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SIGNALLING QUALITY IN A DEVELOPING CAPITAL MARKET: UNDERWRITING, SECURITY CHOICE AND DISCLOSURE IN AUSTRALIAN EQUITY ISSUANCES, 1920-1939

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Signalling quality in a developing capital market: underwriting, security choice and disclosure in Australian equity issuances, 1920-1939

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Abstract

Equity investors face imperfect information about the quality of the firm that is raising capital. Modern capital markets provide safeguards for investors through plentiful information sources and market regulations that help to prevent adverse selection. In developing markets that lack these safeguards, firms may attempt to attract funds by signalling their reputation to potential investors. We examine the effectiveness of three signalling techniques in the Australian capital market during its early rapid growth phase in the interwar period. Using percentage of offered capital raised as a measure of success, we find that the use of underwriters was an important positive signal to investors who also differentiated between IPOs and SEOs, but that the form of security offered by firms made little or no difference.

Keywords: equity issues; information asymmetries; market signalling; underwriters; Australian capital market

Australia was one of the highest income countries in the world at the end of the nineteenth century.[1] Its wealth had been built largely upon resource exports, particularly wool and gold.[2] Mining booms drew in British investment and multi-national migrants, while pastoral output was largely the product of family farms built up by British settlers. Wool and mined ores were brought to market by a range of trade, transport and financial services of largely British free-standing multinationals.[3] All of this activity was supported by urban and transport infrastructure built by colonial governments and mostly funded by loans raised on the London stock exchange.[4] Therefore, by the eve of World War I, Australian economic development had been largely financed by government loans and overseas investment with only a minimal and closely-held local market in equities.[5]

After World War One, the products of the second industrial revolution – household durables, automobiles, and leisure services in particular - were increasingly consumed by Australians. Some goods had been imported but local production, both by foreign multinationals and Australian firms, began to expand through the 1920s as the domestic economy diversified from its natural resource foundations. The local equity market grew rapidly in response to these new demands and was helped by the fact that many new investors, attracted into the capital market by wartime government loans, began to look for new investment opportunities. However, these inexperienced investors faced huge challenges in distinguishing profitable investment opportunities from poor, or indeed fraudulent, ones. The relatively new market for equity in Australia lacked the safeguards provided by the regulations, rich information flows, and specialist intermediaries commonly found in larger and more mature capital markets.

[1] Madsen, 'Australian economic growth', p. 36; McLean, *Why Australia Prospered*, p. 12
[2] McLean, 'Why was Australia so rich?', p. 646.
[3] For example: Merrett, D. T. 'Paradise lost?'; Ville, *Rural Entrepreneurs*; Blainey, 'Multinational factories'.
[4] Ergas and Pincus, 'Infrastructure and colonial socialism'.
[5] Nash, *Australasian Joint Stock Companies*, pp. xxx-xxxi.

The finance literature provides some guidance as to how an equity market might develop in the face of such disabilities. Issuers may seek out investors by signalling the value of a stock as a source of investment. The historical literature also intimates that signalling devices may have served as a substitute for prescription in early capital markets. Drawing on an extensive database of new issues by public and private companies in Australia, 1920-39, we examine three signals – the choice of stock type, the use of underwriters, and the endogenous disclosure of information about the investment purpose.

I. Information asymmetries and equity raising in developing capital markets

Firms finance growth through retained earnings, debt or equity. The choice of financing depends on macroeconomic and institutional factors (such as size of debt and equity markets, taxation, regulations) and firm specific factors (such as age, developmental stage, ownership structure, assets, profitability). In the late nineteenth and early twentieth centuries, equity increasingly replaced debt as the major source of finance for companies in more developed (United States, United Kingdom and Germany) and less developed (Australia, Greece) capital markets.[6]

In modern capital markets investors enjoy deep liquidity and can normally rely on a range of regulatory and disclosure rules to ensure that information is available to assess firm value and

[6] On the United States, Baskin and Miranti, *History of corporate finance*. On the United Kingdom, Chambers, 'Gentlemanly capitalism revisited'; Chambers, 'Going public in interwar Britain'; Burhop, Chambers and Cheffins, 'Regulating IPOs'. On Germany, Gehrig and Fohlin, 'Trading costs'; Fohlin, 'Asymmetric information'; Lehmann, 'Taking firms'. On Australia, Merrett and Ville, 'Financing growth'; 'Hutchinson and Lee, 'Equity market and industry development'. On Greece, Thomadakis, Gounopoulos, Nounis, and Riginos, 'Innovation and upheaval'. Hall, 'Australian Company Finance' provides empirical data on the importance of new issues as a source of funds after World War Two.

