets. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *Big 4 Auditor* is a binary variable for disclosure of the big 4 auditors including Deloitte, KPMG, EY, and PwC (1 =yes, 0 = no). All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 18 – Further results with exploration and evaluation expenditure

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Full sample								
Specialist Bank1	-0.0185							
	(-1.04)							
Specialist Bank3		-0.0149	-0.0100	-0.0086	-0.0158	-0.0189	-0.0151	-0.0148
		(-1.16)	(-0.74)	(-0.68)	(-1.22)	(-1.48)	(-1.17)	(-1.14)
NonBank			0.0146					
			(1.21)					
Mining				0.0814				
				(3.85)***				
Government					-0.0126			
					(-0.59)			
Investment Fund						-0.0575		
						(-2.70)***		
Unknown Lender							-0.0028	
							(-0.13)	
Traders								0.0022
								(0.10)
EEE/TA	0.0457	0.0437	0.0429	0.0410	0.0436	0.0428	0.0438	0.0438
	(2.12)**	(2.02)**	(1.98)**	(1.94)*	(2.01)**	(2.00)**	(2.02)**	(2.02)**
Canadian Dummy	-0.0253	-0.0236	-0.0217	-0.0228	-0.0246	-0.0245	0.0235	-0.0236
	(-2.15)**	(-1.99)**	(-1.82)*	(-1.97)*	(-2.05)**	(-2.09)**	(-1.97)**	(-1.98)**
Syndication	-0.0015	0.0001	0.0025	-0.0012	-0.0009	-0.0031	0.0000	0.0001
	(-0.13)	(0.01)	(0.21)	(-0.10)	(-0.08)	(-0.27)	(0.00)	(0.01)
GPU	0.0133	0.0116	0.0114	-0.0068	0.0080	0.0021	0.0118	0.0120
	(0.27)	(0.24)	(0.23)	(-0.14)	(0.16)	(0.04)	(0.24)	(0.24)
Joint-venture	-0.0223	-0.0220	-0.0217	-0.0186	-0.0221	-0.0203	-0.0220	-0.0219
	(-1.72)*	(-1.69)*	(-1.67)*	(-1.46)	(-1.70)*	(-1.57)	(-1.69)*	(-1.68)*
Lender Equity	0.0393	0.0376	0.0349	0.0343	0.0371	0.0481	0.0376	0.0377
	(2.87)***	(2.77)***	(2.54)**	(2.59)**	(2.73)***	(3.44)***	(2.77)***	(2.77)***
Advisor	-0.0153	-0.0157	-0.0157	-0.0105	-0.0156	-0.0119	-0.0157	-0.0157
	(-1.28)	(-1.33)	(-1.32)	(-0.90)	(-1.31)	(-1.00)	(-1.32)	(-1.31)
CRBVol	-0.0275	-0.0271	-0.0271	-0.0266	-0.0267	-0.0237	-0.0274	-0.0271
	(-0.91)	(-0.90)	(-0.90)	(-0.90)	(-0.88)	(-0.79)	(-0.90)	(-0.90)
Remandate	-0.0217	-0.0188	-0.0195	-0.0207	-0.0185	-0.0224	-0.0189	-0.0189
	(-1.48)	(-1.28)	(-1.32)	(-1.44)	(-1.25)	(-1.54)	(-1.28)	(-1.28)
LogVolatility	0.0191	0.0199	0.0176	0.0205	0.0216	0.0192	0.0199	0.0197
	(1.17)	(1.22)	(1.06)	(1.28)	(1.30)	(1.18)	(1.21)	(1.19)
Log (MCap)	0.0013	0.0014	0.0014	0.0025	0.0018	0.0019	0.0014	0.0015
	(0.32)	(0.36)	(0.34)	(0.64)	(0.44)	(0.49)	(0.36)	(0.37)
Substantial Shdg	-0.0287	-0.0290	-0.0293	-0.0271	-0.0298	-0.0267	-0.0289	-0.0289
	(-1.12)	(-1.14)	(-1.15)	(-1.09)	(-1.16)	(-1.06)	(-1.13)	(-1.13)
Mgnt Shdg	0.0067	0.0068	0.0037	0.0043	0.0056	0.0094	0.0067	0.0068
	(0.23)	(0.23)	(0.12)	(0.15)	(0.19)	(0.32)	(0.23)	(0.23)
Constant	0.0612	0.0624	0.0512	0.0443	0.0646	0.0572	0.0624	0.0610
	(0.80)	(0.81)	(0.66)	(0.59)	(0.84)	(0.75)	(0.81)	(0.78)
Observations	293	293	293	293	293	293	293	293
Adjusted R^2	0.0569	0.0578	0.0594	0.1024	0.0556	0.0787	0.0545	0.0545

This table presents the estimated coefficients from the regression of the two-day cumulative market-model abnormal return *CAR*[-1, 0] for the pooled sample of debt mandates. *Specialist Bank1* (*Specialist Bank3*) is a binary variable for the top one (three) industry specialist bank lender(s) based on the greatest number of deals participated (1 = specialist bank lender, 0 = otherwise). *Non-bank* is a binary variable indicating non-bank lenders. *Mining* is a binary variable for non-bank lenders operating in the materials industry. *Government* is a binary variable for non-bank lenders affiliated to government. *Investment Fund* is a binary variable for non-bank lenders classified as an

investment fund. *Unknown lender* indicates undisclosed lenders. *Traders* indicates non-bank lenders classified as traders. *Canadian dummy* indicates debt mandates announced by TSX-listed firms. *Syndication* indicates mandated syndicates with two or more lenders. *GPU* is based on the median of the country political risk (lower measure means higher risk) compiled by PRS Group Inc. for three components: government stability, law and order, and investment profile. *Joint-venture* is a binary variable for projects with multiple sponsor firms (1 = yes, 0 = no). *LenderEquity* is a binary variable for lender equity ownership (1 = yes, 0 = no). *Advisor* is a binary variable for financial advisor (1 = yes, 0 = no). *CRBVol* is natural logarithm of return on the Thomson/CoreCommodity CRB Index in the year prior to the debt mandate announcement. *Remandate* is a binary variable for projects with past debt mandates (1 = yes, 0 = no). *Oil and Gas* is a binary variable for project sponsors operating in the oil and gas industry (1 = yes, 0 = no). *LogVolatility* is natural logarithm of standard deviation of daily stock returns in the preceding 12 months. *Log(MCap)* is natural logarithm of market capitalization. *Substantial Shdg* is percentage shareholding of the main shareholders with stakes equal or greater than 10% based on the MME's disclosure in the year prior to the debt announcement date. *MgntShdg* is percentage shareholding of directors and CEO. *EEE/TA* is the total exploration and evaluation assets in the year prior to the debt mandate announcement scaled by total assets. All continuous variables are winsorised at 1% and 99%. *t*-tests are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 19 – Pearson correlation matrix

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Full sample										
(1) Specialist Bank1	1.000									
(2) Specialist Bank3	0.618***	1.000								
(3) Mining	-0.078	-0.127**	1.000							
(4) Government	-0.091*	-0.148***	-0.072	1.000						
(5) Investment Fund	-0.087	-0.141**	-0.069	-0.080	1.000					
(6) Unknown Lender	-0.081	-0.130**	-0.063	-0.074	-0.071	1.000				
(7) Traders	-0.081	-0.130**	-0.063	-0.074	-0.071	-0.065	1.000			
(8) Canadian Dummy	0.038	0.153***	-0.048	-0.123**	-0.030	0.054	-0.085	1.000		
(9) Syndication	0.028	0.185***	-0.020	-0.171***	-0.134**	-0.087	-0.116**	0.024	1.000	
(10) GPU	0.054	0.050	0.062	-0.158***	-0.046	0.001	-0.081	0.093*	0.115**	1.000
(11) Joint-venture	0.009	0.020	-0.057	-0.056	0.048	0.005	-0.062	0.093*	0.019	0.172***
(12) Lender Equity	0.152***	0.018	0.068	-0.069	0.237***	0.024	-0.011	0.087	-0.111*	0.033
(13) Advisor	-0.013	-0.002	-0.119**	0.043	0.088	-0.033	-0.094*	-0.057	0.200***	0.024
(14) CRBVol	0.041	0.043	-0.039	0.025	0.068	-0.065	-0.041	0.022	0.046	-0.072
(15) Remandate	-0.070	0.095*	0.010	0.012	-0.117**	-0.071	0.004	-0.120**	0.158***	0.021
(16) LogVolatility	0.021	0.003	0.032	0.084	0.004	0.005	0.166***	0.047	-0.137**	0.036
(17) Log (MCap)	-0.023	0.101*	-0.101*	-0.012	0.017	-0.029	-0.136**	0.313***	0.243***	0.099*
(18) AccLoss/TA	0.056	0.095*	-0.217***	-0.011	0.007	0.025	-0.171***	-0.054	0.108*	-0.141**
(19) Substantial Shdg	0.019	0.040	-0.034	-0.056	0.018	-0.016	-0.033	-0.105*	0.107*	0.007
(20) Mgnt Shdg	-0.063	-0.047	0.035	-0.060	0.021	-0.012	-0.017	-0.082	0.012	0.033

*Note: *** p<0.01, ** p<0.05, * p<0.1*

Light grey items do not appear on the same regression models, so are not relevant to analysis.

