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**SHARE OWNERSHIP AND THE INTRODUCTION OF NO LIABILITY LEGISLATION
IN NINETEENTH-CENTURY AUSTRALIA**

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Share ownership and the introduction of no liability legislation in nineteenth-century Australia

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Abstract

The no liability company – where investors are not liable for uncalled parts of their shares - has been unique to Australasia. Deploying a large dataset, we provide the first empirical examination of the effects of this new corporate form on company formation and shareholding. Our focus is on Victorian goldmining, the earliest and most pervasive users of the no liability form. No liability companies largely replaced limited liability within a decade of the legislation in 1871, which was more rapid than the transition from unlimited to limited liability companies in several other nations. No liability companies attracted a broader occupational and locational range of investors beyond the mining industry and its districts, especially gentlemen and financiers. We conclude that investors believed no liability firms to be less risky because of the removal of call liabilities and the mitigation of previous regulatory failures.

Keywords

Mining; goldmining; share ownership; Australia; company law; limited liability; no liability; investors; stock exchanges; occupations; Melbourne; investment booms.

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“one of the most radical experiments in company law in the English-speaking world”

(Blainey, 1963, p.99)

1. Introduction

In 1871 the Parliament of Victoria passed the Mining Companies Act (35 Vic. No. 409), which introduced into the colony the principle of no liability. Within a few years, the no liability (NL) company had largely replaced the limited liability (LL) form in the Victorian mining industry. Within 20 years, similar legislation had spread through the Australasian colonies; viz. New South Wales (1881), South Australia (1881), Queensland (1886), Western Australia (1888) and New Zealand (1904). This distinctive innovation in company law, no liability, has never spread beyond Australasia but remains an option for mining companies today under the Commonwealth of Australia’s *Corporations Act 2001*.¹

Under no liability, a shareholder is not liable for the uncalled part of their shares, in contrast to limited liability. Mining shares are often partly paid at the time of issue, with calls made over time, to finance exploration, construction and the mining of minerals, such as gold, in stages as the mining claim becomes profitable. If a company fails, limited liability shareholders must pay any uncalled part of their share to cover debts and thus they may forfeit its entire par value. Under no liability, however, a shareholder only loses the called part of their shares, often a small fraction of its par value. Mining, especially of gold, was a risky activity with many companies failing at the exploration stage when no worthwhile ores are uncovered. This has led scholars to conclude that the effect of the legislation was beneficial by making investment more attractive in a high risk industry, and thereby drawing in a broader range of investors by location and occupation (Blainey, 1963; Hall, 1968; Waugh, 1987; Salsbury &

¹ In 2022 there are 178 NL companies in Australia (ASIC database).

Sweeney, 1988; McQueen, 1991; Morris, 1997; Lipton, 2018). Birrell (1998, pp. 99, 117) is a lone voice in arguing that the switch to no liability merely legitimised existing practices and therefore its effects were more limited. These conclusions have never been tested.

Historical research on transitions from unlimited to limited liability companies in other nations throws some light on the likely consequences of a further reduction in investor liability in Australian mining. Recent research, revising older views about the importance of limited liability, has generally concluded that the impact on investment and investors was modest. Acheson, Hickson, & Turner (2010, p. 69) examine the impact of limited liability (versus unlimited liability) on the tradability and liquidity of British banking stocks and the population size of their shareholders. Their results, ‘raise some doubt about the role limited liability has played in the rise and subsequent dominance of the corporate form.’ Acheson & Turner (2008, p. 251) reveal that UK banks continued to use unlimited liability after limited liability was permitted because there were no inherent weaknesses in the former system and conclude, ‘the perceived costs of limiting liability were higher than the benefits enjoyed’. Kenny and Ogren (2021, pp. 217-18) conclude that ‘liability form mattered little’ among Swedish banks after 1897 when other legal differences between limited and unlimited firms were removed. The persistence of unlimited liability banks after this date was due, they argue, to monitoring the appointment of new shareholders and high share prices that limited the pool of new investors. Oskar (2020) examines the use of “assessable stock” (a form of unlimited liability) by quartz mining companies in the Comstock silver lode in Nevada (US) between 1860 and 1877 and argues that it provided a reliable method of raising capital for mining companies requiring capital in tranches over time.² Grossman (1995, p. 85) concluded that the pro rata unlimited liability shares of the American Express Company were traded ‘actively and regularly’ in the

² Assessable stock allowed the company board of directors to call on shareholders to supply additional funds over and above their current paid-up shares.

1950s. Weinstein (2003) observed that the move to limited liability in interwar California had very little impact on share prices.

These conclusions reaffirm the revisionist historical literature that throws doubt on the law-finance hypothesis, by arguing that informal private ordering often worked well, that legislation merely codified existing practice, and that economic and political contingency factors mattered more to changes in investment behaviour (Acheson, Campbell and Turner, 2019; Cheffins, Bank and Wells, 2013; Musacchio and Turner, 2013). Viewed from this perspective, we might not expect the shift from limited to no liability to have had much impact on company formation and share ownership in Australian mining.

This paper builds on the existing literature by examining the impact of the transition from limited to no liability in a key Australian industry, mining, an innovation unique to Australasia and that persists to the present day. We describe the reasons for its introduction and offer the first empirical analysis of the effects of no liability legislation on the location of investors financing new company formation and the financing sources, as measured by investor occupational groups.

Our study also extends the international literature in two important respects: by investigating a further reduction in investor liability, and by providing an analysis of its effects on specific groups of investors. We draw on shareholder information from new mining company registrations in Victoria between 1857 and 1886. Our dataset comprises 84,973 investors who made in aggregate 229,093 investments in 8,440 companies during the growth of the Victorian gold mining industry under limited liability and no liability legislation.

2. Macroeconomic and legislative background

2.1 Gold mining and Australian economic development

The Australian colonies had one of the highest standards of living in the world in the second half of the nineteenth century, the causes of which have been the subject of considerable debate (Madsen, 2015; McLean, 2013; Broadberry & Irwin, 2007). Prosperity drew heavily upon engagement with the globalising world economy. A high foreign trade ratio derived from exports of natural resources, particularly gold and wool, extended by the later nineteenth century to wheat, frozen meat and dairy products. Together, natural resources constituted 90 per cent of visible exports, a figure only matched by a few other resource-based economies including Norway, and which paid for imports of manufacturing and capital goods (Ville & Wicken, 2013, pp. 1350–2). Prosperity and economic opportunities attracted high levels of immigration and foreign investment to Australia. Flows of trade, investment, and migration came primarily from Britain. External sources of growth were supported by domestic drivers particularly urbanisation, residential construction, and the development of network industries most notably the railways (Butlin, 1964, p. 16).

Economic expansion was funded, and enterprises operated, by various domestic and foreign interests. Infrastructure, particularly railways, roads and ports, were largely owned and operated by the colonial governments but financed by British debentures. Agricultural producers were mostly small settler families by the second half of the nineteenth century, which were supported by a supply chain of foreign-owned firms such as brokers, bankers, insurers, and shipowners. Manufacturing largely lay in the hands of sole traders and small private companies but with a growing population of multinationals arriving, particularly from the UK,

USA and Germany, by the end of the century (Ville and Merrett, 2020, pp. 331-7). Mining was one of the few major industries that provided opportunities for the domestic private investor.

The discovery of gold in Victoria in 1851 initiated one of the principal stimuli to Australian economic development in the nineteenth century. While major gold discoveries were also made in New South Wales and Queensland, Victoria dominated production in Australia until the boom in Western Australia in the 1890s (Morris, 1997, pp. 97-9). It commenced the growth of a substantial, if highly cyclical, industry that would reverberate through the colonies in the following half century. More than 20 million ounces of gold were mined in Victoria between 1851 and 1860 compared with 2 million in New South Wales. Overall, the value of gold mined in Australia in the 1850s was 6/7 times that of gross domestic product (Maddock & McLean, 1984, p. 1051). Gold mining contributed substantially to both the balance of payments and an increased population with the arrival of many immigrant prospectors. It provided a brief though very large stimulus to exports, as gold replaced wool as the largest earner. The overseas trade of Victoria expanded massively in the 1850s from less than \$2 million (exports and imports) to over \$28 million (Maddock & McLean, 1984, p. 1048). The population of the gold fields settlements north of Melbourne – primarily Ballarat, Bendigo, Castlemaine, and Mount Alexander – grew from 19 000 to 144 000 in the 1850s as prospectors arrived from other Australian colonies and from overseas including those leaving the recent Californian gold rush. Colony-wide reverberations were reflected in a five-fold expansion of the Victorian population to over half a million (La Croix, 1992, p. 209).

Such a large supply-side shock inevitably affected the size and competitiveness of other export industries, particularly wool, that lost labour to the goldfields (Butlin, 1964, p. 39). However, the effects were short-lived. Maddock and McLean (1984, p. 1064) describe the role of population in-flows as an ‘equilibrating device’. After the initial rush subsided, many immigrants remained in Australia and worked in other industries such as pastoralism and

market gardening. While the goldfields population stagnated post-rush, the influx of wealth into Melbourne was felt in the following decades as its population grew 3-4 fold (Hall, 1968, p. 530). The boom may have been temporary but it provided a ‘permanent increase in the scale of the Australian economy’ (Jackson, 1977, p. 11). The Victorian goldrush induced the construction of new local infrastructure including road and rail transport between the mining centres and the colonial capital, Melbourne, and stimulated the growth of banking services. Since most incorporated firms came from mining for the next few decades, it also drove the development of stock trading particularly on the colonial stock exchanges beginning with Melbourne in 1861 (Butlin, 1964, pp. 300-1; Hall, 1968, pp. 42-3). More broadly, it brought about the beginnings of an economy large enough to diversify across new industries, especially in manufacturing, and also to foster greater specialization within individual sectors including finance and natural resources (Ville, 1998, pp. 24-32). Finally, it motivated a unique development in company law, the no liability company, which is the focus of this paper.

The large short-term impact of Victorian goldmining in the 1850s reflected the inherently cyclicity of the industry, ‘rush’ epitomising its nature. Fluctuating gold prices and the often serendipitous nature of prospecting created some very large fortunes that attracted many hopeful entrants into mining, most of whom were unsuccessful. The earliest discoveries on the Victorian goldfields were made by individual prospectors, the so-called ‘diggers’, particularly in recovering surface alluvial deposits. By the late 1850s, when the easiest pickings had been extracted, a new phase in the industry began to take shape. Prospectors turned to more complex extraction often in deep lodes below the surface, some of which involved the removal of gold from rock, known as quartz mining. However, yields were falling: by 1871 Victorian gold output was barely above half its peak of the early 1850s (Kalix, Fraser & Rawson, 1966, p. 176). Moreover, the reduced output required growing amounts of capital to purchase machinery and other equipment. This attracted new firms into the industry, initially as

partnerships and syndicates, to raise funds and then in the form of companies that raised external capital. In this new phase of the industry, the risks and rewards shifted from individual prospectors to a broad investing class.