thus avoid poor quality equity issues. The level of protection offered investors through company law (anti-director rights, mandatory disclosure, liability standards), stock market listing rules, and accounting standards have all been associated with more developed capital markets and financial inclusion.[7] However, in developing capital markets some or all of these investor protections do not exist or they allow a degree of interpretation by companies that can lead to less useful, or even misleading, information being provided to investors prior to a capital raising.[8]

The asymmetric information problems facing prospective new shareholders leads to a lemons dilemma where all firms are assumed to be poor quality since high and low quality firms both state that they are good investment opportunities. Investors are able to draw upon information about the future value of the firm from public information (prospectuses, financial accounts). However, managers and inside shareholders will retain a level of information on managerial ability, future cash flows, market share, and corporate strategies that cannot be fully disclosed to new shareholders.[9] Firms try to differentiate themselves in the equity market by credibly signalling their quality. In order to be deemed credible, the firm's signals need to be costly to produce so that potential shareholders are convinced that the signal is real.

Firms wish to signal their quality to the market when issuing equity for the first time (IPO) or raising equity in a seasoned equity offering (SEO). If the firm is successful in signalling quality, it will increase the probability that its equity offering is fully subscribed at the desired offering price (in a fixed price offer) or that the level of underpricing is minimised (under a book build). The literature on signalling identifies a number of ways in which firms might

[7] La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 'Law and finance'; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 'Investor protection'.
[8] Baskin and Miranti, *History of corporate finance*; Chambers and Dimson, 'IPO underpricing'; Chambers, 'Gentlemanly capitalism revisited'; Hutchison and Lee, 'Equity market and industry development'.
[9] Leone, Rock, and Willenborg, 'Disclosure of intended use of proceeds'.

signal quality. These include the company's choice to use financial intermediaries to help raise capital, the type of securities offered, and the level of additional information disclosed on the use of proceeds. These signals impose a cost on the firm and, given that high quality firms are more likely to incur costs, are deemed valuable in the eyes of prospective shareholders. By contrast, poorer quality firms are less likely to incur costs of signalling because these costs are less likely to be recovered post issue through a rise in firm value.

I.1 Underwriters

High quality firms and managers will be more willing to use an underwriter which attests to the quality of issuer and the information available on the firm. Typically, underwriters are incentivised to incur costs and undertake due diligence on offerings because the underwriter wishes to build and maintain a reputation in the market for representing quality issuers and thus earn a return on this reputation.[10] Underwriters provide a level of certification to investors that the issue price is consistent with inside information about the future value of the firm.[11] Investment banks and stock brokers historically entered the underwriting market to support important company clients in their capital raising and to provide their investor clients with quality investment opportunities. However, equity markets also contain underwriters which represent poorer quality firms and wish to maximise proceeds from underwriting in the short term. This is often due to the relative youth of the equity market and the embryonic nature of the investment banking or underwriting industries where there are few firms which have built reputational capital.

[10] Beatty and Ritter, 'Investment banking'.
[11] Booth and Smith, 'Capital raising'; Carter and Manaster, 'Initial public offerings'

De Long and Ramirez show that in America in the early twentieth century, the involvement of J.P. Morgan in a company's operations (underwriting; partner on the company's board of directors) provided a certification benefit and superior liquidity for the firm.[12] Universal banks dominated underwriting in Germany by the 1880s at a time when the number of equities traded on the Berlin stock exchange was expanding rapidly. As Fohlin indicates, they were well placed to reach judgements about the value of an equity issue, even though information asymmetries sometimes meant achieving price differentials (buying from issuer and reselling) that may have squeezed investor returns.[13] Investment banks in the United Kingdom were less involved in underwriting and certification. Chambers and Dimson highlight how the Accepting Houses Committee group of underwriters were reluctant to lend credibility to an equity offering, especially by industrial firms.[14] As a result, underwriters on the London Stock Exchange during the 1920s and 1930s were "an assortment of company promoters, syndicates, company directors and stockbrokers and a new breed of industrial trusts....[where] there was considerable doubt about the capital backing of underwriters, especially when such information was not made public".[15] The literature suggests that companies which choose underwriters provide a signal to investors that they are willing to stand up to financial scrutiny prior to issuance, but the standing of an underwriter can be a factor in whether prospective investors believe that the signal is credible.