Table 19 – Pearson correlation matrix *(continued)*

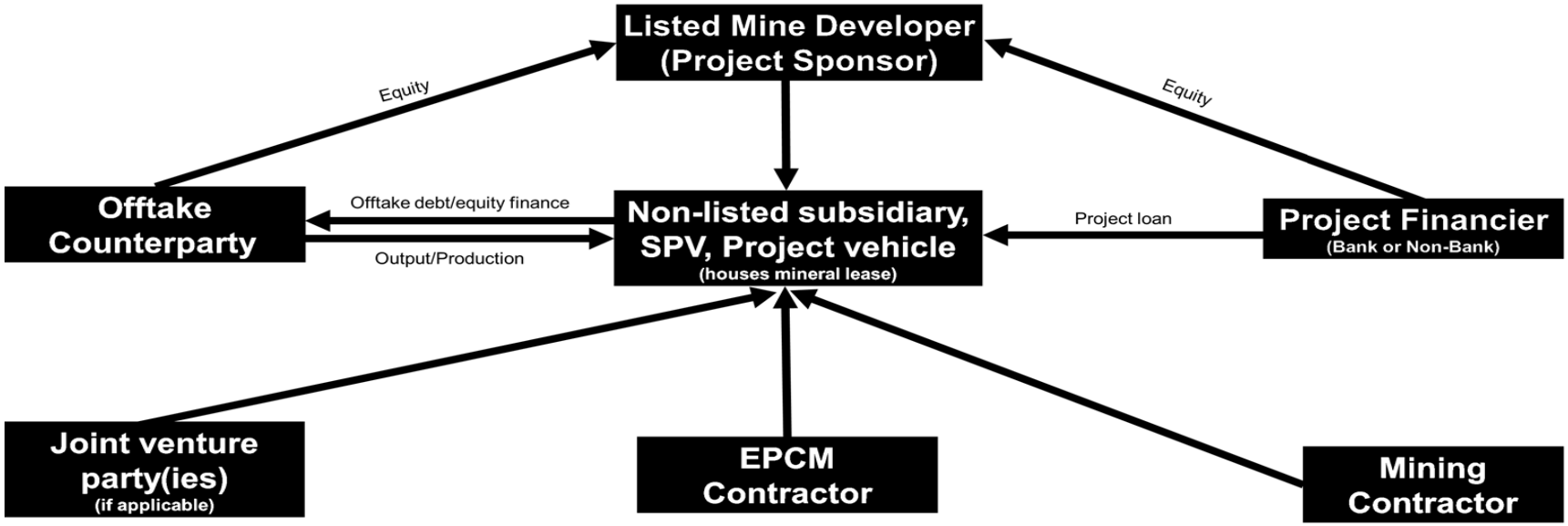
VARIABLES	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Full sample										
(11) Joint-venture	1.000									
(12) Lender Equity	0.001	1.000								
(13) Advisor	-0.016	-0.066	1.000							
(14) CRBVol	0.032	-0.068	0.148***	1.000						
(15) Remandate	-0.057	-0.076	0.090	-0.005	1.000					
(16) LogVolatility	0.038	0.084	-0.046	-0.148***	-0.066	1.000				
(17) Log (MCap)	-0.024	-0.033	0.128**	0.000	0.121**	-0.322***	1.000			
(18) AccLoss/TA	-0.025	-0.023	0.044	0.019	0.057	-0.142**	0.165***	1.000		
(19) Substantial Shdg	0.057	-0.047	0.052	-0.067	0.078	-0.028	0.138**	0.124**	1.000	
(20) Mgnt Shdg	0.028	-0.036	-0.032	-0.086	0.021	-0.020	-0.016	0.036	0.148***	1.000

*Note: *** p<0.01, ** p<0.05, * p<0.1*

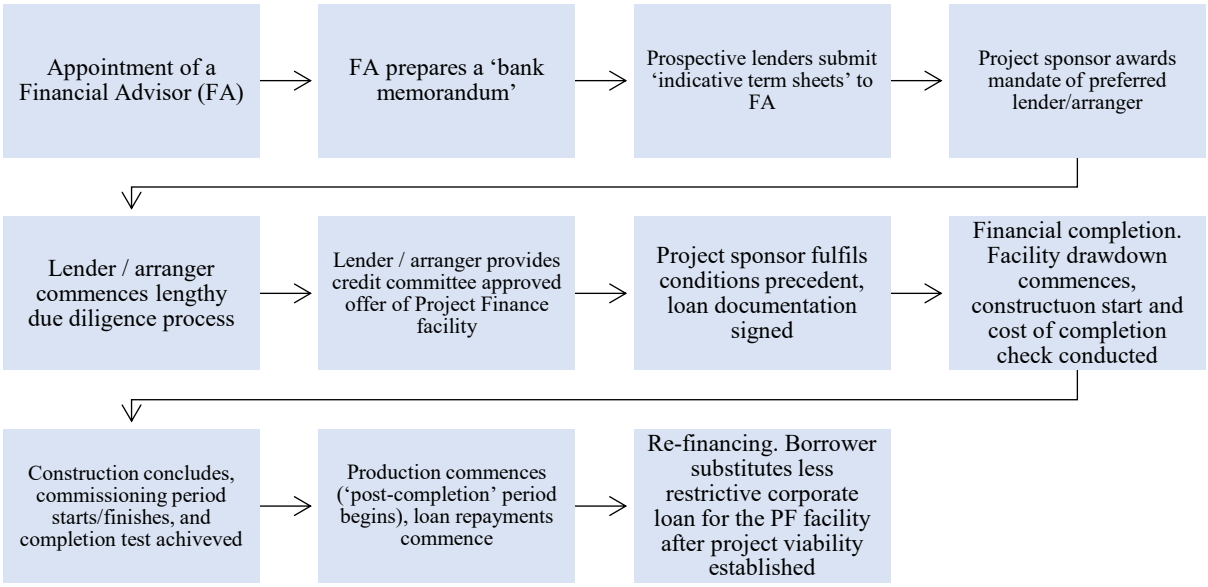
Light grey items do not appear on the same regression models, so are not relevant to analysis.

Appendices

Appendix A – Mine project finance contractual framework



Appendix B – Phases of a Mining Finance Loan



Appendix C – Example debt mandate announcement by an Australian project sponsor

Announcement Thursday, 6 December 2018

US$200m debt finance mandate executed

- Debt finance mandate executed following signing of US$200M term sheet
- African development financial institutions Afreximbank and AFC will act as Mandated Lead Arrangers

Danakali Limited (ASX: DNK, LSE: DNK) (**Danakali** or the **Company**) is pleased to announce that the Colluli Mining Share Company (**CMSC**) has executed a mandate to provide fully underwritten debt finance facilities of US$200M to fund the construction and development of the Colluli Potash Project (**Colluli** or the **Project**) in Eritrea, East Africa (**Mandate**). African development financial institutions (**DFIs**) African Export-Import Bank (**Afreximbank**) and Africa Finance Corporation (**AFC**) will act as the Mandated Lead Arrangers. The Mandate follows the signing of a US$200M non-binding indicative term sheet (**Term Sheet**).

The execution of the Mandate is a critical project financing and execution milestone. Afreximbank and AFC are highly reputable African DFIs with extensive experience in providing project financing to African projects across the continent and were chosen as Mandated Lead Arrangers due to their extensive African project finance experience and the strength of their investor reach. In 2017 Afreximbank was lead / co-lead arranger on 11 syndicated debt transactions totalling over US$3Bn. In the same period AFC was mandated on over US$1Bn of transactions.

Once the remaining aspects of due diligence are finalised and preconditions satisfied the Mandated Lead Arrangers will proceed to credit approval and execution of the syndicated loan facility with CMSC (**Facility**). Drawdown will follow after satisfaction of the conditions precedent to be agreed in the Facility. See Appendix A for a Colluli debt funding process overview.

Chief Financial Officer of Danakali, Stuart Tarrant said: *"The execution of the Mandate represents a significant milestone for the Colluli project funding. We are very pleased to be partnering with strong, experienced African financial institutions. Initial bank due diligence and subsequent negotiations have significantly advanced the project financing process and built on the finalisation of the binding offtake agreement with EuroChem placing CMSC in strong position to advance the Colluli Project ."*

Endeavour Financial is acting as debt financial adviser to Danakali and CMSC.

About Afreximbank

Afreximbank is the foremost Pan-African multilateral financial institution devoted to financing and promoting intra- and extra-African trade. The Bank was established in October 1993 by African governments, African private and institutional investors, and non-African investors. Afreximbank's mission is to stimulate a consistent expansion, diversification and development of African trade while operating as a first class, profit-oriented, socially responsible financial institution and a centre of excellence in African trade matters. Afrieximbank have won numerous awards for their work.

For more information, visit https://afreximbank.com/.

About AFC

AFC is a private sector-led investment bank and development finance institution created to help mobilise and channel required capital towards driving Africa's economic development. AFC offers a unique value proposition as an Africa-focused multilateral financial institution covering 3 complementary service areas: project development, financial advisory and principal investing. In addition to these core services AFC has significant experience and expertise in project management and will ensure that the objectives of all parties involved are met through careful monitoring of the project from beginning to end. AFC's core mission is to address Africa's infrastructure development needs while seeking a competitive return on capital for its shareholders.