2.2 Mining investment, limited liability and no liability legislation

While the demand for mining funds was rising sharply, the lack of a public market for stocks or of legislation to govern enterprises were major constraints on the supply of funds. In 1853 the Victorian government responded by legislating to allow mining partnerships to adopt limited liability. This deviated from the normal practice of following UK legislation where limited liability was introduced two years later but only for incorporated firms. As capital needs expanded, a series of Acts were passed to regulate the formation of mining companies, in 1855, 1858, 1860, and 1864. Each Act provided limited liability but was defective in other respects, particularly inconsistent reporting procedures and a lack of auditing requirements, and the lengthy winding up procedures, which absorbed much of the remaining funds. Besides poor legislation, there was a lack of resources for adequate public administration of the Acts, one of the consequences of which was a failure to verify the veracity of investors and thereby prevent ‘dummyism’ (see below). The use of similar or identical names by different mining companies, another regulatory failure, also abetted investor deception (Ashley, 2005, pp. 208-10).

Therefore, while limited liability appeared to provide greater safeguards to investors in a highly cyclical industry, serious risks remained for the unwary shareholder in a Victorian goldmining company (Morris, 1997, pp. 103-7). Indeed, Blainey has argued that the advent of the mining company shifted the gambling mentality of the prospector to that of the investor (1963, p. 98). While limited liability set an upper bound on the exposure of investors, they were still responsible for the uncalled part of their shares, sometimes a large proportion of par value.

Some investors wilfully defaulted through a practice known as ‘dummyism’, wherein they tendered false personal details to the company with a view to evading debts if the company was unsuccessful, as many were. The inadequacy of the legislation allowed this practice apparently to flourish, but the investor’s risks were also contextual to Australian mining. The lure of high profits and the information asymmetries associated with a transient mining population spread across broad areas created breeding grounds for opportunistic promoters, as well as investors, who knowingly launched companies with few prospects with a view to pocketing investor funds. For the honest limited liability shareholder, Blainey (1963, p. 98) notes, ‘no mining investor knew where his liability ceased’.

In August 1871 in the middle of a speculative boom in company formation, the Select Committee on Mining Companies Law met to consider these challenges. It interviewed 18 witnesses including shareholders, mining investors, sharebrokers, journalists, and a mining registrar. Their evidence provided examples of the defects of the limited liability legislation, particularly in the process of collecting unpaid calls and in the winding-up of a company. One witness noted that the present system “enables men who understand the management of their business to escape all liability, and a few outside shareholders to be saddled with the whole liability of the company” (F. Downes, para. 205). Local newspapers, however, were more sanguine about the operations of limited liability (McQueen, 1991). They believed that mining district investors were networked in the community, which generated trust and rich information flows about prospective areas for gold, reputable mining sponsors, and the feasibility of new mining technology. They argued limited liability provided certainty with regards to liability, and the reputational damage of any local investor reneging on uncalled capital (if called) would be high. However, it has alternatively been suggested that mining investors, like many of the communities that supported them, were often transient in nature making the development of

bonds of social capital, information flows, and even accurate shareholder identity difficult to fulfil (Lipton, 2018, p. 35).

In November 1871, after considerable parliamentary debate of three bills, the Mining Companies Act was passed that brought into being the no liability company. Its principal feature was that shareholders would not be liable for calls on the unpaid part of their shares subsequent to its initial issue. Where non-payment of such calls occurred, the share would be forfeited and sold at public auction within 14 days; any remaining proceeds after allowing for all due calls would be returned to the original owner. The initial paid up amount was limited to 5 per cent of the share's value. The Act also addressed some of the administrative and reporting criticism of the prior companies acts. Winding up procedures were simplified. True accounts were to be maintained, a half yearly statement of accounts and a report were required, and shareholders and creditors were entitled to inspect these documents. However, there was no compulsory audit. Morris (1997, 109) has observed that the accounting requirements were greater than under Victoria's 1864 Companies Act or the 1862 UK Companies Act.

Historians have expressed various opinions on the effects of the Act. Morris (1997, p. 109) and Birrell (1998, pp. 98-100) both concluded that investors turned quickly to a preference for the no liability company, which they believe was the dominant new form of mining organisation within a few years of the passage of the Act. Most writers conclude that the Act stimulated broad investor interest in mining. Hall (1968, p. 77) suggested that the no liability company has provided a vehicle for maintaining the supply of funds into mining, confirmed by its continued use up to the present. Salsbury and Sweeney (1988, p. 37) described the legislation as making 'mining shares available with limited risk to almost every member of the Australian public'. Blainey (1963, p. 99), a leading authority on Australian mining history, was quoted at the beginning of this article that it was 'one of the most radical experiments in company law in the English-speaking world', since the, 'trap for mining speculators was finally

sealed'. Similarly, Lipton (2007, p. 820) emphasises the 'more stringent disclosure requirements' and the creation of 'various criminal offences...for breaches of duty and for making false statements' as facilitating broader investor interest. Birrell (1998), however, is less convinced by the legislation's stating that it merely legitimised behaviour that was already happening on the goldfields.

Several writers have suggested particular groups were attracted into mining in greater numbers due to no liability. For Blainey (1963, p. 99), the mitigation of risk 'spurred the wealthy men to invest in mining', while the custom of instalments for issuing partly paid shares 'encouraged poor men to buy mining shares'. It has also been suggested that the increased investor interest with the arrival of the no liability company was much more noticeable in the cities than in rural communities (McQueen 1991, 27). City investors were more widely dispersed from mining activities and therefore had been highly susceptible to the problems of information asymmetry and resulting moral hazard behaviour before the 1871 legislation mitigated many of these obstacles.

None of these perspectives has been subject to close empirical analysis. In the following sections of this paper, we deploy a large dataset to provide the first quantitative assessment of the effects of the introduction of no liability legislation on the Victorian mining industry after 1871. We examine how no liability legislation affected the pattern of new company formation and capital invested in mining companies. We ask two research questions. First, did the introduction of no liability legislation result in more investment into mining companies from investors residing in the city? Second, did the introduction of no liability legislation result in a different composition of shareholders (as measured by occupation) investing in mining companies?

3. Data

Our main data source is the Mining Shareholders Index, which is a record of all shareholders for every mining company established in Victoria between 1857 and 1886 that was listed in the *Victorian Government Gazette*.³ The data consists of a list of companies with the par value of their shares, the date of establishment, and location of the company and its mine. The great majority of these companies were goldminers, which is indicated by our knowledge of the mining industry and by the many firms that contained words like gold, quartz or alluvial in their title. The shareholder information comprises their name, occupation, residential address (area/city), and number of shares they held. The Mining Companies Act 1871 required that a register of shareholders be kept and contain “the names and addresses and, if known, the occupations of the shareholders in the company”.⁴ Previously, companies had only to maintain shareholder addresses.⁵ Therefore, we can compare the location (residential address) of shareholders in limited liability companies and no liability companies from 1857 to 1886, most relevant for the first research question. However, the data to answer the second research question focuses on the differences in occupation of shareholders between limited liability and no liability companies from November 1871 onwards.

It is also important to note that our analysis examines initial shareholders or “subscribers”, that is, the investor who subscribed at the initial equity raising. While this data has limitations (for example, investors could have sold their shares to another party immediately after subscribing), subscription lists provide the most accurate information on who was willing to invest in new mining ventures. In supporting their use of subscription lists,

³ All Gazettes are available at: <http://gazette.slv.vic.gov.au/>. The data was collected by Marion McAdie and provided to the authors.

⁴ Section 33 (I), Mining Companies Act, 23rd November 1871, Supplement to the *Victorian Government Gazette* 24.11.1871, p. 86.

⁵ Section 4, Mining Companies Limited Liability Act 1864, 02.06 1864; Supplement to the *Victorian Government Gazette*, 07.06.1864, p. 506.

Campbell and Turner (2012, 8-9) note that shareholders that made the largest profits during the British railway mania were subscribers rather than those who purchased shares later. In Victorian mining, the period between initially financing a mining venture and discovery of gold could be several months or more, meaning that the opportunity for a subscriber to sell their shares early at a profit would be limited. In addition, most companies were unlisted meaning that a secondary sale may have been difficult or only at a substantial discount.

Our data comprises 84,973 investors who made 229,093 investments in 8,440 companies in the decade and a half before and after the 1871 Act (Table 1, Panel A). The term “No Liability” had to be included in the company name, which enables us to differentiate between limited liability and no liability companies. We calculate the par value of the company as the total number of shares multiplied by their par value. We define an investment by a shareholder as a parcel of shares that they subscribed to in the company. Given that we have the number of shareholders per company and each shareholder’s parcel of shares (number of shares and total par value), we calculate several ownership variables: the percentage of shares held by the top 5 shareholders, a Herfindahl index measuring the concentration of shareholders for each company, and the total number of shareholders in each company. For the period where we have shareholder occupational information (November 1871-1886), we also calculated the percentage of shares held by insiders (those shareholders with occupations connected to the mining industry). Appendix Table A1 provides definitions of our variables.

The number of new mining company registrations in Victoria between 1857 and 1886 by limited liability and no liability (from November 1871) is reported in Table 1. In total, 8,440 mining companies were established between 1857 and 1886, with investors subscribing to total par value of £96,206,597. Most companies were alluvial miners (72 per cent) and the remainder quartz. Between 1857 and October 1871 there were 4,806 mining companies established under limited liability legislation, with an aggregate £52,336,392 in subscribed capital from 55,156

investors (and 41,079 investments). From November 1871 to 1886 there were 3,634 mining companies established as either limited liability or no liability, for a total par value of £43,870,205. During this period an additional 29,817 investors made their first investment in a mining company. Of these latter companies, the majority were no liability (2,247) in which 21,132 investors held shares, while 1,387 limited liability companies attracted 27,923 investors. Limited liability companies were, on average and by median, larger than no liability companies in terms of par value.

Table 1. Victorian Mining Company Registrations, 1857-1886

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Trends in mining company formation are shown in Figure 1. There are peaks under both liability forms, most notably limited liability between 1864 and 1865, and 1870 and 1872, and no liability between 1880 and 1882. The periodic “booms” in company formation were not associated with an aggregate increase in gold production although most witnessed an increase in share prices and the volume of trading.⁶ While new fields opened throughout the period (Blainey, 1970, pp. 298-313), the overall industry was in decline and gold production fell in Victoria from 1.289 million fine oz in 1871 to 0.626 million fine oz in 1886 (Kalix, Fraser and Rawson, 1966, p. 176). Rather, the peaks in company formation were driven by spillover effects; a few companies would find gold in an area, encouraging others nearby to call additional capital to explore their claims and the establishment of new companies and speculation that they might also strike gold. As a speculative boom started to run out, prices for listed companies would fall and disillusionment set in although companies might still make

⁶ An empirical examination of the Victorian mining share market in the nineteenth century has yet to be completed. As a result, we cannot determine whether the three mining “booms” during this period would satisfy the Quinn and Turner (2020) definition of a speculative bubble; *viz.* “a rise in asset prices of at least 100 per cent over less than 3 years, followed by at least a 50 per cent collapse in prices over a 3-year period or less”.

calls to further exploration. As a result, “periodic bursts of mining speculation” were a feature of the period, resulting in most companies having “a very transient life” although “some hundreds of companies” would have figured in the financial pages of the local and Melbourne newspapers and be known to investors (Hall 1968, pp. 62, 59).⁷

Figure 1. New Mining Company Registrations – Number of Limited Liability and No Liability Companies, 1857-1886

ABOUT HERE

Most new companies (limited or no liability) were private and closely held, with few having shares traded regularly on the Melbourne Stock Exchange or on the local exchanges in Bendigo and Ballarat (the two main regional exchanges). Hall states that there were 133 mining companies on the Melbourne Stock Exchange in 1865 and we located an additional 67 that had shares traded on the local exchanges.⁸ This compares with 929 mining companies established in that year. By 1870, 118 mining companies traded on the Melbourne Stock Exchange although there had been 1,749 mining companies established between 1865 and 1870. While survival rates for companies are difficult to calculate, we estimate that no more than ten percent were regularly traded on the Victorian exchanges.