I.2 Security Choice – The use of preference shares

Another signalling mechanism potentially adopted by firms is the choice of security raised, in particular a choice between ordinary or preference shares. Preference shares have preferential

[12] De Long, 'Did J.P. Morgan's men add value'; Ramirez, 'Did J.P. Morgan's men add liquidity'. J.P. Morgan played a similar role in bond markets. Frydman and Hilt, 'Investment Banks as Corporate Monitors'.
[13] Fohlin, 'Asymmetric information'
[14] Chambers and Dimson, 'IPO underpricing'.
[15] See also Chambers, 'Gentlemanly capitalism revisited'.

rights over cash flows (a guaranteed dividend rate) and are ranked higher than ordinary shares (although behind debt) in liquidation. However, in most cases preference shares can be redeemed at the choice of the issuer meaning that their rate of return can be difficult to predict. Baskin and Miranti describe how preference shares were popular in the late nineteenth century as a form of financing because, unlike debt, it did not require tangible assets for security and yet did not dilute control in the same way as ordinary equity.[16] Chambers observes that preference shares were a common security choice by companies listing on the London Stock Exchange until the 1950s.[17] Similarly, Baskin and Miranti note that "the popularity of preferred stock crested" in the United States with the financing of industrial stocks in the early twentieth century, consistent with the view that reliance on fixed income securities like preference shares were "the only means of soliciting funds on fair terms from a sceptical and poorly informed public".[18] Thus, the choice of preference shares over ordinary shares may be motivated by firms which find it difficult to raise ordinary equity due to incomplete information or adverse selection factors. Under such circumstances, firms may choose to offer preference shares to signal to investors certainty about future cash flows. However, firms may also use preference shares as a form of short term finance in times when it is difficult to raise ordinary equity, only to "refinance" with ordinary equity when it is easier to raise capital.

I.3 Disclosure of use of proceeds

Firms face a trade-off on how much information to disclose at a capital raising. They can choose to invest in pre-raising information production in order to convince shareholders of the value of the raising as expressed in the offer price. Alternatively, companies may choose

[16] Baskin and Miranti, *History of corporate finance*, pp. 151-57.
[17] Chambers, 'Gentlemanly capitalism revisited', p.34.
[18] Baskin and Miranti, *History of corporate finance*, p. 156.

not to disclose in situations where there are proprietary costs such as providing competitors with information (e.g. in high/new technology industries or in cases of mergers and acquisitions).[19] Endogenous disclosure reduces the level of information asymmetry between the seller (the company) and buyers (new shareholders) and thus reduces the level of ex-ante uncertainty associated with the capital raising. Should a company not disclose the proposed use of proceeds, buyers will draw an inference from non-disclosure and be less likely to subscribe for shares. Empirical studies show that the more frequently information is revealed before raising and the greater the information content of a prospectus at the time of listing, the more accurate will be the pricing of the offer as expressed in a low level of underpricing.[20] Leone, Rock and Willenborg find an inverse association between level of "specificity" (specific information on use of proceeds) voluntarily disclosed and the level of underpricing, controlling for such factors as firm size, age, book-to-market, high technology, ownership retention, underwriter reputation and auditor size (quality).[21] In sum, the disclosure literature tells us that a clear statement of use of proceeds indicates managerial ability and willingness to be judged on future outcomes relating to the use of proceeds. Therefore, we should expect firms which offer voluntary disclosure to be signalling quality to investors as compared with those which do not disclose.[22]

II. The Australian capital market in the interwar years

The Australian capital market at the end of World War One was small and geographically fragmented across the state capitals. Government infrastructure loans and British investors, including free-standing multinationals, dominated capital raising in a narrow range of

[19] Battacharya and Ritter, 'Innovation and communication'; Darrough and Stoughton, 'Financial disclosure'.
[20] Schrand and Verrecchia, 'Information disclosure'; Hanley and Hoberg, 'Information content'.
[21] Leone, Rock, and Willenborg, 'Disclosure of intended use of proceeds'.
[22] See also Leuz and Wysocki, 'Economics of disclosure'.