For more information, visit http://www.africafc.org.

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Colluli debt funding process overview

Debt milestones completed

	Date	Area	Detail
✓	Jan-18	Technical reports	• FEED completed and provided to potential debt financiers
✓	Feb-18	Formal kick-off	• Information Memorandum provided to potential debt financiers
✓	Feb-18	Due diligence	• Independent Marketing Report provided to potential debt financiers
✓	Jun-18	Due diligence	• Independent Social & Environmental and Technical Engineer Reports provided to potential debt financiers
✓	Jul-18	Due diligence	• Legal Due Diligence Report provided to potential debt financiers
✓	Jun-18	Offtake	• EuroChem offtake agreement provided to potential debt financiers
✓	Jul-18	Due diligence	• Bank club and Eritrea Government discussions
✓	Sep-18	Project contracts	• DRA Global (DRA) confirmed as preferred EPCM contractor
✓	Dec-18	Term Sheet	• Finalisation and execution of debt funding term sheet
✓	Dec-18	Mandate	• Afreximbank and AFC confirmed as Mandated Lead Arrangers

Debt milestones remaining

Area	Detail
Project contracts	• Finalisation of contracts with DRA, Inglett & Stubbs International, and preferred mining contractor
Commitments	• Final credit approval from debt financiers
Commitments	• Execution of the Facility Agreement and related documents
Commitments	• Financial Close with conditions precedent met

— — — ENDS — — —

About Danakali

Danakali Limited (ASX: DNK, LSE: DNK) (**Danakali**, or the **Company**) is an ASX- and LSE-listed potash company focused on the development of the Colluli Potash Project (**Colluli** or the **Project**). The Project is 100% owned by the Colluli Mining Share Company (**CMSC**), a 50:50 joint venture between Danakali and the Eritrean National Mining Corporation (**ENAMCO**).

The Project is located in the Danakil Depression region of Eritrea, East Africa, and is ~75km from the Red Sea coast, making it one of the most accessible potash deposits globally. Mineralisation within the Colluli resource commences at just 16m, making it the world's shallowest potash deposit. The resource is amenable to open pit mining, which allows higher overall resource recovery to be achieved, is generally safer than underground mining, and is highly advantageous for modular growth.

The Company has completed a Front End Engineering Design (**FEED**) for the production of potassium sulphate, otherwise known as **SOP**. SOP is a chloride free, specialty fertiliser which carries a substantial price premium relative to the more common potash type; potassium chloride (or **MOP**). Economic resources for production of SOP are geologically scarce. The unique composition of the Colluli resource favours low energy input, high potassium yield conversion to SOP using commercially proven technology. One of the key advantages of the resource is that the salts are present in solid form (in contrast with production of SOP from brines) which reduces infrastructure costs and substantially reduces the time required to achieve full production capacity.

The resource is favourably positioned to supply the world's fastest growing markets. A binding take-or-pay offtake agreement has been confirmed with EuroChem Trading GmbH (**EuroChem**) for up to 100% (minimum 87%) of Colluli Module I SOP production.

The Company's vision is to bring Colluli into production using the principles of risk management, resource utilisation and modularity, using the starting module (**Module I**) as a growth platform to develop the resource to its full potential.

Competent Persons Statement (Sulphate of Potash and Kieserite Mineral Resource)

Colluli has a JORC-2012 compliant Measured, Indicated and Inferred Mineral Resource estimate of 1,289Mt @11% K_20 Equiv. and 7% Kieserite. The Mineral Resource contains 303Mt @ 11% K_20 Equiv. and 6% Kieserite of Measured Resource, 951Mt @ 11% K_20 Equiv. and 7% Kieserite of Indicated Resource and 35Mt @ 10% K_20 Equiv. and 9% Kieserite of Inferred Resource.

The information relating to the Colluli Mineral Resource estimate is extracted from the report entitled "Colluli Review Delivers Mineral Resource Estimate of 1.289Bt" disclosed on 25 February 2015 and the report entitled "In excess of 85 million tonnes of Kieserite defined within Colluli Project Resource adds to multi agri-commodity potential" disclosed on 15 August 2016, which are available to view at www.danakali.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Competent Persons Statement (Sulphate of Potash Ore Reserve)

Colluli Proved and Probable Ore Reserve is reported according to the JORC Code and estimated at 1,100Mt @ 10.5% K_2O Equiv. The Ore Reserve is classified as 285Mt @ 11.3% K_2O Equiv. Proved and 815Mt @ 10.3% K_2O Equiv. Probable. The Colluli SOP Mineral Resource includes those Mineral Resources modified to produce the Colluli SOP Ore Reserves.

The information relating to the January 2018 Colluli Ore Reserve is extracted from the report entitled "Colluli Ore Reserve update" disclosed on 19 February 2018 and is available to view at www.danakali.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Competent Persons Statement (Rock Salt Mineral Resource)

Colluli has a JORC-2012 compliant Measured, Indicated and Inferred Mineral Resource estimate of 347Mt @ 96.9% NaCl. The Mineral Resource estimate contains 28Mt @ 97.2% NaCl of Measured Resource, 180Mt @ 96.6% NaCl of Indicated Resource and 139Mt @ 97.2% NaCl of Inferred Resource.

The information relating to the Colluli Rock Salt Mineral Resource estimate is extracted from the report entitled "+300Mt Rock Salt Mineral Resource Estimate Completed for Colluli" disclosed on 23 September 2015 and is available to view at www.danakali.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

AMC Consultants Pty Ltd (**AMC**) independence

In reporting the Mineral Resources and Ore Reserves referred to in this public release, AMC acted as an independent party, has no interest in the outcomes of Colluli and has no business relationship with Danakali other than undertaking those individual technical consulting assignments as engaged, and being paid according to standard per diem rates with reimbursement for out-of-pocket expenses. Therefore, AMC and the Competent Persons believe that there is no conflict of interest in undertaking the assignments which are the subject of the statements.

Quality control and quality assurance

Danakali exploration programs follow standard operating and quality assurance procedures to ensure that all sampling techniques and sample results meet international reporting standards. Drill holes are located using GPS coordinates using WGS84 Datum, all mineralisation intervals are downhole and are true width intervals.

The samples are derived from HQ diamond drill core, which in the case of carnallite ores, are sealed in heat-sealed plastic tubing immediately as it is drilled to preserve the sample. Significant sample intervals are dry quarter cut using a diamond saw and then resealed and double bagged for transport to the laboratory.

Halite blanks and duplicate samples are submitted with each hole. Chemical analyses were conducted by Kali-Umwelttechnik GmBH, Sondershausen, Germany, utilising flame emission spectrometry, atomic absorption spectroscopy and ion chromatography. Kali-Umwelttechnik (KUTEC) has extensive experience in analysis of salt rock and brine samples and is certified according by DIN EN ISO/IEC 17025 by the Deutsche Akkreditierungsstelle GmbH (DAR). The laboratory follows standard procedures for the analysis of potash salt rocks chemical analysis (K^+, Na^+, Mg^{2+}, Ca^{2+}, Cl^-, SO_4^{2-} H_2O) and X-ray diffraction (XRD) analysis of the same samples as for chemical analysis to determine a qualitative mineral composition, which combined with the chemical analysis gives a quantitative mineral composition.

Forward looking statements and disclaimer

The information in this document is published to inform you about Danakali and its activities. Danakali has endeavoured to ensure that the information enclosed is accurate at the time of release, and that it accurately reflects the Company's intentions. All statements in this document, other than statements of historical facts, that address future production, project development, reserve or resource potential, exploration drilling, exploitation activities, corporate transactions and events or developments that the Company expects to occur, are forward looking statements. Although the Company believes the expectations expressed in such statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in forward-looking statements.

Factors that could cause actual results to differ materially from those in forward-looking statements include market prices of potash and, exploitation and exploration successes, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, as well as those factors disclosed in the Company's filed documents.

There can be no assurance that the development of Colluli will proceed as planned. Accordingly, readers should not place undue reliance on forward looking information. Mineral Resources and Ore Reserves have been reported according to the JORC Code, 2012 Edition. To the extent permitted by law, the Company accepts no responsibility or liability for any losses or damages of any kind arising out of the use of any information contained in this document. Recipients should make their own enquiries in relation to any investment decisions.

Mineral Resource, Ore Reserve, production target, forecast financial information and financial assumptions made in this announcement are consistent with assumptions detailed in the Company's ASX announcements dated 25 February 2015, 23 September 2015, 15 August 2016, 1 February 2017, 29 January 2018, and 19 February 2018 which continue to apply and have not materially changed. The Company is not aware of any new information or data that materially affects assumptions made.

No representation or warranty, express or implied, is or will be made by or on behalf of the Company, and no responsibility or liability is or will be accepted by the Company or its affiliates, as to the accuracy, completeness or verification of the information set out in this announcement, and nothing contained in this announcement is, or shall be relied upon as, a promise or representation in this respect, whether as to the past or the future. The Company and each of its affiliates accordingly disclaims, to the fullest extent permitted by law, all and any liability whether arising in tort, contract or otherwise which it might otherwise have in respect of this announcement or any such statement.