The no liability form was adopted slowly at first with similar numbers of new companies still opting for limited liability in the first few years (Figure 2). It was not until a

⁷ Hall (1968, pp. 18-22) identifies the first speculative boom as 1859, which for the first time introduced mining investment opportunities to Melbourne investors through listed shares. When the speculative boom burst later that year, it was “some years before Melbourne investors again invested freely in mines” (p.20).

⁸ Hall (1968, Table 4, p.58) reports the number of mining companies on the Melbourne Stock Exchange for 1865, 1870, and 1884. We selected five benchmark years 1865, 1870, 1875, 1880 and 1885 to cross-check Hall’s data using share price lists published in local newspapers during December for the Melbourne Stock Exchange, the Ballarat exchange, the Bendigo exchange, and smaller exchanges such as Stawell. In most cases we identified additional companies which were listed on price lists and reported as having a traded price. We calculate that the number of listed mining companies in Victoria was 200 in 1870, 118 in 1870, 96 in 1875, 146 in 1880 and 120 in 1885.

new wave of investor interest in mining and a speculative mining boom gathered pace towards the end of the 1870s that most new firms were of the no liability type, and virtually superseded limited liability by the early 1880s.

Figure 2. Percentage of No Liability by Number of Companies and Capital (Par Value),

1857-1886

ABOUT HERE

Adoption of the legislation, therefore, was somewhat more gradual than implied by some of the literature (Blainey, 1963; Morris 1997, p. 109) although Birrell notes that ‘miners were wary of the revolutionary structure’ (1998, p. 99). The outcome, however, differs from evidence on several other countries where limited liability superseded unlimited liability more slowly (Acheson & Turner 2008; Kenny & Ogren 2021).

The reasons for the rate of uptake are not entirely clear. A general sense of inertia or caution may have initially prevailed for the first few years of no liability as promoters and investors sought to understand the nature and potential benefits or drawbacks of the new legislation that had no precedent. Some safeguards for unpaid calls may already have been available informally. Birrell (1998) has suggested that by 1870 ‘the stock exchanges on the goldfields had developed a system where, by mutual agreement, shareholders with unpaid calls were not immediately forced to pay the call’ (1998, pp. 99, 117). However, informal understandings, especially in the context of transient mining populations, may have been less compelling in the minds of potential investors than protection under the principle of no liability. Finally, creditors may have been circumspect about the impact of the further limits on the financial liabilities of investors and whether this would affect the quality of shareholders as has been observed for UK banks with the rise of limited liability (Turner, 2009). However, the

Australian position seems somewhat different. The financial commitments of no liability shareholders did not extend beyond the initial call and therefore there may have been less concern about shareholder quality. The prompt auction of shares with unpaid calls, the greater transparency of company and investor information, and the streamlining of winding up procedures all improved the tradability (listed or via private placement) of no liability shares.

4. No liability, limited liability and the location of investors

It has been argued that the reduced risks of the no liability legislation – improved disclosure requirements and lessened financial exposure to uncalled capital – attracted more investors from a broader geographical area, given the likelihood that information asymmetries increase with distance. Our focus is on Melbourne as a growing centre of population and wealth in mid nineteenth-century Victoria and a major beneficiary of the gold rush as we saw earlier. Knowledge of the booming mining industry 100 to 150 kilometres to Melbourne’s north and the improved infrastructure and communications to and from the goldfields as gold exports passed through the city’s financial institutions and ports would have awakened city investors to new opportunities.

In order to examine our first research question – did the introduction of no liability result in more investment into mining companies from investors residing in the city – we use data from 1857 to 1886. Residential addresses were reported in various ways, used different names for the same town/area, or used abbreviations. We standardised town and area names, resulting in a distinct location for 94.2% of investors (107,836 investors. The uncategorised locations were due to incomplete or ambiguous information. We define city investors as residing in Melbourne or Geelong (Victoria’s second largest city).

Table 2. Total Par Value, Number of Investments and Investors by Location, 1857-1886

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Investors residing in ten mining towns provided 60.8% of total par value, with investors from other mining towns 20.4%. Sandhurst (Bendigo) and Ballarat were the two dominant locations in terms of capital (47.2%), number of investments (40.1%) and number of investors (30.3%). The capital and investors from non-mining locations was largely located in the city, comprising 17.8% of capital and 20.8% of investors. Notably, city investors provided less capital in aggregate than either Sandhurst or Ballarat investors, who were closer to the mining activity. However, city investors were the largest group by number of investors and second largest by number of investments (Ballarat being the largest). The 1881 Victorian Census reported that Sandhurst had 45,590 residents and that Ballarat had 76,092 residents, implying that approximately 25% to 30% of residents in these mining towns held shares in mining companies. By contrast, Melbourne and Geelong combined had 297,513 residents in 1881, with approximately 7.5 % of residents holding shares in mining companies.⁹

The proportion of capital and of investors from the city increased from under 10 per cent in the late 1850s to around 40 per cent by the mid 1880s (Table 3). This finding holds when we adjust the number of city-based investors for the rapid growth in population experienced by Melbourne (and Australia) during this period. Melbourne's population grew from an estimated 140,000 in 1860 to 491,000 in 1890, while the population of Australia in total grew from 1.145 million in 1860 to 3.15 million in 1890 (Hall 1968, p. 53; Butlin et al 2015, pp. 555-94). The

⁹ If we use the 1871 Census as our benchmark year, Sandhurst had 49,369 residents and 13,591 investors (28%) and Ballarat had 94,618 residents and 19,044 investors (20%). Melbourne and Geelong had 225,826 residents and 22,414 investors (10%).

population-adjusted proportion of city-based investors companies increased from an average of 14% between the 1860 and 1870 to an average of 30% between the 1880 and 1886.

Figure 3. Proportion of Capital (Par Value) and Investors from the City

ABOUT HERE

We turn now to the impact of no liability legislation on the proportion of city investors who invested in mining. Tables 3 and 4 show the percent of capital and investments from city investors between 1857 and 1886, divided into five sub-periods – two prior to November 1871 and three from November 1871 to 1886. City investors made up 17.2% of capital and 17.6% of investments between 1857 and 1865, and 13.0% of capital and 15.9% of investments between 1866 and October 1871. The introduction of no liability legislation in November 1871 resulted in an immediate change as city investors now contributed 21.7% of capital (20.9% of investments) between November 1871 and 1875. Their proportion decreased to around 14% to 15% between 1876 and 1880, before rising once more in 1881-86, making up 30.3% of capital and 38.8% of investments.

No liability companies became the more common type of investment by the 1880s for city and mining district investors. City investors invested £3,462,422 in limited liability companies, and £6,834,181 in no liability companies from November 1871 to 1886 (Table 3). The number of investments in no liability companies (15,435) made by city investors was also larger than in limited liability companies (7,030 investments (Table 4). By contrast, mining district investors were more open to invest in limited liability as well as no liability companies after November 1871.

Table 3. Percent of Capital (Par Value) by Location, Limited Liability and No Liability 1857-1886

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Table 4. Percent of Investments by Location, Limited Liability and No Liability 1857-1886

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To examine more formally whether the proportion of investors by location was associated with no liability companies, we regress the location of the investor against whether the company was no liability, company characteristics, share ownership, and control variables for whether the company was established during one of the company formation booms (1865-66, 1870-1872, or 1880-82). The ordinary least squares (OLS) regression model is stated below:

$$\begin{aligned} \text{Shareholder distribution by location} = & \beta_0 + \beta_1(\text{Legal type}) + \beta_2(\text{Firm size}) + \\ & \beta_3(\text{Type of mining}) + \beta_4(\% \text{ held by top 5 shareholders}) + \\ & \beta_5(\text{HHI share ownership}) + \beta_6(\text{No. of shareholders}) + \beta_7(\text{Par value of shares}) + \\ & \sum_{i=8}^{10} \beta_i(\text{Company formation boom}) + \varepsilon \end{aligned}$$

For shareholder distribution by location, we differentiate between investors located in the city and the mining districts and estimate our regressions using two dependent variables: the percent of shareholders (by number) located in the city or mining district and the percent of shares held by shareholders in the city or mining districts. The company characteristics are size as measured by the natural logarithm of the par value of the company, and the type of mining (alluvial or quartz). Share ownership variables are (1) the percentage of shares held by the top 5 shareholders, (2) a Herfindahl index measuring the concentration of shareholders for each company, and (3) the number of shareholders. We also include the denomination of each share (Par Value of Shares in Australian pounds), as several studies have shown that the denomination of a company's shares influences the shareholder base (Jeffreys, 1946; Acheson,

Turner & Ye, 2012; Acheson, Campbell & Turner, 2017). Appendix Table A2 provides summary statistics for the OLS regression variables.¹⁰ A correlation analysis of the regression variables used in the OLS regressions did not identify any variables that were highly correlated with each other and variance inflation factors for the four estimations were around 2.0, indicating that multicollinearity is not a major concern. The results are reported in Table 5.

Table 5. OLS Regression on Location and No Liability Companies

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A mining company with a higher proportion of city investors (by number or by share ownership) was more likely to be a no liability company. It was also likely to be larger, have a larger shareholder base by number, have less concentrated ownership (as measured by the Herfindahl index), and offer lower denomination shares. Mining companies with proportionally more city investors were also associated with more shares being owned by the top 5 shareholders. Notably, city investors made up a smaller proportion of the shareholder base by number when mining companies were established during the second and third boom periods. A mining company with a higher proportion of shareholders (by number or by share ownership) from the mining districts was less likely to be a no liability company. Mining companies with more mining districts shareholders were smaller, had a small shareholder base, and were established with higher share denomination. We conclude that the introduction of no liability companies was associated with a change in the distribution of shareholders by location, with no liability companies attracting proportionally more city-based shareholders than limited liability companies.

¹⁰ Data was not available to calculate firm size for eight (8) companies, resulting in 8,432 observations in our OLS regressions.

5. No liability, limited liability and the occupational status of investors

The 1871 Act required a new company's officials to collect and register information on the name, address, occupation, and number of shares of each shareholder. The occupation data is extracted from the *Gazette* lists of 4,759 company registrations between 1871 and 1886. The *Gazette* contains a myriad of occupations, self-identified by shareholders as there was no definition of occupation (or occupational group) stipulated in the Act. We found 160 occupations with 30 or more individuals and 80 occupations which had 100 or more individuals.¹¹ There were 50,919 investors (91.2% of total investors) who we could allocate to an occupational group. They made an aggregate 81,733 investments. .

We draw direction from studies of British shareholders in the nineteenth century to consolidate the range of occupations into shareholder groups that reflect socio-occupational constituencies (Campbell & Turner, 2012; Acheson, Campbell & Turner, 2017). However, there are some differences in defining occupations in nineteenth-century Victoria as industrialisation, specialisation and urbanisation introduced new types of jobs, increased the number of people working in existing occupations, and changed the distribution of income and wealth in the economy (Frances, 1993; van den Broek, 2011; Rickard, 2017 chapter 4). Added to this is the geographic and occupational mobility of individuals and the measurement issues associated with self-reported occupations and/or census information on occupations (Griffen, 1972; Van Leeuwen, Maas & Miles, 2004). Therefore, we adopt broad occupational definitions in our analysis (e.g. middleclass, working class) which mitigates to some extent the difficulties associated with changes in occupational identity and mobility. We are also cautious in

¹¹ While self-reported occupations may be subject to inaccuracy (Campbell & Turner, 2012, p.11; Acheson, Campbell & Turner, 2017, p. 613), the 1871 Mining Act required the company's legal manager to attest in the company application (and Gazetted) that all information was to the best of their belief "true in every particular", and "rendering persons making a false declaration punishable for wilful and corrupt perjury".

comparing our results with the more tightly defined occupational categories and class definitions of UK studies.

Mining industry shareholders were those involved in all aspects of mining who, a priori, would have a knowledge advantage over other occupations regarding the location of the mine, proposed business operations and long-term viability. Occupations included mine managers, miners, mine agents, mining engineers, quartz miners and quartz crushers. Businessmen are categorised as retailers, manufacturers and merchants. Financiers are bankers, stockbrokers and other finance professionals (actuaries, accountants, bookkeepers).¹² Financiers also include those who described themselves as investors and speculators. Middle class comprises legal occupations, professionals such as surgeons, doctors, architects, dentists, chemists, engineers, surveyors, and senior managers, and white collar workers. Working class shareholders are both skilled (requiring some level of education and training including apprenticeships) and unskilled. Agriculture are occupations involved in working the land or that produce directly from it.

We categorise gentleman and female separately as occupational groups. Gentlemen are assumed to be men who do not depend on regular employment for income. There is less need for distinction in Victorian Australia between nobility, gentlemen and esquires, as discussed in Acheson et al. (2017, 613-614). We do, however, record as a separate occupation politicians who were regarded as important members of society and may have had access to privileged information. We retain female as a distinct group not requiring an occupation for income as well as shareholders who stated they were female and had an occupation (such as Female-Hotelkeeper). A more comprehensive description of the occupational groups is provided in Appendix A3.

¹² Bank managers and bank officials are included as financiers as they most likely had the most experience in investment matters and the means to invest. Lower rank employees (e.g. bank clerk, bank messenger) are categorised as middle class (see Appendix A3). On bank internal labour markets see Merrett & Seltzer (2000) and van den Broek (2011).

As Table 6 shows, beyond the mining industry itself, the most important investors were businessmen (14.6% by capital; 19.3% by number of investments and 17.3% by number of investors) and gentlemen (12.1% by capital, 11.9% by investment, and 12.9% by investors). Capital was also provided by middle classes (10.3% by capital), financiers (9.9% by capital), working class (5.8% by capital), agriculture (3.3% by capital) and females (1.4% by capital).

Table 6. Total Par Value, Number of Investments and Investors by Occupation, 1871-1886
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We also note that the par value per investor was lower for occupational groups such as working class, agriculture and female investors.¹³ Each group comprised a larger proportionate share by number of investments and by investor than they did by par value, possibly due to a preference by these occupational groups for lower share denomination equity raisings. We will explore this feature of share ownership in more detail in our regression analysis. In sum, our data provides the first quantitative evidence of widespread engagement by the public in the capital markets of colonial Australia and that working class and females (in particular) were not excluded from investment opportunities in the height of gold mining activity in the 1870s and 1880s. Panza and Williamson (2022) note that there was an egalitarian levelling of Australian wealth between the 1820s and 1870s. The fact that a cross-section of society had financial means to invest in mining companies between 1871 and 1886 is consistent with their findings.

¹³ There is a caveat on interpreting data on female investors. Australia was overly represented by males during the nineteenth century. The sex ratio in 1870 was 121, indicating that there were 121 males for every 100 females. Using 1871-75 as an example, there were 13,734 investors in total investing during this period. There were 1,006 female investors or 7.3% of all investors, which can be scaled up by the sex ratio to an adjusted 8.9% of females (by number). This compares with 1,396 gentlemen comprising 10.2% of all investors in the 1871-75 period.

The composition of investors by occupation shifted in several key respects with the introduction of no liability companies (Tables 7 and 8). Again, we break the time period under review into sub-periods. Mining occupations contributed 38.9% of capital (Table 7) and 31.6% of investments (Table 8) between November 1871 and 1875. By 1883-86 mining occupations were still important contributors of capital (46.6% of capital) although they made up fewer investments (18.5% of investments). They had also overwhelmingly chosen to invest in no liability companies and increased in relative importance as capital providers, no doubt emboldened by the call option nature of no liability which meant less capital at risk per mining project. One occupational group – financiers – embraced no liability companies and increased in relative importance as capital providers between 1871 and 1886. They were 6.2% of capital (6.2% of investments) between November 1871 and 1875, increasing to 11.1% of capital (16.2% of investments) in 1883-86. By contrast, most other occupational groups invested proportionally the same (gentlemen, middle class, agriculture) or less (businessmen, working class, females) between 1871 and 1886 even though they made more investments (by number). Businessmen invested proportionally less over time (17.7% of capital in November 1871-75 to 11.1% of capital in 1883-86) but did not change in relative position with regards to numbers of investments. The removal of liability for unpaid calls may have made investors more willing to commit to a wider range of mining projects, as reflected by an increase in the number of investments.

Table 7. Percent of capital (par value) by Occupational Group, Limited Liability and No Liability 1871-1886

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Table 8. Percent of Investments by Occupational Group, Limited Liability and No Liability
1871-1886

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Tables 7 and 8 also show that occupational groups invested in no liability companies at different rates. The first five years after the introduction of no liability legislation saw gentlemen, middle class, working class and agriculture investors make proportionally more of their investments in no liability companies, than mining, financier or female investors. However, by the mid-1870s and the 1880s all occupational groups were investing the majority of their capital and number of investments in no liability companies.

Research on the British stock market during the nineteenth century indicates the existence of clientele effects whereby specific groups of shareholders had investment strategies that favoured firms with particular characteristics (Acheson, Campbell & Turner 2017). In order to examine whether a specific group of Australian investors had a preference for no liability companies after 1871, we regress the six occupation groups on the probability an investor will chose a no liability company (mining is the default investor group in all regressions). The logistic regression model is shown in the equation below, where the dependent variable Legal type is an indicator variable that returns one if the company is a no liability company:

$$\begin{aligned}
\text{Legal type} = & \beta_0 + \sum_{i=1}^7 \beta_i (\% \text{ shares held by Occupation}_i) + \beta_8 (\text{Firm size}) + \\
& \beta_9 (\text{Type of mining}) + \beta_{10} (\% \text{ shares held by Insiders}) + \\
& \beta_{11} (\% \text{ shares held by top 5 shareholders}) + \beta_{12} (\text{HHI share ownership}) + \\
& \beta_{13} (\text{No. of shareholders}) + \beta_{14} (\text{Par value of shares}) + \\
& \beta_{15} (\% \text{ held in mining districts}) + \beta_{16} (\% \text{ held in the city}) + \\
& \beta_{17} (\% \text{ of shareholders in mining districts}) + \\
& \beta_{18} (\% \text{ of shareholders in Melbourne + Geelong}) + \\
& \sum_{i=19}^{20} \beta_i (\text{Company formation booms}) + \varepsilon
\end{aligned}$$

We include the location of the investor, company characteristics, share ownership, and a control variable for whether the company was established during one of the company formation booms (1870-1872, or 1880-82).¹⁴ For location, we differentiate between investors located in the city and the mining districts. We use two definitions for location: the percentage of shares held by an investor by location (Regression 1) and the percentage of shareholders by number by location (Regression 2). As with our OLS regression model, company characteristics are size and the type of mining (alluvial or quartz), share ownership variables are the percentage of shares held by insiders, the percentage of shares held by the top 5 shareholders, a Herfindahl index measuring the concentration of shareholders for each company, and the number of shareholders. Again, we include the denomination of each share (Par Value of Shares in Australian pounds). A correlation analysis of the regression variables used in the logistic regressions indicated that the percentage of shares held by gentlemen and by middleclass were positively correlated with percent of shares (and number of shareholders) held by city investors (0.27 and 0.23 respectively, significant at the 1% level). Similarly, there was a significant negative correlation between the percentage of shares held by gentlemen and by middleclass and percent of shares (and number of shareholders) held by mining districts investors (-0.25 and -0.22 respectively, significant at the 1% level). All other variables were not highly correlated with each other. Variance inflation factors for the two estimations were around 2.9,

¹⁴ There were 3,634 companies established between November 1871 and 1886. Data was not available to calculate firm size for two (2) companies, resulting in 3,632 observations in our logistic regressions.

indicating that multicollinearity is not a major concern. Appendix Table A4 provides summary statistics for the regression variables.

Table 9. Logistic Regression on No Liability Companies and Occupational Group

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The regression results in Table 9 indicate that no liability firms attracted proportionally more interest from all occupational groups (except females) than did limited liability firms. The gentleman investor is best understood as part of a wealthy rentier class looking for a return on their assets.¹⁵ Their increased commitment to mining after the passage of the no-liability Act appears to lend support to Blainey's belief that the legislation, by mitigating various sources of risk, would attract more wealthy individuals who had no direct working relationship with mining. By all measures, the financier played a more important role in no liability companies. They were primarily investors employed in the financial industry such as bankers, company promoters and stockbrokers. British studies suggest this group were heavy traders who knew the market and sought to benefit from buying and selling (Acheson, Campbell & Turner, 2017). If no liability shares were highly tradeable, as discussed above, this may help to explain the increased prominence of this class of investor.

The city location variables are positively associated with no liability companies with either definition of location – by shareholding or the percentage of shareholders by number. No liability companies had a higher proportion of investors from outside the mining districts, lending credence to existing historiography that no liability legislation widened the shareholder pool.

¹⁵ In the UK the term 'gentleman' had connotations of social class as members of the landed gentry but by the second half of the nineteenth century it was used more broadly as someone of sufficient means not to require work or who was retired (Acheson, Campbell & Turner, 2017, 613-14).