The distribution of this announcement outside the United Kingdom may be restricted by law and therefore any persons outside the United Kingdom into whose possession this announcement comes should inform themselves about and observe any such restrictions in connection with the distribution of this announcement. Any failure to comply with such restrictions may constitute a violation of the securities laws of any jurisdiction outside the United Kingdom.

Appendix D – Example debt mandate announcement by a Canadian project sponsor

ERDENE
RESOURCE DEVELOPMENT

TSX: ERD | MSE: ERDN

ERDENE EXECUTES PROJECT FINANCE MANDATE LETTER WITH EXPORT DEVELOPMENT CANADA FOR BAYAN KHUNDII GOLD PROJECT

Press Release
Halifax, Nova Scotia
2020.11.05

Erdene Resource Development Corp. (TSX:ERD; MSE:ERDN) ("Erdene" or the "Company") is pleased to announce that it has executed a mandate letter with Export Development Canada ("EDC") for an up to US$55 million senior secured debt facility to develop the Bayan Khundii Gold Project in southwest Mongolia. EDC's financing for the Project is conditional upon the satisfactory completion of due diligence, which is currently underway and expected to conclude in the second quarter of 2021.

Quotes from the Company:

"Executing the debt financing mandate letter with EDC is an important milestone in the development of our high-grade Bayan Khundii Gold Project," said Peter Akerley, Erdene's President and CEO. "EDC has assisted many companies in developing mining projects internationally, including in Mongolia. The involvement of EDC, as well as our major shareholder the European Bank for Reconstruction and Development will help to ensure that the Project will be developed to the highest environmental and social standards, delivering benefits for Mongolian and international stakeholders."

"Construction readiness work is underway as we seek to move rapidly through construction to production, with detailed design, scheduling and procurement workstreams well progressed," continued Mr. Akerley. "Concurrently, the company is focused on expanding the resources throughout our Khundii Gold District as we target first gold in 2022."

Mandate Letter

The senior secured debt facility of up to US$55 million will be used for the development, construction and working capital requirements of the Bayan Khundii Gold Project. Financing under this facility will be subject to customary conditions precedent, including satisfactory technical, legal, social, and environmental due diligence, execution of acceptable terms, and documentation and obtaining final credit approval.

The Company is managing Project expenditures and commitments to synchronize spending with project finance cashflow timelines.

HCF International Advisers (Financial Adviser) and McInnes Cooper LLP (Project Finance Counsel) are acting as Erdene's advisors. The Lenders are being advised by Fasken Martineau LLP (Lenders' Counsel).

About EDC

Export Development Canada (EDC) is a financial Crown corporation dedicated to helping Canadian companies of all sizes succeed on the world stage. As international risk experts, EDC equips Canadian companies with the tools they need – the trade knowledge, financing solutions, equity, insurance, and connections – to grow their business with confidence. Underlying this support is a commitment to sustainable and responsible business. Further information is available at **1-800-229-0575** or www.edc.ca.

About Erdene

Erdene Resource Development Corp. is a Canada-based resource company focused on the acquisition, exploration, and development of precious and base metals in underexplored and highly prospective Mongolia. Erdene's deposits are located in southwestern Mongolia's Edren Terrane, within the Central Asian Orogenic Belt, host to some of the world's largest gold and copper-gold deposits. The Company has been the leader in exploration in the region over the past decade and is responsible for the discovery of the Khundii Gold District with interests in three mining licenses and two exploration licenses hosting multiple high-grade gold and gold/base metal prospects, two of which are being considered for development: the 100%-owned Bayan Khundii and Altan Nar gold deposits.

Erdene Resource Development Corp. is listed on the Toronto and the Mongolian stock exchanges. Further information is available at www.erdene.com. Important information may be disseminated exclusively via the website; investors should consult the site to access this information.

Forward-Looking Statements

Certain information regarding Erdene contained herein may constitute forward-looking statements within the meaning of applicable securities laws. Forward-looking statements may include estimates, plans, expectations, opinions, forecasts, projections, guidance or other statements that are not statements of fact. Although Erdene believes that the expectations reflected in such forward-looking statements are reasonable, it can give no assurance that such expectations will prove to have been correct. Erdene cautions that actual performance will be affected by a number of factors, most of which are beyond its control, and that future events and results may vary substantially from what Erdene currently foresees. Factors that could cause actual results to differ materially from those in forward-looking statements include the ability to obtain required third party approvals, market prices, exploitation and exploration results, continued availability of capital and financing and general economic, market or business conditions. The forward-looking statements are expressly qualified in their entirety by this cautionary statement. The information contained herein is stated as of the current date and is subject to change after that date. The Company does not assume the obligation to revise or update these forward-looking statements, except as may be required under applicable securities laws.

Appendix E – Example debt mandate announcement with a mining partner

Pacific Nickel

ASX ANNOUNCEMENT
5 April 2023

Glencore International AG Provides Letter of Commitment to Finance Kolosori Nickel Project

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Pacific Nickel Mines Limited (ASX Code: PNM) (**Pacific Nickel** or **Company**) is pleased to confirm that Glencore International AG (Glencore) have today provided a Letter of Commitment confirming receipt of its internal management approvals to execute an up to US$22m loan facility agreement and amended sales agreement for the Kolosori Nickel Project (the **Project**) subject to the finalisation of legal documentation and the fulfillment of usual conditions.

The funds raised through these arrangements with Glencore are expected to be sufficient to meet the pre-production funding requirements of the Project. The Company welcomes Glencore's anticipated participation in the Project.

Pacific Nickel CEO Geoff Hiller commented:

> *"Glencore's Letter of Commitment to provide an up to US$22m senior secured debt facility for the Kolosori Nickel Project is an important milestone for the development of the Project."*
>
> *"The Company has worked closely with Glencore since first announcing the granting of a mandate to Glencore in June 2022."*[1]
>
> *"The Company anticipates that it will be in a position to effect an initial draw down of US$3m once documentation has been completed. This will enable the Company to continue the current development works".*
>
> *"The Company believes that the Project holds relatively low technical risk, and that capital payback will be achieved in under 12 months. The Company remains committed to developing the Kolosori Nickel Project for the benefit of all stakeholders."*

Key terms associated with the debt and sale facilities include:

Loan Agreement

- Project loan facility of up to US$22.0 million.
- 3-year repayment term commencing after the first shipment and with no scheduled repayments due during the wet season months.
- Competitive margin above the US Secured Overnight Financing Rate.
- Repayments effected pursuant to cash sweep mechanism and early repayments permitted without penalty.
- No mandatory hedging.
- Events of Default standard for a facility of this nature
- Security provided via a charge over the shares of Pacific Nickel Mines Kolosori Ltd, a charge over the assets of Pacific Nickel Mines Kolosori Ltd and a corporate guarantee.

Offtake Agreement

- 6-year Term.
- Take or pay contract.
- Price received linked to agreed 1.5% DSO Nickel benchmarks and adjusted for nickel and moisture bonus/penalty payments.
- Quantity to be 100% of mine production during the Term.
- FOB Kolosori delivery basis with 85% payment upon provisional invoicing

The Glencore approval to execute the loan facility agreement and amended sales agreement for the Project is subject to the finalisation of legal documentation and the absence (in Glencore's opinion) of any events or circumstances which adversely affected or could adversely affect:

(i) the business, condition (financial or otherwise), operations, performance, assets or prospects of Pacific Nickel or any other obligor since the date as at which the latest consolidated audited financial statements of Pacific Nickel were prepared; or

(ii) the ability of Pacific Nickel or any other obligor to perform any of its obligations under the loan agreement or the offtake agreement during the period from the date of the Letter of Commitment to the date of signing of the loan agreement and the amended sales agreement.

The loan agreement and amended sales agreement are not binding until executed.

PNM's debt advisor for this transaction is Blackbird Commodity Partners and legal advisor is MinterEllison.

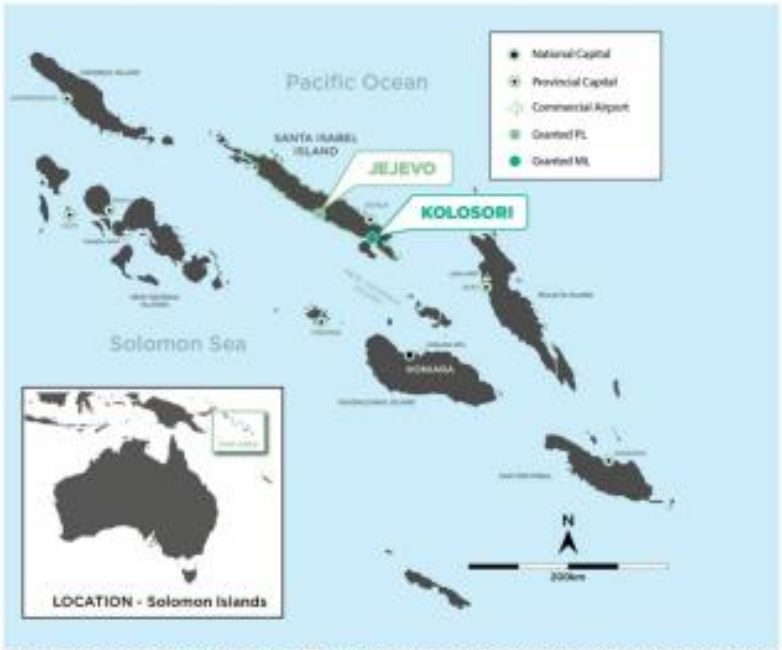

Figure 1 – Location of the Kolosori Nickel Project and the Company's Jejevo Nickel Project on Santa Isabel Island

Further information on Pacific Nickel is available at www.pacificnickel.com.