Finally, we note that no liability were likely to be smaller companies, have a larger number of shareholders, and higher shareholder concentration as measured by the percentage of shares held by insiders and by the Herfindahl index. This suggests that investors were more comfortable investing in companies with insiders, even if smaller, as no liability better protected shareholders from renegeing and enforcement problems of limited liability companies in Victoria at the time.

In summary, no liability mining companies had different shareholder bases than limited liability companies, with the number of shareholders, amount of capital, and rate of adoption varying by occupational group. The fact that there were still limited liability companies established for many years after 1871 (although proportionally less over time) and that they were more likely to have mining shareholders indicates that having choice in type of company (limited or no liability) increased the diversity of the shareholder base. It is possible that no liability companies reduced the perceived risk of renegeing in limited liability companies for some investors, resulting in more investment (in aggregate and on average) as compared with limited liability companies. Mining shareholders were less enamoured with no liability companies, perhaps mitigating any deficiencies in the limited liability legislation and its enforcement via private contracting and local information advantages. By contrast, gentlemen, (and other shareholders over time) could not mitigate deficiencies in limited liability companies and therefore gravitated towards no liability companies.

6. Conclusion

The no liability firm has been a legal form of corporation unique to the Australian mining industry and which continues in use today. Deploying a large dataset of shareholders, we examine the effects of its earliest and most pervasive adoption in the Victorian goldmining

industry from 1871. Its distinguishing feature, that shareholders were not required to meet unpaid calls, aimed to reduce investor risks in a highly cyclical and speculative industry. The legislation also provided greater regulatory and disclosure safeguards for investors in these companies.

While not immediate, the shift from limited liability to no liability mining companies was largely complete in little over a decade after the 1871 Act, a transition more rapid than what we know of the move from the unlimited to the limited liability form in several other nations. However, it is not clear that the value of capital invested in the industry grew as a result of no liability legislation rather than from other drivers of the industry's fortunes.

The mining industry attracted a broad range of investors by occupation and location. The introduction of no liability legislation, though, created several important changes to the pattern of investors. More investors were attracted from outside the mining industry and beyond the mining districts. In particular, financiers were more prominent in no liability than limited liability firms. We suspect that the legislation mitigated several types of risks, particularly in relation to information asymmetries and regulatory failures associated with winding-up unsuccessful companies. In contrast, investors from the mining industry and mining districts would have been less informationally constrained before the new legislation and would often have resolved problems of unpaid calls through private ordering.

When interpreting our study through a broad law-finance lens, the results are segmented between different investor types; for those from a mining industry background, the legislative effects were probably quite limited due to the existing reliance on informal sources of information and private ordering solutions. For non-mining investors, however, we believe that no liability had clear clientele effects that attracted them to this new and unique corporate form.

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Appendix Table A1. Definitions of Variables

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Appendix Table A2. Summary Statistics for OLS Regressions

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Appendix Table A3. Definitions of Occupational Groups

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Appendix Table A4. Summary Statistics for Logistic Regressions

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Table 1: Victorian Mining Company Registrations, 1857-1886

| Panel A | Number of Companies | Percent | No. of Investments | Percent | No. Investors by First Investment | Percent | Total Par Value (£) | Percent | Average (£) | Median (£) |
|------------------|---------------------|---------|--------------------|---------|-----------------------------------|---------|---------------------|---------|-------------|------------|
| 1857 – 10/1871 | 4,806 | 56.9% | 141,079 | 61.6% | 55,156 | 64.9% | 52,336,392 | 37.7% | 10,903 | 9,000 |
| 11/1871 - 1886 | 3,634 | 43.1% | 88,014 | 38.4% | 29,817 | 35.1% | 43,870,205 | 62.3% | 12,079 | 10,000 |
| Total: 1857-1886 | 8,440 | 100.0% | 229,093 | 100.0% | 84,973 | 100.0% | 96,206,597 | 100.0% | 11,410 | 9,665 |

| Panel B | Number of Companies | Percent | No. Investments | Percent | No. Investors | Percent | Total Par Value (£) | Percent | Average (£) | Median (£) |
|-------------------|---------------------|---------|-----------------|---------|---------------|---------|---------------------|---------|-------------|------------|
| Mining: Alluvial | 6,084 | 72.1% | 169,123 | 73.8% | 66,913 | 67.0% | 71,689,418 | 74.5% | 11,795 | 10,000 |
| Mining: Quartz | 2,356 | 27.9% | 59,970 | 26.2% | 32,939 | 33.0% | 24,517,179 | 25.5% | 10,415 | 9,000 |
| Limited Liability | 6,193 | 73.4% | 177,399 | 77.4% | 67,787 | 70.8% | 70,158,113 | 72.9% | 11,341 | 10,000 |
| No Liability | 2,247 | 26.6% | 51,694 | 22.6% | 27,923 | 29.2% | 26,048,484 | 27.1% | 11,597 | 6,675 |
| 11/1871 - 1886 | | | | | | | | | | |
| Limited Liability | 1,387 | 38.2% | 36,320 | 41.3% | 21,132 | 43.1% | 17,821,721 | 40.6% | 12,858 | 12,000 |
| No Liability | 2,247 | 61.8% | 51,694 | 58.7% | 27,923 | 56.9% | 26,048,484 | 59.4% | 11,598 | 6,675 |

Source: Mining Shareholders Index; Victorian Government Gazettes

Notes: 10/1871 refers to October 1871 and 11/1871 refers to November 1871. The number of investors by first investment is calculated by counting the first investment (earliest date) for each investor (84,973 investors). The number of Investors is the total number of investors who invested in each category of investment. Investors are counted twice if they invested in each category.

Table 2. Total Par Value, Number of Investments and Investors by Location, 1857-1886

| Location | Total Par Value (£) | Percent | No. Investments | Percent | No. Investors | Percent |
|-------------------------|---------------------|---------------|-----------------|---------------|----------------|---------------|
| Sandhurst | 26,702,046 | 28.6% | 39,746 | 18.0% | 13,591 | 12.6% |
| Ballarat | 17,379,279 | 18.6% | 48,871 | 22.1% | 19,044 | 17.7% |
| Eaglehawk | 3,108,674 | 3.3% | 4,585 | 2.1% | 1,829 | 1.7% |
| Stawell | 2,322,700 | 2.5% | 3,422 | 1.5% | 1,765 | 1.6% |
| Woods Point | 1,677,095 | 1.8% | 1,965 | 0.9% | 1,166 | 1.1% |
| Creswick | 1,342,052 | 1.4% | 3,213 | 1.5% | 1,446 | 1.3% |
| Daylesford | 1,316,125 | 1.4% | 7,766 | 3.5% | 3,369 | 3.1% |
| Castlemaine | 1,285,030 | 1.4% | 4,357 | 2.0% | 1,980 | 1.8% |
| Sebastopol | 827,007 | 0.9% | 2,291 | 1.0% | 1,286 | 1.2% |
| Maryborough | 809,172 | 0.9% | 1,172 | 0.5% | 639 | 0.6% |
| Other Mining Districts | 18,992,143 | 20.4% | 58,767 | 26.5% | 37,582 | 34.9% |
| Total Mining | 75,761,323 | 81.2% | 176,155 | 79.6% | 83,697 | 77.6% |
| City | 16,572,718 | 17.8% | 43,180 | 19.5% | 22,414 | 20.8% |
| Other Non-Mining | 985,126 | 1.1% | 2,031 | 0.9% | 1,725 | 1.6% |
| Total Non-Mining | 17,557,844 | 18.8% | 45,211 | 20.4% | 24,139 | 22.4% |
| Total | 93,319,167 | 100.0% | 221,366 | 100.0% | 107,836 | 100.0% |
| Location | 93,319,167 | 97.0% | 221,366 | 96.6% | 107,836 | 94.2% |
| Uncategorised | 2,887,430 | 3.0% | 7,727 | 3.4% | 6,623 | 5.8% |
| Total | 96,206,597 | 100.0% | 229,093 | 100.0% | 114,459 | 100.0% |

Source: Mining Shareholders Index; Victorian Government Gazettes

Notes: Top ten locations ordered by total par value, largest to smallest. The number of investors is calculated by counting the number of investors at that location at the time of the investment. An investor can appear in more than one location.

Table 3. Percent of Capital (Par Value) by Location, Limited Liability and No Liability 1857-1886

| Location | Liability | 1857-1865 | 1866-10/1871 | 11/1871 - 1875 | 1876-1880 | 1881-1886 | 1857-10/1871 | Percent | 11/1871 - 1886 | Percent |
|------------------|-----------|------------|--------------|----------------|-----------|------------|--------------|---------|----------------|---------|
| City | LL | 16.0% | 12.5% | 14.7% | 5.2% | 1.9% | 6,886,881 | 13.6% | 3,290,589 | 7.7% |
| Other Non-Mining | LL | 1.2% | 0.5% | 0.5% | 0.2% | 0.4% | 374,360 | 0.7% | 171,833 | 0.4% |
| Sub-Total | LL | 17.2% | 13.0% | 15.2% | 5.3% | 2.2% | 7,261,241 | 14.3% | 3,462,422 | 8.1% |
| City | NL | 0.0% | 0.0% | 6.2% | 10.0% | 26.0% | - | 0.0% | 6,395,248 | 15.0% |
| Other Non-Mining | NL | 0.0% | 0.0% | 0.3% | 0.5% | 2.0% | - | 0.0% | 438,933 | 1.0% |
| Sub-Total | NL | 0.0% | 0.0% | 6.5% | 10.5% | 28.0% | - | 0.0% | 6,834,181 | 16.0% |
| Sub-Total | | 17.2% | 13.0% | 21.7% | 15.9% | 30.3% | 7,261,241 | 14.3% | 10,296,603 | 24.2% |
| Mining Districts | LL | 82.8% | 87.0% | 65.3% | 21.5% | 4.1% | 43,422,871 | 85.7% | 13,793,654 | 32.4% |
| Mining Districts | NL | 0.0% | 0.0% | 12.9% | 62.6% | 65.6% | - | 0.0% | 18,544,798 | 43.5% |
| Sub-Total | | 82.8% | 87.0% | 78.3% | 84.1% | 69.7% | 43,422,871 | 85.7% | 32,338,452 | 75.8% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 50,684,112 | 100.0% | 42,635,055 | 100.0% |
| Location | | 15,812,645 | 34,871,467 | 17,456,125 | 7,814,172 | 17,364,758 | 50,684,112 | 96.8% | 42,635,055 | 97.2% |
| Uncategorised | | 758,447 | 893,833 | 488,185 | 198,729 | 548,236 | 1,652,280 | 3.2% | 1,235,150 | 2.8% |
| Total | | 16,571,092 | 35,765,300 | 17,944,310 | 8,012,901 | 17,912,994 | 52,336,392 | 100.0% | 43,870,205 | 100.0% |

Source: Mining Shareholders Index; Victorian Government Gazettes

Notes: 10/1871 refers to October 1871 and 11/1871 refers to November 1871. City investors are investors who stated their residence was Melbourne or Geelong.