Authorised by the Board.

For further information please contact:

Mr. Geoff Hiller
Executive Director & CEO

Mr. Andrew J. Cooke
Company Secretary
Email: acooke@pacificnickel.com

Appendix F – Example debt mandate announcement with ECAs

ASX ANNOUNCEMENT

ARAFURA APPOINTS MANDATED LEAD ARRANGERS FOR DEBT FINANCING FOR THE NOLANS PROJECT

28 April 2022

Arafura Resources Limited (**ASX:ARU**) (**"Arafura"** or the **"Company"**) is pleased to announce that it has appointed two leading mining project finance institutions – Societe Generale and National Australia Bank - as the initial Mandated Lead Arrangers and Bookrunners (**MLAs**) to arrange the debt financing facility for the development of the Company's wholly owned Neodymium Praseodymium (NdPr) Nolans rare earth project which is located 135km north of Alice Springs in the Northern Territory, Australia (the "**Project**"). With a 38-year mine life, Nolans is Australia's only fully permitted rare earth project including end to end waste management to meet best practice ESG and supply chain standards.

The two initial MLAs have been engaged to arrange and syndicate a finance facility targeting debt funding in the order of 60% of the estimated total development cost of the Project, including working capital and other credit facilities. The proposed funding package will also comprise of a separate cost overrun facility. The MLAs, subject to the terms of the mandate letter, will seek to arrange limited recourse debt finance of approximately US$510 million (inclusive of cost overrun facility). The limited recourse debt financing package is intended to comprise of: US$150 million to be provided by the initial MLAs (on a best-efforts basis); export credit agency finance and, to the extent required, further financing through additional MLA bank(s) and/or via a syndication process. The financing will be conditional on completion of a successful due diligence process, agreement of terms and conditions, entry into binding facility agreements and credit approval. The terms of the MLAs' engagement (including fee arrangements) are customary for a greenfield project financing of this nature.

In addition to the targeted US$510 million financing, the Company has received letters of support from Export Finance Australia and the Northern Australia Infrastructure Facility for senior debt facilities of up to A$200 million and A$100 million respectively for up to a 15-year facility term (refer to ASX Announcements dated 7 May 2021 and 18 June 2021). The letters are non-binding and subject to conditions that are typical for a financing of this nature, such as internal credit approval, negotiation of lender agreements and further due diligence enquiries.

The Company has also recently been awarded grant funding of A$30m under the Federal Government's Modern Manufacturing Initiative (refer to ASX Announcement dated 16 March 2022) which will contribute to the funding of the construction of its rare earth separation plant.

The Company will provide further details about its project financing arrangements for the development of the Project when financing has been secured and binding agreements have been entered into. Any binding agreements will remain subject to other milestones which may include offtake arrangements and a final investment decision.

London-based HCF International Advisers Limited and Grant Thornton Australia are advising Arafura on the debt financing of the Project and Arafura has appointed international law firm Ashurst as its legal counsel in respect of project financing.

28 April 2022 | **ASX Announcement**

ARAFURA APPOINTS MANDATED LEAD ARRANGERS FOR DEBT FINANCING FOR THE NOLANS PROJECT

"The appointment of the MLAs represents an important milestone in the Company's progress towards a final investment decision this year", Managing Director, Mr Lockyer said. *"The MLAs have significant international and domestic expertise in natural resources project financing and our ability to attract them reflects the quality of the underlying Nolans Project."*

About the Nolans Project

Arafura's Nolans Project is a rare earth ore to oxide mine and processing facility in the Northern Territory. The project is Australia's first vertically integrated rare earths operation, where its single site mining and processing operations (including waste disposal) will provide a secure and traceable supply chain to meet domestic and international economic and security interests and the ESG needs of global customers.

-ENDS-

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Company Secretary

Appendix G - Example debt mandate announcement with investment fund

ASX AND MEDIA RELEASE
18 OCTOBER 2017

Sheffield Resources LIMITED

SHEFFIELD MANDATES TAURUS FOR US$200M DEBT FACILITY

Sheffield Resources Limited ("Sheffield", "the Company") (ASX: SFX) is pleased to announce the appointment of Taurus Mining Finance Fund and Taurus Mining Finance Annex Fund ("Taurus") as the mandated lead arrangers and underwriters for a US$200 million debt finance facility package ("Facility") to support its development of the Thunderbird Mineral Sands Project ("Thunderbird"), in Western Australia.

Taurus has agreed to arrange and underwrite a US$200M Project Development Facility comprising a US$175M term loan facility and a US$25M contingent instrument facility. Furthermore, a US$10M unsecured Equity Bridge Facility is available at the option of the Company to advance project development activities.

Key terms of the term sheets for the Facility agreed with Taurus are described in Schedule 1 and 2.

Taurus has obtained the approval of its investment committee for the Facility, which is subject to customary conditions precedent. While Taurus's due diligence has been well advanced prior to its investment committee approval, the approval is subject to completion of further due diligence. Documentation and due diligence is anticipated to be complete by the end of Q1 2018 with financial close and funding subject to customary conditions precedent for project finance facilities.

Sheffield's Managing Director, Bruce McFadzean, said:

"We received significant interest and responses from a variety of banks and debt investors over the last few months and welcome the opportunity to work with Taurus. Taurus shares our positive outlook on the mineral sands industry and has a strong understanding of the sector having managed successful mineral sands investments in the past. The facility provides Sheffield with US$200M in underwritten funding, without equity dilution, with a reasonable cost structure and a 7 year tenor. Undoubtedly, this commitment represents a strong and positive endorsement of the Thunderbird Project's outstanding financial metrics as one of the largest new, long life mineral sands projects in the world. Sheffield is now strongly positioned to advance Thunderbird towards development."

"We look forward to working with Taurus to complete the due diligence and documentation process over the coming months and will continue to provide the community and our shareholders with financing updates in the near future."

The Facility was arranged with the assistance of Azure Capital, Sheffield's financial adviser.