Table 4. Percent of Investments by Location, Limited Liability and No Liability 1857-1886

| Location | Liability | 1857-65 | 1866-10/71 | 11/1871-75 | 1876-80 | 1881-86 | 1857-10/1871 | Percent | 11/1871-86 | Percent |
|------------------|-----------|---------|------------|------------|---------|---------|--------------|---------|------------|---------|
| City | LL | 16.9% | 15.4% | 13.0% | 4.7% | 2.6% | 21,915 | 16.0% | 6,799 | 8.0% |
| Other Non-Mining | LL | 0.7% | 0.5% | 0.4% | 0.2% | 0.1% | 831 | 0.6% | 231 | 0.3% |
| Sub-Total | LL | 17.6% | 15.9% | 13.4% | 5.0% | 2.7% | 22,746 | 16.6% | 7,030 | 8.3% |
| City | NL | 0.0% | 0.0% | 7.3% | 13.5% | 33.4% | - | 0.0% | 14,466 | 17.1% |
| Other Non-Mining | NL | 0.0% | 0.0% | 0.3% | 0.7% | 2.7% | - | 0.0% | 969 | 1.1% |
| Sub-Total | NL | 0.0% | 0.0% | 7.5% | 14.3% | 36.1% | - | 0.0% | 15,435 | 18.2% |
| Sub-Total | | 17.6% | 15.9% | 20.9% | 19.2% | 38.8% | 22,746 | 16.6% | 22,465 | 26.5% |
| Mining Districts | LL | 82.4% | 84.1% | 53.6% | 27.0% | 6.3% | 113,937 | 83.4% | 27,973 | 33.0% |
| Mining Districts | NL | 0.0% | 0.0% | 25.5% | 53.8% | 54.9% | - | 0.0% | 34,245 | 40.4% |
| Sub-Total | | 82.4% | 84.1% | 79.1% | 80.8% | 61.2% | 113,937 | 83.4% | 62,218 | 73.5% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 136,683 | 100.0% | 84,683 | 100.0% |
| Location | | 58,156 | 78,527 | 41,052 | 15,567 | 28,064 | 136,683 | 96.9% | 84,683 | 96.2% |
| Uncategorised | | 2,682 | 1,714 | 1,253 | 740 | 1,338 | 4,396 | 3.1% | 3,331 | 3.8% |
| Total | | 60,838 | 80,241 | 42,305 | 16,307 | 29,402 | 141,079 | 100.0% | 88,014 | 100.0% |

Source: Mining Shareholders Index; Victorian Government Gazettes

Notes: 10/1871 refers to October 1871 and 11/1871 refers to November 1871. City investors are investors who stated their residence was Melbourne or Geelong.

Table 5. OLS Regressions on Location and No Liability Companies

| Logit | (11) % of shareholders in the City | (15) % shares held in the City | (12) % of shareholders in Mining districts | (16) % shares held in Mining districts |
|-------------------------------------|---|--------------------------------------|--|--|
| Legal type (NL = 1) | 0.13*** (0.0090) | 0.12*** (0.0091) | -0.13*** (0.0098) | -0.13*** (0.0099) |
| Firm size (log) | 0.028*** (0.0032) | 0.024*** (0.0032) | -0.024*** (0.0035) | -0.021*** (0.0035) |
| Type of mining (Quartz = 1) | 0.027*** (0.0063) | 0.028*** (0.0063) | -0.035*** (0.0068) | -0.037*** (0.0069) |
| % shares held by top 5 shareholders | 0.29*** (0.024) | 0.27*** (0.024) | -0.35*** (0.026) | -0.32*** (0.026) |
| HHI share ownership | -0.0000085*** (0.0000023) | -0.000012*** (0.0000023) | 0.000014*** (0.0000025) | 0.000020*** (0.0000025) |
| No. of shareholders (log) | 0.086*** (0.0060) | 0.075*** (0.0060) | -0.089*** (0.0065) | -0.073*** (0.0066) |
| Par Value of Shares (Pds, log) | -0.011*** (0.0031) | -0.013*** (0.0031) | 0.0074* (0.0034) | 0.0096** (0.0034) |
| Company formation boom: 1865-66 | 0.049*** (0.0088) | 0.034*** (0.0088) | -0.050*** (0.0096) | -0.040*** (0.0097) |
| Company formation boom: 1870-72 | -0.030*** (0.0082) | -0.040*** (0.0083) | 0.048*** (0.0090) | 0.056*** (0.0091) |
| Company formation boom: 1880-82 | -0.095*** (0.010) | -0.10*** (0.010) | 0.11*** (0.011) | 0.11*** (0.011) |
| Constant | -0.50*** (0.037) | -0.42*** (0.037) | 1.46*** (0.041) | 1.36*** (0.041) |
| Observations | 8,432 | 8,432 | 8,432 | 8,432 |
| Adjusted R^2 | 0.084 | 0.074 | 0.078 | 0.068 |

Notes: Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6. Total Par Value, Number of Investments and Investors by Occupation 1871-1886

| Occupational Group | Total Par Value (£) | Percent | No. Investments | Percent | No. Investors | Percent |
|--------------------|---------------------|---------------|-----------------|---------------|---------------|---------------|
| Mining | 17,368,733 | 42.4% | 21,924 | 26.8% | 12,715 | 25.0% |
| Businessman | 5,996,587 | 14.6% | 15,756 | 19.3% | 8,794 | 17.3% |
| Gentleman | 4,947,493 | 12.1% | 9,702 | 11.9% | 6,563 | 12.9% |
| Middle Class | 4,217,365 | 10.3% | 10,440 | 12.8% | 6,810 | 13.4% |
| Financier | 4,060,500 | 9.9% | 8,828 | 10.8% | 5,102 | 10.0% |
| Working Class | 2,381,764 | 5.8% | 8,298 | 10.2% | 5,651 | 11.1% |
| Agriculture | 1,356,137 | 3.3% | 3,900 | 4.8% | 2,769 | 5.4% |
| Female | 589,464 | 1.4% | 2,789 | 3.4% | 2,444 | 4.8% |
| Politician | 58,339 | 0.1% | 96 | 0.1% | 71 | 0.1% |
| Total | 40,976,381 | 100.0% | 81,733 | 100.0% | 50,919 | 100.0% |
| Occupation | 40,976,381 | 93.4% | 81,733 | 92.9% | 50,919 | 91.2% |
| Not Specified | 2,893,823 | 6.6% | 6,281 | 7.1% | 4,910 | 8.8% |
| Total | 43,870,205 | 100.0% | 88,014 | 100.0% | 55,829 | 100.0% |

Source: Mining Shareholders Index; Victorian Government Gazettes

Notes: Data starts at November 1871. Occupational groups ordered by total par value, largest to smallest.

Table 7. Percent of Capital (Par Value) by Occupational Group, Limited Liability and No Liability 1871-1886

| | Liability | 11/1871-75 | 1876-80 | 1881-82 | 1883-86 | 11/1871-86 | Total (£) |
|-------------------|-----------|------------|-----------|-----------|-----------|------------|------------|
| Mining | LL | 31.1% | 10.0% | 2.5% | 1.8% | 14.5% | 5,924,102 |
| | NL | 7.8% | 28.9% | 44.7% | 44.8% | 27.9% | 11,444,631 |
| Businessmen | LL | 14.0% | 5.2% | 1.6% | 0.8% | 6.8% | 2,766,995 |
| | NL | 3.7% | 10.6% | 10.2% | 10.3% | 7.9% | 3,229,591 |
| Gentlemen | LL | 9.3% | 1.7% | 0.3% | 0.6% | 3.9% | 1,618,127 |
| | NL | 4.0% | 9.1% | 10.3% | 12.2% | 8.1% | 3,329,365 |
| Middle Class | LL | 8.5% | 3.9% | 0.8% | 0.8% | 4.2% | 1,735,992 |
| | NL | 2.6% | 6.5% | 8.3% | 9.5% | 6.1% | 2,481,372 |
| Financier | LL | 4.6% | 2.4% | 1.0% | 0.8% | 2.6% | 1,049,815 |
| | NL | 1.6% | 10.6% | 11.3% | 10.3% | 7.3% | 3,010,685 |
| Working Class | LL | 6.3% | 2.6% | 0.4% | 0.3% | 3.0% | 1,225,538 |
| | NL | 1.3% | 3.6% | 3.9% | 3.6% | 2.8% | 1,156,227 |
| Agriculture | LL | 2.3% | 1.2% | 0.2% | 0.5% | 1.3% | 515,790 |
| | NL | 0.9% | 2.6% | 3.3% | 2.3% | 2.1% | 840,347 |
| Female | LL | 1.6% | 0.5% | 0.2% | 0.3% | 0.8% | 327,767 |
| | NL | 0.3% | 0.6% | 1.0% | 0.9% | 0.6% | 261,697 |
| Politician | LL | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% | 22,273 |
| | NL | 0.0% | 0.1% | 0.1% | 0.3% | 0.1% | 36,066 |
| Total (%/£) | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 40,976,381 |
| Occupation (£) | | 15,244,822 | 7,937,992 | 9,742,887 | 8,050,681 | 93.4% | 40,976,381 |
| Not specified (£) | | 2,699,488 | 74,908 | 81,613 | 37,814 | 6.6% | 2,893,823 |
| Total (£) | | 17,944,310 | 8,012,901 | 9,824,499 | 8,088,495 | 100.0% | 43,870,205 |

Source: Data starts at November 1871 (11/1871). Mining Shareholders Index; Victorian Government Gazettes

Table 8. Percent of Investments by Occupational Group, Limited Liability and No Liability 1871-1886

| | Liability | 11/1871-75 | 1876-80 | 1881-82 | 1883-86 | 11/1871-86 | Total |
|---------------|-----------|------------|---------|---------|---------|------------|--------|
| Mining | LL | 21.1% | 10.8% | 2.6% | 1.6% | 12.4% | 10,097 |
| | NL | 10.5% | 18.6% | 17.5% | 16.9% | 14.5% | 11,827 |
| Businessmen | LL | 11.9% | 7.0% | 2.2% | 1.4% | 7.4% | 6,030 |
| | NL | 7.2% | 13.4% | 17.3% | 16.8% | 11.9% | 9,726 |
| Gentlemen | LL | 6.5% | 1.7% | 0.6% | 0.7% | 3.5% | 2,857 |
| | NL | 5.3% | 8.6% | 10.5% | 14.0% | 8.4% | 6,845 |
| Middle Class | LL | 7.8% | 3.7% | 1.2% | 0.9% | 4.6% | 3,761 |
| | NL | 4.6% | 7.8% | 12.4% | 13.4% | 8.2% | 6,679 |
| Financier | LL | 4.2% | 1.9% | 2.0% | 1.3% | 2.9% | 2,341 |
| | NL | 2.0% | 8.0% | 15.9% | 14.9% | 7.9% | 6,487 |
| Working Class | LL | 6.8% | 4.3% | 1.2% | 0.7% | 4.2% | 3,472 |
| | NL | 3.9% | 6.3% | 8.3% | 8.1% | 5.9% | 4,826 |
| Agriculture | LL | 2.3% | 1.7% | 0.5% | 0.6% | 1.5% | 1,250 |
| | NL | 2.2% | 3.3% | 4.0% | 5.1% | 3.2% | 2,650 |
| Female | LL | 2.4% | 1.1% | 0.4% | 0.3% | 1.4% | 1,175 |
| | NL | 1.2% | 1.7% | 3.3% | 3.0% | 2.0% | 1,614 |
| Politician | LL | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 19 |
| | NL | 0.0% | 0.1% | 0.2% | 0.2% | 0.1% | 77 |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 81,733 |
| Occupation | | 36,711 | 16,056 | 15,819 | 13,147 | 92.9% | 81,733 |
| Not specified | | 5,594 | 251 | 345 | 91 | 7.1% | 6,281 |
| Total | | 42,305 | 16,307 | 16,164 | 13,238 | 100.0% | 88,014 |