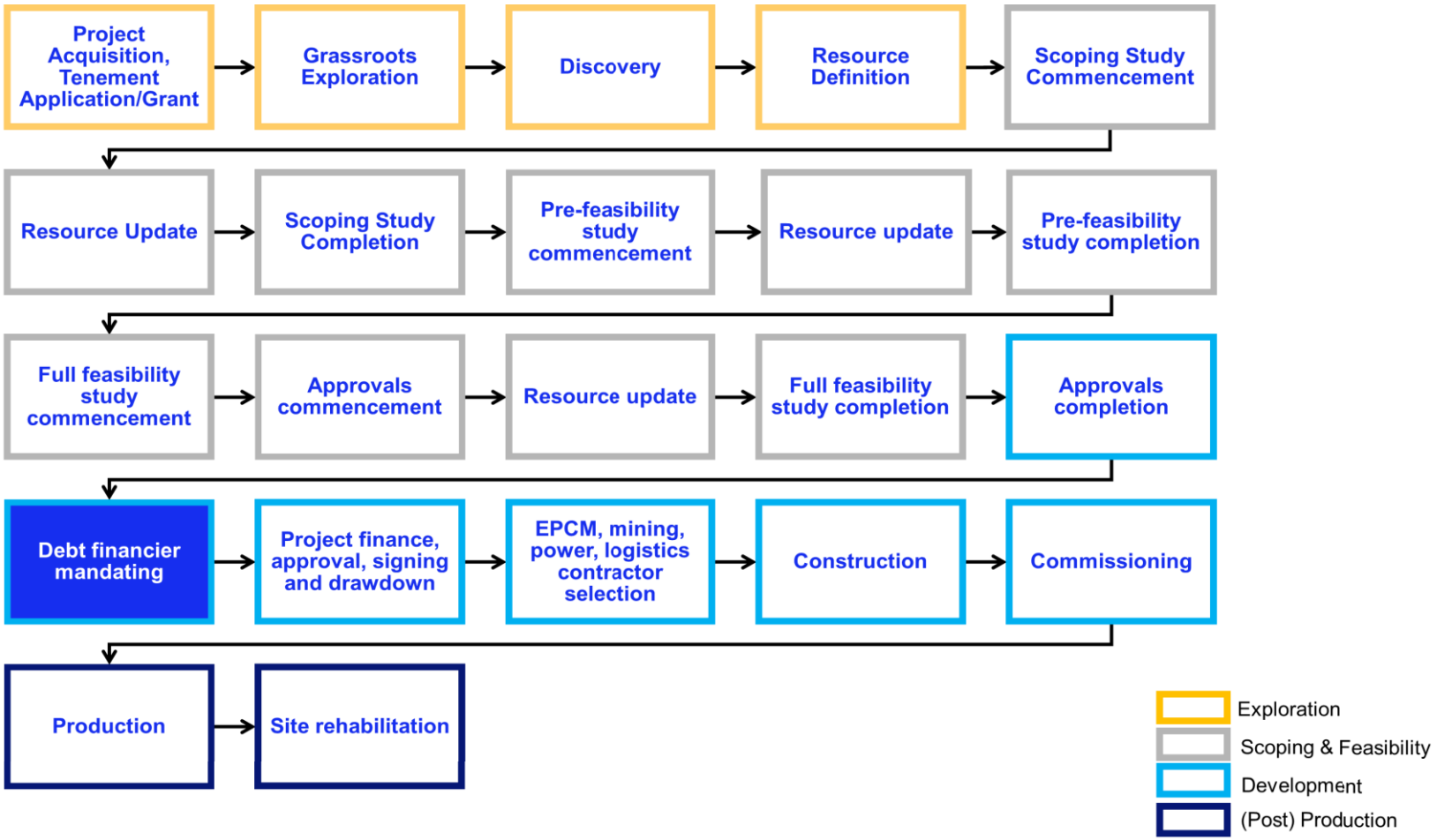
SCHEDULE 1: KEY TERMS OF TAURUS PROJECT DEVELOPMENT FACILITY

Facility Amount:	Term Loan: US$175 million Project Development Facility - Tranche A: US$75 million - Tranche B: US$100 million Contingent Instruments: US$25 million
Tenor:	7 years
Security:	Senior secured facility
Availability:	From satisfaction of Conditions Precedent until 3.5 years after signing
Interest Rate / Issuance fee:	Tranche A: USD LIBOR +4.5% p.a. Tranche B: 8.5% p.a. Contingent Instruments: 7.75% p.a.
Upfront Fee:	Customary for a facility of this nature
Royalty:	Revenue royalty of: - 0.50% (Years 1 – 4) - 0.75% (Years 5 – 22.5)
Conditions precedent to drawdown:	Customary for a facility of this nature including (but not limited to) due diligence, documentation and approvals, satisfactory offtake agreements and agreed equity spend.
Repayment Schedule:	- Interest only for 3.5 years - Tranche A repayable between Year 3.5 and Year 7 - Tranche B repayable at end of Year 7 - Additional sweep of available cashflow in certain circumstances

SCHEDULE 2: KEY TERMS OF TAURUS US$10M EQUITY BRIDGE FACILITY (OPTIONAL)

Facility Amount:	US$10 million Equity Bridge Facility
Tenor:	Earlier of 12 months or the Borrower raising at least A$100m in new equity
Security:	Unsecured
Availability:	From satisfaction of standard Conditions Precedent until earlier of Maturity or 11 months from signing
Interest Rate:	9% p.a.
Upfront Fee	Customary for a facility of this nature

Appendix H – Typical mine life cycle



Appendix I – Accounting Standard AASB 6

Accounting Standard AASB 6

The Australian Accounting Standards Board made Accounting Standard AASB 6 *Exploration for and Evaluation of Mineral Resources* under section 334 of the *Corporations Act 2001* on 7 August 2015.

This compiled version of AASB 6 applies to annual periods beginning on or after 1 July 2021. It incorporates relevant amendments contained in other AASB Standards made by the AASB up to and including 6 March 2020 (see Compilation Details).

Accounting Standard AASB 6
Exploration for and Evaluation of Mineral Resources

Objective

1 The objective of this Standard is to specify the financial reporting for the *exploration for and evaluation of mineral resources*.

AusCF1 AusCF paragraphs included in this Standard apply only to:

(a) not-for-profit entities; and

(b) for-profit entities that are not applying the *Conceptual Framework for Financial Reporting* (as identified in AASB 1048 *Interpretation of Standards*).

Such entities are referred to as 'AusCF entities'. For AusCF entities, the term 'reporting entity' is defined in AASB 1057 *Application of Australian Accounting Standards* and Statement of Accounting Concepts SAC 1 *Definition of the Reporting Entity* also applies. For-profit entities applying the *Conceptual Framework for Financial Reporting* (as set out in paragraph Aus1.1 of the *Conceptual Framework*) shall not apply AusCF paragraphs.

2 In particular, the Standard requires:

(a) limited improvements to existing accounting practices for *exploration and evaluation expenditures*.

(b) entities that recognise *exploration and evaluation assets* to assess such assets for impairment in accordance with this Standard and measure any impairment in accordance with AASB 136 *Impairment of Assets*.

(c) disclosures that identify and explain the amounts in the entity's financial statements arising from the exploration for and evaluation of mineral resources and help users of those financial statements understand the amount, timing and certainty of future cash flows from any exploration and evaluation assets recognised.

Scope

3 An entity shall apply the Standard to exploration and evaluation expenditures that it incurs.

4 The Standard does not address other aspects of accounting by entities engaged in the exploration for and evaluation of mineral resources.

5 An entity shall not apply the Standard to expenditures incurred:

(a) before the exploration for and evaluation of mineral resources, such as expenditures incurred before the entity has obtained the legal rights to explore a specific area.

(b) after the technical feasibility and commercial viability of extracting a mineral resource are demonstrable.

Recognition of exploration and evaluation assets

Temporary exemption from AASB 108 paragraphs 11 and 12

6 When developing its accounting policies, an entity recognising exploration and evaluation assets shall apply paragraph 10 of AASB 108 *Accounting Policies, Changes in Accounting Estimates and Errors* and paragraphs Aus7.1 and Aus7.2 below.

7 Paragraphs 11 and 12 of AASB 108 specify sources of authoritative requirements and guidance that management is required to consider in developing an accounting policy for an item if no Standard applies specifically to that item. Subject to paragraphs 9 and 10 below, this Standard exempts an entity from applying those paragraphs to its accounting policies for the recognition and measurement of exploration and evaluation assets.

Treatment of exploration and evaluation expenditures

Aus7.1 An entity's accounting policy for the treatment of its exploration and evaluation expenditures shall be in accordance with the following requirements. For each *area of interest*, expenditures incurred in the exploration for and evaluation of mineral resources shall be:

(a) expensed as incurred; or

(b) partially or fully capitalised, and recognised as an exploration and evaluation asset if the requirements of paragraph Aus7.2 are satisfied.

An entity shall make this decision separately for each area of interest.

Aus7.2 An exploration and evaluation asset shall only be recognised in relation to an area of interest if the following conditions are satisfied:

(a) the rights to tenure of the area of interest are current; and

(b) at least one of the following conditions is also met:

(i) the exploration and evaluation expenditures are expected to be recouped through successful development and exploitation of the area of interest, or alternatively, by its sale; and

(ii) exploration and evaluation activities in the area of interest have not at the end of the reporting period reached a stage which permits a reasonable assessment of the existence or otherwise of *economically recoverable reserves*, and active and significant operations in, or in relation to, the area of interest are continuing.

Aus7.3 An area of interest refers to an individual geological area whereby the presence of a mineral deposit or an oil or natural gas field is considered favourable or has been proved to exist. It is common for an area of interest to contract in size progressively, as exploration and evaluation lead towards the identification of a mineral deposit or an oil or natural gas field, which may prove to contain economically recoverable reserves. When this happens during the exploration for and evaluation of mineral resources, exploration and evaluation expenditures are still included in the cost of the exploration and evaluation asset notwithstanding that the size of the area of interest may contract as the exploration and evaluation operations progress. In most cases, an area of interest will comprise a single mine or deposit or a separate oil or gas field.

Measurement of exploration and evaluation assets

Measurement at recognition

8 Exploration and evaluation assets shall be measured at cost.

Elements of cost of exploration and evaluation assets

9 An entity shall determine an accounting policy specifying which expenditures are recognised as exploration and evaluation assets and apply the policy consistently. In making this determination, an entity considers the degree to which the expenditure can be associated with finding specific mineral resources. The

following are examples of expenditures that might be included in the initial measurement of exploration and evaluation assets (the list is not exhaustive):

(a) acquisition of rights to explore;

(b) topographical, geological, geochemical and geophysical studies;

(c) exploratory drilling;

(d) trenching;

(e) sampling; and

(f) activities in relation to evaluating the technical feasibility and commercial viability of extracting a mineral resource.

Aus9.1 In accordance with paragraph 9, where an entity recognises exploration and evaluation assets, direct and indirect costs associated with the exploration for and evaluation of mineral resources and which specifically relate to an area of interest are allocated to that area of interest. In making this allocation, no distinction is drawn between costs incurred within the entity and the cost of services performed by outside contractors or consultants on behalf of the entity.

Aus9.2 The costs of acquiring leases or other rights of tenure in the area of interest are included in the cost of the exploration and evaluation asset if they are acquired as part of the exploration for and evaluation of mineral resources.

Aus9.3 Indirect costs that are included in the cost of an exploration and evaluation asset include, among other things, charges for depreciation of equipment used in exploration and evaluation activities.

Aus9.4 General and administrative costs are allocated to, and included in, the cost of an exploration and evaluation asset, but only to the extent that those costs can be related directly to operational activities in the area of interest to which the exploration and evaluation asset relates. In all other cases, these costs are expensed as incurred. For example, general and administrative costs such as directors' fees, secretarial and share registry expenses, and salaries and other expenses of general management are recognised as expenses when incurred since they are only indirectly related to operational activities.