Source: Data starts at November 1871 (11/1871). Mining Shareholders Index; Victorian Government Gazettes

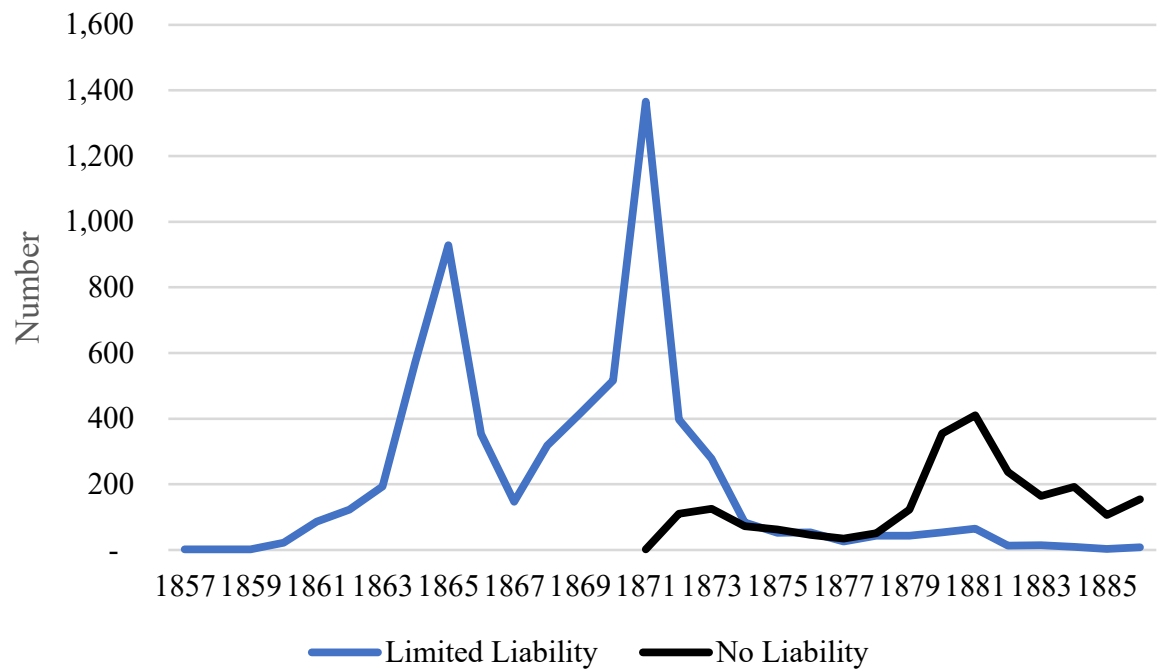
Table 9. Logistic Regression on No Liability Companies and Occupational Group

| | (1) Legal type (NL = 1) | (2) Legal type (NL = 1) |
|-------------------------------------|-------------------------------|-------------------------------|
| % shares held by Gentleman | 4.38*** (0.51) | 4.36*** (0.51) |
| % shares held by Female | -1.00 (1.19) | -1.00 (1.19) |
| % shares held by Financier | 3.44*** (0.52) | 3.46*** (0.52) |
| % shares held by Businessman | 2.27*** (0.50) | 2.30*** (0.50) |
| % shares held by Working class | 1.44* (0.60) | 1.46* (0.60) |
| % shares held by Middle class | 2.30*** (0.54) | 2.27*** (0.54) |
| % shares held by Agriculture | 3.18*** (0.66) | 3.29*** (0.66) |
| Firm size (log) | -0.53*** (0.052) | -0.54*** (0.053) |
| Type of mining (Quartz = 1) | -0.071 (0.098) | -0.072 (0.098) |
| % shares held by Insiders | 2.00*** (0.45) | 2.03*** (0.46) |
| % shares held by top 5 shareholders | 0.43 (0.37) | 0.42 (0.37) |
| HHI share ownership | 0.00045*** (0.000047) | 0.00044*** (0.000048) |
| No. of shareholders (log) | 0.45*** (0.091) | 0.45*** (0.092) |
| Par Value of Shares (Pds, log) | 0.058 (0.077) | 0.067 (0.077) |
| % shares held in Mining districts | 0.19 (0.39) | |

| | | |
|---------------------------------------|--------------------|--------------------|
| % shares held in the City | 1.12** (0.42) | |
| % of shareholders in Mining districts | | 0.36 (0.42) |
| % of shareholders in the City | | 1.42** (0.45) |
| Company formation boom: 1870-72 | -1.80*** (0.13) | -1.83*** (0.13) |
| Company formation boom: 1880-82 | 1.41*** (0.11) | 1.42*** (0.11) |
| Constant | 0.30 (0.83) | 0.22 (0.85) |
| Observations | 3,632 | 3,632 |
| Pseudo R^2 | 0.331 | 0.333 |

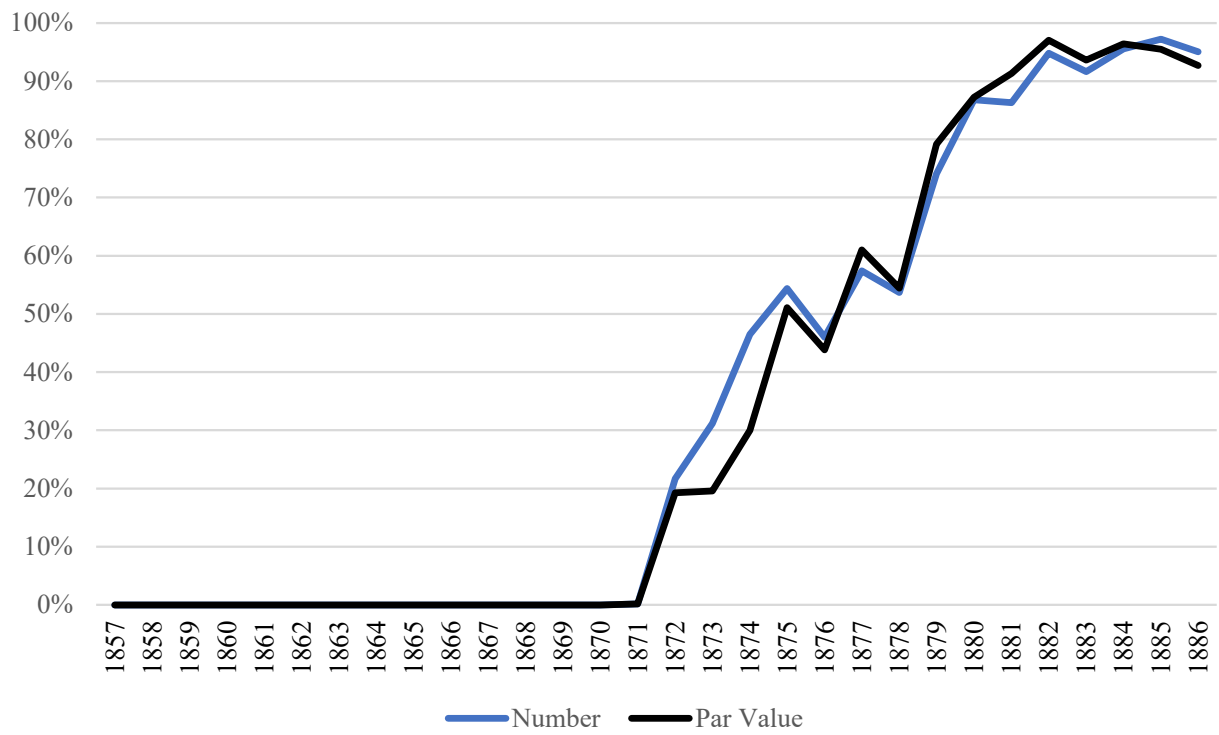
Notes: Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1. New Mining Company Registrations – Number of Limited Liability and No Liability Companies, 1857-1886



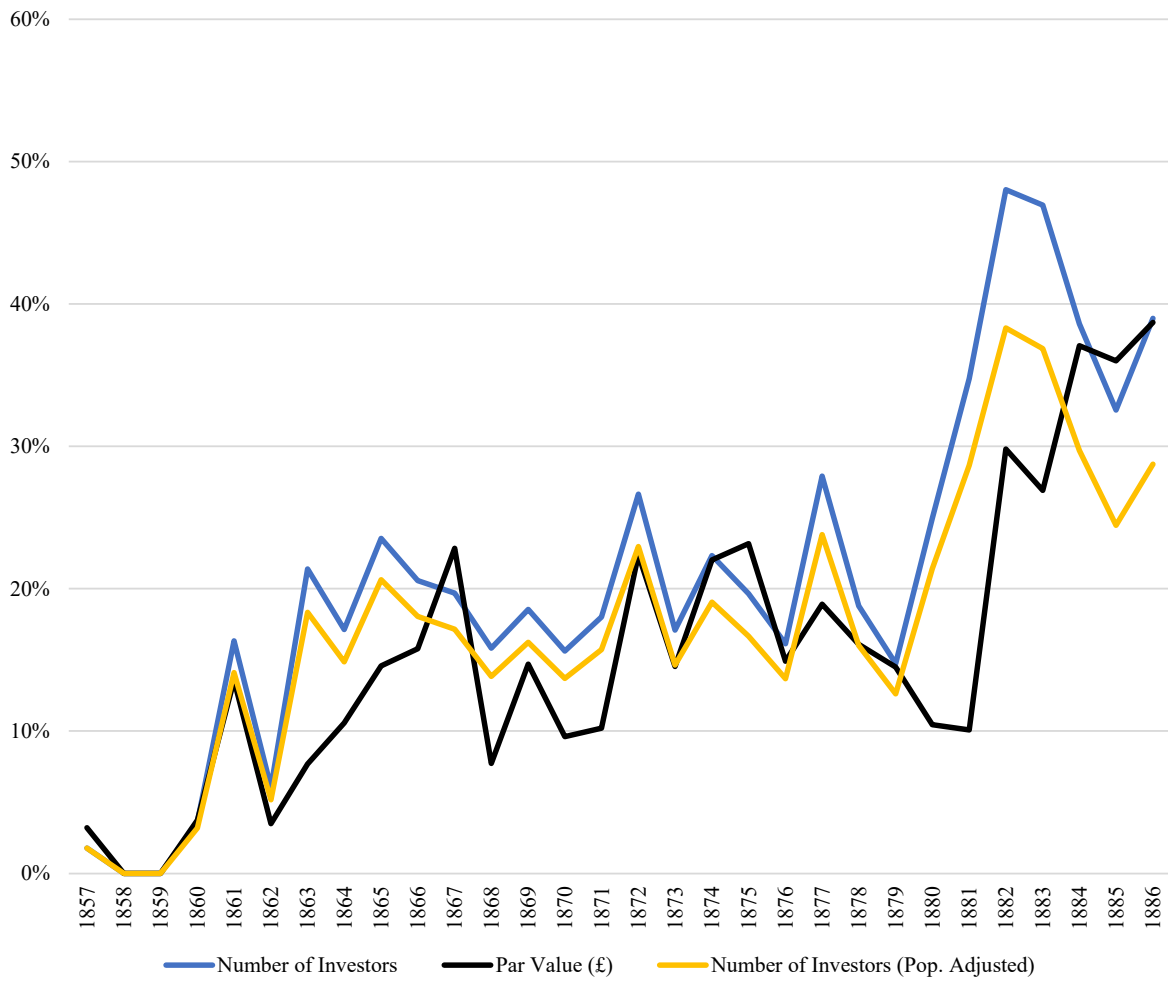
Source: Mining Shareholders Index; Victorian Government Gazettes

Figure 2. Percentage of No Liability by Number of Companies and Capital (Par Value), 1857-1886



Source: Mining Shareholders Index; Victorian Government Gazettes

Figure 3. Proportion of Capital (Par Value) and Investors from the City



Source: Mining Shareholders Index; Victorian Government Gazettes

Appendix Table A1. Definitions of Variables

| Variable | Description |
|---------------------------------------|--|
| Legal type (NL = 1) | A dummy variable equals 1 if the company disclosed the use of proceeds of the equity raising, 0 otherwise. |
| % shares held by Gentleman | The number of shares on issue held by gentlemen shareholders divided by the total number of shares on issue. |
| % shares held by Female | The number of shares on issue held by female shareholders divided by the total number of shares on issue. |
| % shares held by Financier | The number of shares on issue held by financier shareholders divided by the total number of shares on issue. |
| % shares held by Businessman | The number of shares on issue held by businessmen shareholders divided by the total number of shares on issue. |
| % shares held by Working class | The number of shares on issue held by working class shareholders divided by the total number of shares on issue. |
| % shares held by Middle class | The number of shares on issue held by middle class shareholders divided by the total number of shares on issue. |
| % shares held by Agriculture | The number of shares on issue held by agriculture shareholders divided by the total number of shares on issue. |
| Firm size (log) | The natural logarithm of company par value. |
| Type of mining (Quartz = 1) | A dummy variable equals 1 if the company was a quartz mining company, 0 otherwise. |
| % shares held by Insiders | The number of shares on issue held in aggregate by mining shareholders divided by the total number of shares on issue. |
| % shares held by top 5 shareholders | The number of shares on issue held in aggregate by the five largest shareholders divided by the total number of shares on issue. |
| HHI share ownership | A Herfindahl index calculated using the percentage of shares held by each shareholder in the company. |
| No. of shareholders (log) | The natural logarithm of the number of shareholders listed in the company details published in the Gazette. |
| Company formation boom | A dummy variable equals 1 if the company was established between 1864-1865, 1870-1872, or 1880-82, 0 otherwise. |
| % of shareholders in the city | The number of shareholders who resided in Melbourne or Geelong divided by the total number of shareholders. |
| % of shareholders in mining districts | The number of shareholders who resided in the mining districts divided by the total number of shareholders. |
| % shares held in the city | The number of shares held by shareholders who resided in Melbourne or Geelong divided by the total number of shares on issue. |
| % shares held in mining districts | The number of shares held by shareholders who resided in the mining districts divided by the total number of shares on issue. |

Appendix Table A2. Summary Statistics for OLS Regressions

| Variable | N | Mean | Median | Standard Deviation | Min. | Max. |
|---------------------------------------|----------|-------------|---------------|-------------------------------|-------------|-------------|
| % of shareholders in the city | 8,440 | 0.17 | 0.02 | 0.27 | 0.00 | 1.00 |
| % shares held in the city | 8,440 | 0.16 | 0.01 | 0.27 | 0.00 | 1.00 |
| % of shareholders in Mining districts | 8,440 | 0.79 | 0.93 | 0.29 | 0.00 | 1.00 |
| % shares held in Mining districts | 8,440 | 0.80 | 0.95 | 0.29 | 0.00 | 1.00 |
| Legal type (NL = 1) | 8,440 | 0.27 | 0.00 | 0.44 | 0.00 | 1.00 |
| Firm size (log) | 8,432 | 8.95 | 9.18 | 0.95 | 4.38 | 13.06 |
| Type of mining (Quartz = 1) | 8,440 | 0.28 | 0.00 | 0.45 | 0.00 | 1.00 |
| % shares held by top 5 shareholders | 8,440 | 0.57 | 0.54 | 0.24 | 0.00 | 1.00 |
| HHI share ownership | 8,440 | 1,523 | 937 | 1,839 | 0.00 | 1,0000 |
| No. of shareholders (log) | 8,440 | 2.92 | 2.89 | 0.83 | 0.00 | 6.45 |
| Par Value of Shares (Pds, log) | 8,440 | 1.17 | 0.69 | 1.12 | 0.00 | 7.73 |
| Company formation boom 1865-66 | 8,440 | 0.15 | 0.00 | 0.36 | 0.00 | 1.00 |
| Company formation boom 1870-72 | 8,440 | 0.28 | 0.00 | 0.45 | 0.00 | 1.00 |
| Company formation boom 1880-82 | 8,440 | 0.13 | 0.00 | 0.34 | 0.00 | 1.00 |

Appendix Table A3. Definitions of Occupational Groups

| Group | Description |
|---------------|--|
| Mining | Shareholder who stated their occupation any occupation involved in mining, including mine managers, miners, mine agents, mining engineers, quartz miners and quartz crushers. |
| Businessmen | Shareholder who stated their occupation retailer, manufacturer or merchant. Manufacturers are involved in the production of goods for retail or intermediate production. Merchants are intermediaries and distributors such as general merchants or specialists such as timber, produce, wine, or iron merchants. Retailers are operators of small retail businesses such as tailors, drapers, butchers, brewers, bakers, hoteliers, publicans, storekeepers, and tobacconist. |
| Financier | Shareholders who stated their occupation banker, stockbrokers or other finance professional (actuaries, accountants, bookkeepers). Financiers also include those who described themselves as investors and speculators. |
| Gentleman | Shareholders who stated their occupations as such. |
| female | Shareholders who stated their occupation female. This group also includes shareholders who stated they were female and has a specific occupation such as Female-Hotelkeeper; Female-Storekeeper; Female-Speculator. |
| Middle class | Shareholders who stated their occupation one which related to legal occupations (e.g. barristers, solicitors and lawyers), professionals (e.g. surgeons, doctors, architects, dentists, chemists, engineers, surveyors, and senior managers) or white collar workers (e.g. bank clerks, civil servants, agents, estate agents, commercial travellers, constables, schoolmasters, salesmen, journalists, town clerks, teachers and administrators). Middleclass also includes clergymen. |
| Working class | Shareholder who stated their occupation one which was skilled (e.g. those occupations which require some level of education and training including apprenticeships) including builders, blacksmith, ironmongers, coopers, tanners, joiners, bootmakers, carters, painters, cabinet makers, cutlers, plasterers, foundry men, stevedores, coach builders, tinsmith, stonemasons, and plumbers. Working class also includes shareholders who stated their occupation labourer, warehousemen, storeman, and domestic servant. |
| Agriculture | Shareholder who stated their occupation one involved in working the land or produce directly from the land such as dairymen, graziers, farmers, fruiterers, cattlemen, yeoman, millers, slaughter men, grooms, and squatters. |
| Politician | Shareholder who stated their occupation as politician. |

Appendix Table A4. Summary Statistics for Logistics Regressions

| Variable | N | Mean | Median | Standard Deviation | Min. | Max. |
|---------------------------------------|----------|-------------|---------------|-------------------------------|-------------|-------------|
| Legal type (NL = 1) | 3,634 | 0.62 | 1.00 | 0.49 | 0.00 | 1.00 |
| % shares held by Gentleman | 3,634 | 0.09 | 0.01 | 0.16 | 0.00 | 1.00 |
| % shares held by Female | 3,634 | 0.01 | 0.00 | 0.04 | 0.00 | 0.50 |
| % shares held by Financier | 3,634 | 0.09 | 0.01 | 0.16 | 0.00 | 1.00 |
| % shares held by Businessman | 3,634 | 0.15 | 0.12 | 0.16 | 0.00 | 1.00 |
| % shares held by Working class | 3,634 | 0.06 | 0.02 | 0.10 | 0.00 | 1.00 |
| % shares held by Middle class | 3,634 | 0.10 | 0.05 | 0.14 | 0.00 | 1.00 |
| % shares held by Agriculture | 3,634 | 0.03 | 0.00 | 0.09 | 0.00 | 0.93 |
| Firm size (log) | 3,632 | 9.03 | 9.21 | 0.90 | 4.38 | 13.06 |
| Type of mining (Quartz = 1) | 3,634 | 0.27 | 0.00 | 0.44 | 0.00 | 1.00 |
| % shares held by Insiders | 3,634 | 0.40 | 0.34 | 0.31 | 0.00 | 1.00 |
| % shares held by top 5 shareholders | 3,634 | 0.63 | 0.62 | 0.26 | 0.05 | 1.00 |
| HHI share ownership | 3,634 | 2,118 | 1,172 | 2,485 | 80 | 10,000 |
| No. of shareholders (log) | 3,634 | 2.80 | 2.77 | 0.84 | 0.00 | 5.46 |
| Par Value of Shares (Pds, log) | 3,634 | 0.56 | 0.41 | 0.56 | 0.00 | 6.62 |
| % shares held in Mining districts | 3,634 | 0.76 | 0.94 | 0.33 | 0.00 | 1.00 |
| % shares held in the city | 3,634 | 0.20 | 0.02 | 0.31 | 0.00 | 1.00 |
| % of shareholders in Mining districts | 3,634 | 0.75 | 0.90 | 0.33 | 0.00 | 1.00 |
| % of shareholders in the city | 3,634 | 0.21 | 0.04 | 0.31 | 0.00 | 1.00 |
| Company formation boom 1870-72 | 3,634 | 0.21 | 0.00 | 0.40 | 0.00 | 1.00 |
| Company formation boom 1880-82 | 3,634 | 0.31 | 0.00 | 0.46 | 0.00 | 1.00 |