10 Expenditures related to the development of mineral resources shall not be recognised as exploration and evaluation assets. The *Conceptual Framework for Financial Reporting* (as identified in AASB 1048 *Interpretation of Standards*) and AASB 138 *Intangible Assets* provide guidance on the recognition of assets arising from development.

AusCF10 Notwithstanding paragraph 10, in respect of AusCF entities, expenditures related to the development of mineral resources shall not be recognised as exploration and evaluation assets. The *Framework for the Preparation and Presentation of Financial Statements* (as identified in AASB 1048 *Interpretation of Standards*) and AASB 138 *Intangible Assets* provide guidance on the recognition of assets arising from development.

11 In accordance with AASB 137 *Provisions, Contingent Liabilities and Contingent Assets* an entity recognises any obligations for removal and restoration that are incurred during a particular period as a consequence of having undertaken the exploration for and evaluation of mineral resources.

Measurement after recognition

12 After recognition, an entity shall apply either the cost model or the revaluation model to the exploration and evaluation assets. If the revaluation model is applied (either the model in AASB 116 *Property, Plant and Equipment* or the model in AASB 138) it shall be consistent with the classification of the assets (see paragraph 15).

Changes in accounting policies

13 An entity may change its accounting policies for exploration and evaluation expenditures if the change makes the financial statements more relevant to the economic decision-making needs of users and no less reliable, or more reliable and no less relevant to those needs. An entity shall judge relevance and reliability using the criteria in AASB 108.

Aus13.1 Notwithstanding paragraph 13, any change in an entity's accounting policy for exploration and evaluation expenditures shall also remain in accordance with paragraphs Aus7.1 and Aus7.2.

14 To justify changing its accounting policies for exploration and evaluation expenditures, an entity shall demonstrate that the change brings its financial statements closer to meeting the criteria in AASB 108, but the change need not achieve full compliance with those criteria.

Presentation

Classification of exploration and evaluation assets

15 An entity shall classify exploration and evaluation assets as tangible or intangible according to the nature of the assets acquired and apply the classification consistently.

16 Some exploration and evaluation assets are treated as intangible (eg drilling rights), whereas others are tangible (eg vehicles and drilling rigs). To the extent that a tangible asset is consumed in developing an intangible asset, the amount reflecting that consumption is part of the cost of the intangible asset. However, using a tangible asset to develop an intangible asset does not change a tangible asset into an intangible asset.

Reclassification of exploration and evaluation assets

17 An exploration and evaluation asset shall no longer be classified as such when the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. Exploration and evaluation assets shall be assessed for impairment, and any impairment loss recognised, before reclassification.

Impairment

Recognition and measurement

18 Exploration and evaluation assets shall be assessed for impairment when facts and circumstances suggest that the carrying amount of an exploration and evaluation asset may exceed its recoverable amount. When facts and circumstances suggest that the carrying amount exceeds the recoverable amount, an entity shall measure, present and disclose any resulting impairment loss in accordance with AASB 136, except as provided by paragraph 21 below.

19 For the purposes of exploration and evaluation assets only, paragraph 20 of this Standard shall be applied rather than paragraphs 8–17 of AASB 136 when identifying an exploration and evaluation asset that may be impaired. Paragraph 20 uses the term 'assets' but applies equally to separate exploration and evaluation assets or a cash-generating unit.

20 One or more of the following facts and circumstances indicate that an entity should test exploration and evaluation assets for impairment (the list is not exhaustive):

(a) the period for which the entity has the right to explore in the specific area has expired during the period or will expire in the near future, and is not expected to be renewed.

(b) substantive expenditure on further exploration for and evaluation of mineral resources in the specific area is neither budgeted nor planned.

(c) exploration for and evaluation of mineral resources in the specific area have not led to the discovery of commercially viable quantities of mineral resources and the entity has decided to discontinue such activities in the specific area.

(d) sufficient data exist to indicate that, although a development in the specific area is likely to proceed, the carrying amount of the exploration and evaluation asset is unlikely to be recovered in full from successful development or by sale.

In any such case, or similar cases, the entity shall perform an impairment test in accordance with AASB 136. Any impairment loss is recognised as an expense in accordance with AASB 136.

Specifying the level at which exploration and evaluation assets are assessed for impairment

21 An entity shall determine an accounting policy for allocating exploration and evaluation assets to cash-generating units or groups of cash-generating units for the purpose of assessing such assets for impairment. Each cash-generating unit or group of units to which an exploration and evaluation asset

is allocated shall not be larger than an operating segment determined in accordance with AASB 8 *Operating Segments*.

22 The level identified by the entity for the purposes of testing exploration and evaluation assets for impairment may comprise one or more cash-generating units.

Aus22.1 Notwithstanding paragraphs 21 and 22, the level identified by the entity for the purposes of testing exploration and evaluation assets for impairment shall be no larger than the area of interest to which the exploration and evaluation asset relates.

Disclosure

23 An entity shall disclose information that identifies and explains the amounts recognised in its financial statements arising from the exploration for and evaluation of mineral resources.

24 To comply with paragraph 23, an entity shall disclose:

(a) its accounting policies for exploration and evaluation expenditures including the recognition of exploration and evaluation assets.

(b) the amounts of assets, liabilities, income and expense and operating and investing cash flows arising from the exploration for and evaluation of mineral resources.

Aus24.1 In addition to the disclosure required by paragraph 24(b), an entity that recognises exploration and evaluation assets for any of its areas of interest shall, in disclosing the amounts of those assets, provide an explanation that recoverability of the carrying amount of the exploration and evaluation assets is dependent on successful development and commercial exploitation, or alternatively, sale of the respective areas of interest.

25 An entity shall treat exploration and evaluation assets as a separate class of assets and make the disclosures required by either AASB 116 or AASB 138 consistent with how the assets are classified.

Effective date

26 An entity shall apply this Standard for annual periods beginning on or after 1 January 2016. Earlier application is encouraged for periods beginning on or after 1 January 2014 but before 1 January 2016. If an entity applies the Standard for a period beginning before 1 January 2016, it shall disclose that fact.

26A AASB 2019-1 *Amendments to Australian Accounting Standards – References to the Conceptual Framework*, issued in 2019, added AusCF paragraphs and amended paragraph 10. An entity shall apply the amendments for annual periods beginning on or after 1 January 2020. Earlier application is permitted if at the same time an entity also applies all other amendments made by AASB 2019-1. An entity shall apply the amendments to AASB 6 retrospectively in accordance with AASB 108 *Accounting Policies, Changes in Accounting Estimates and Errors*. However, if an entity determines that retrospective application would be impracticable or would involve undue cost or effort, it shall apply the amendments to AASB 6 by reference to paragraphs 23–28, 50–53 and 54F of AASB 108.

Transitional provisions

27 If it is impracticable to apply a particular requirement of paragraph 18 to comparative information that relates to annual periods beginning before 1 January 2005, an entity shall disclose that fact. AASB 108 explains the term 'impracticable'.

Commencement of the legislative instrument

Aus27.1 [Repealed]

Withdrawal of AASB pronouncements

Aus27.2 This Standard repeals AASB 6 *Exploration for and Evaluation of Mineral Resources* issued in December 2004. Despite the repeal, after the time this Standard starts to apply under section 334 of the Corporations Act (either generally or in relation to an individual entity), the repealed

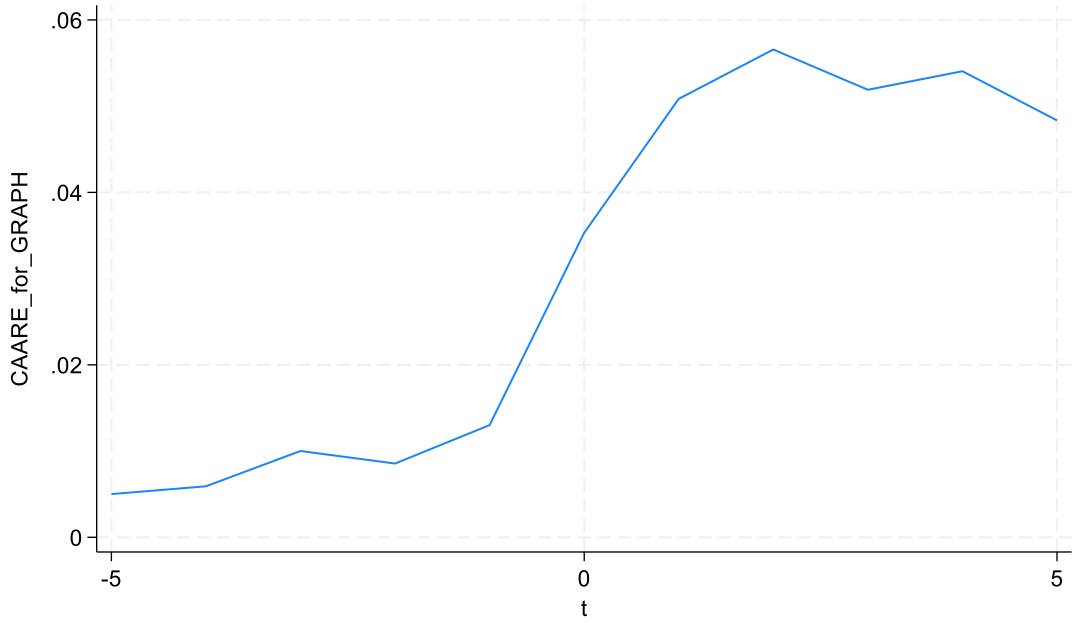
Standard continues to apply in relation to any period ending before that time as if the repeal had not occurred.

[Note: When this Standard applies under section 334 of the Corporations Act (either generally or in relation to an individual entity), it supersedes the application of the repealed Standard.]

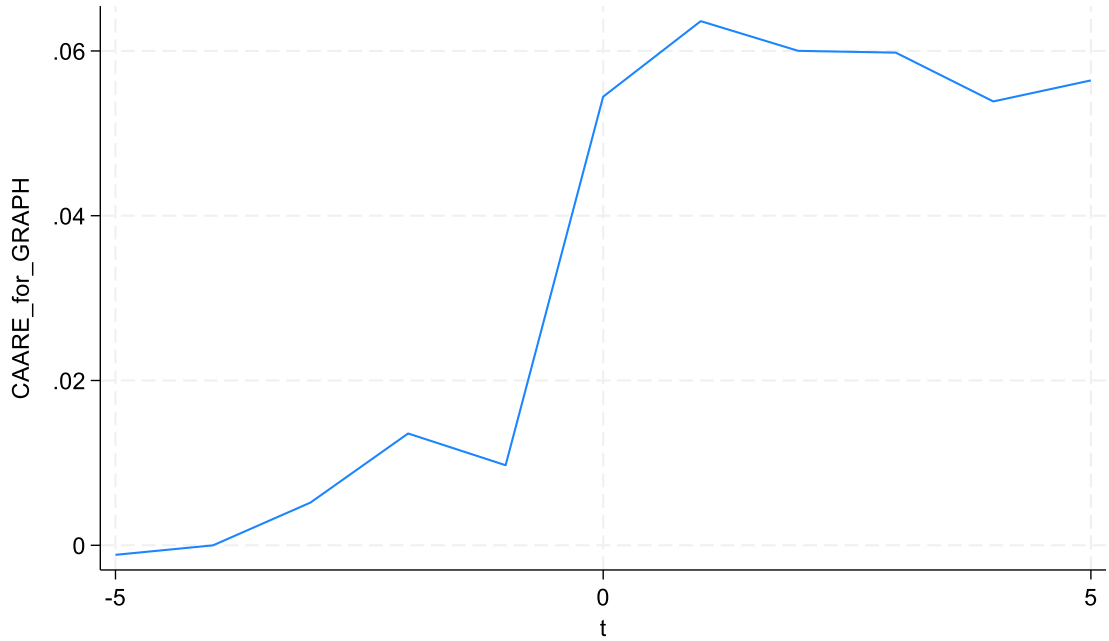
Figures

Figure 1 - Distribution of cumulative abnormal return

A. Canadian sample

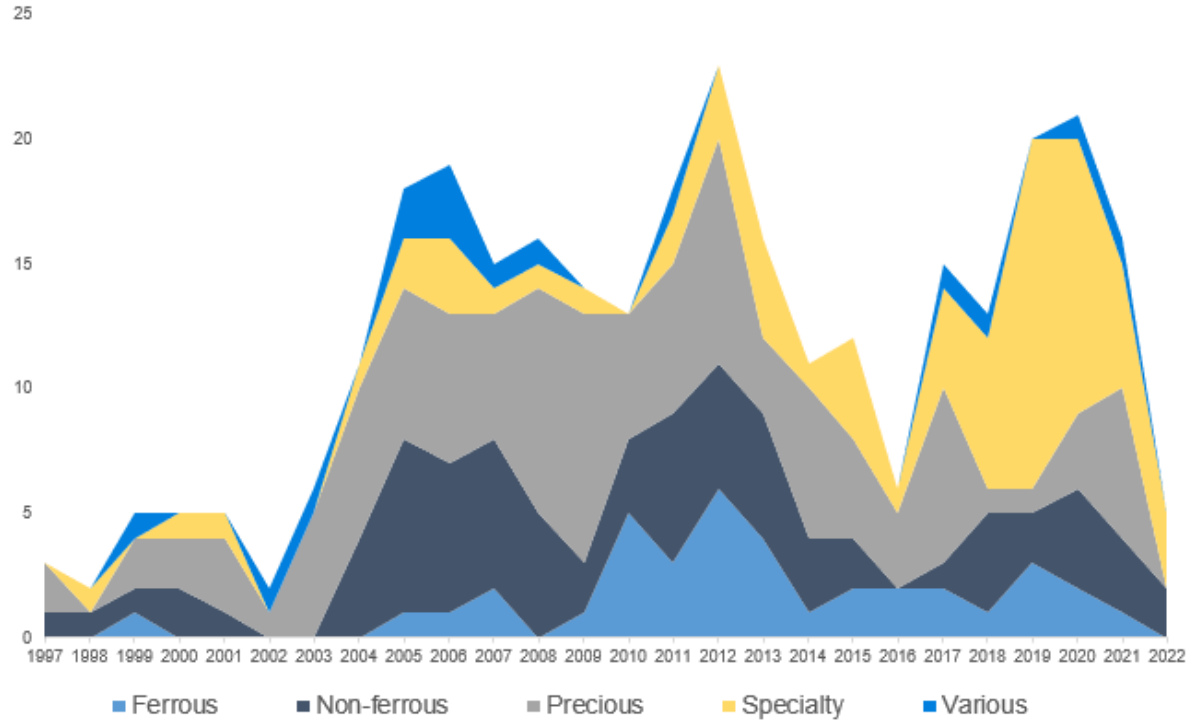


B. Australian sample



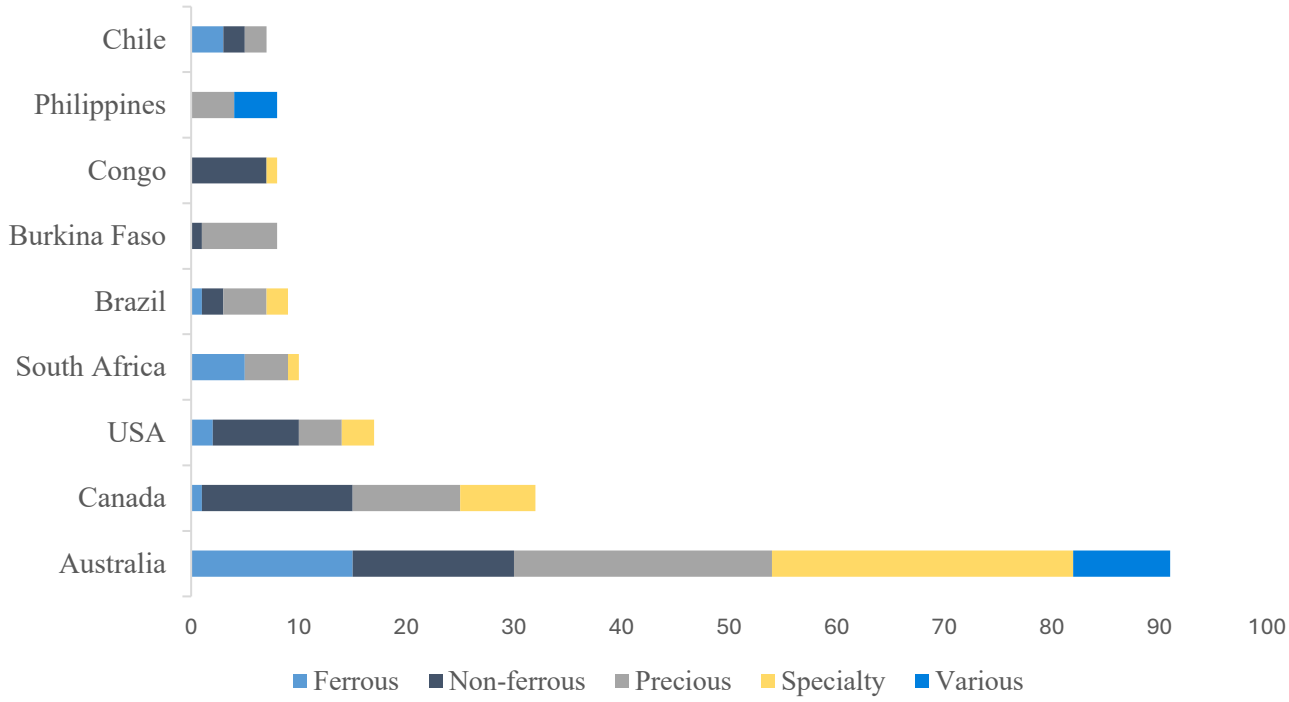
Note: These graphs show the cumulative market-adjusted abnormal return (CAR) on a 5-day event window. t_0 represents the event date when the debt mandate announcement released.

Figure 2 - Debt mandate frequency over time



Note: The greatest number of mandates (18 and 23) awarded in 2011 and 2012 (the period known as "mining boom"), followed by (20 and 21) in 2019 and 2020. By commodity type, precious metals (dominated by gold) account for 111 mandates (36%). However, from 2018 to 2022, specialty metals (REEs, graphite etc.) account for 39 mandates (52%), indicating an increased demand for 'critical minerals' domain.

Figure 3 - Top 10 locations by commodity type



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