industries by 1914, particularly banking, mining, utilities, shipping, and brewing.[23] The stock market capitalisation to gross domestic product (GDP) ratio of 0.39 in Australia was low compared with nations such as Canada, France and the United Kingdom but similar to that for the much larger American economy.[24] The aggregate number of issued securities on the Sydney and Melbourne exchanges was less than 500 in 1919, and the domestic investor class mostly consisted of wealthy individuals who were closely connected to the local business community.[25] Reflecting the regionalised nature of the capital market, many of these securities were concentrated on a single exchange, their expansion being hindered by bans on sharing commissions and dual memberships.[26] The liquidity of the market was limited by thin trading in these stocks, while the ability to raise additional funds was constrained by a new issues market that has been described as 'primitive and unstructured'.[27] There was no dominant conduit for share issuances with private sales, auctions, and direct sales at the company office all sitting alongside the formal exchange business.[28]

Despite this picture of market immaturity, by the 1920s the demand for funds was growing to support the expansion of new industries. Under the influence of foreign innovations and the general purpose technologies of electricity and the automobile, a consumer society began to emerge in Australia in the 1920s.[29] The growth of population and incomes in the 1920s meant real GDP rose by 44 per cent in a decade.[30] In particular, industrial expansion was driven by

[23] Hall, *Stock Exchange*.
[24] Rajan and Zingales, 'The great reversals', p. 15.
[25] Merrett and Ville, 'Financing growth' table 1. Although this excluded gold and tin mining in Melbourne and all mining companies in Sydney.
[26] Michie, *Global securities market*, p. 175.
[27] Davis and Gallman,'', p. 604.
[28] Davis and Gallman,'', p. 604.
[29] Whitwell, *Making the market*.
[30] Butlin, Dixon and Lloyd, 'Statistical appendix', p. 558.

the demand for new consumer durables, a growing preference for entertainment and leisure services, and an expanding range in the fast moving consumer goods sector.[31]

The supply of funds to meet these new opportunities were, in some respects, constrained by the growing caution of British investors and the more conservative practices of local banks in the wake of the 1890s economic crisis and a merger wave that forged collusive practices.[32] A similar attitude prevailed among British and European banks in this period, particularly in the wake of the damage to their balance sheets resulting from World War One. One of the effects of the War was, 'major disruption in the operation and structure of securities markets around the world', which cut off much of the overseas supply of funds.[33] At the same time, the growth in domestic incomes, mentioned above, had the effect of attracting a widening group of Australian investors to the market. In particular, a new class of small investors had been tempted into investing in low denomination War and Peace Loans from 1915. Like the American liberty bonds, these were heavily publicised and promoted.[34] Approximately 876,000 applicants took up loans, mostly individuals rather than institutions, leading Merrett to conclude, 'many of Australia's one million households now owned a financial asset that was traded on the stock exchanges'.[35] As these securities began to mature from 1923, investors sought to diversify into a broader set of assets beyond fixed interest instruments.[36] While this reflected some appetite for risk, it seems likely that such investors, originating from an investment in lower risk loan stock and with limited resources to chance, would display more conservative habits than the wealthier 'speculators' of the base metal and gold mining rushes of the late 1880s and 1890s. While we lack accurate information on the

[31] Merrett and Ville, 'Tariffs', pp. 56-60.
[32] Merrett, 'Capital markets' p. 196; Michie, '*Global securities market*', p. 168; Chambers, 'Going public', p. 51, footnote 3.
[33] Michie, *Global securities market*, p. 167.
[34] Waller, 'War Loan Bonds'; Dixon, 'Advertising U.S. War Bonds'.
[35] Merrett, 'Capital markets' pp. 193-4.
[36] Faulkner, *Commonwealth bank of Australia*, chapter 9.

number of investors, data points of 1912 and 1954 indicate a 6-fold rise in the average number of shareholders of some of the largest firms, with most investors holding only small portions of shares.[37] In the United Kingdom the number of domestic investors rose from 1 million to 13 million during World War One, while investing had become a 'mass activity' of around 20 million people in the US in the 1920s.[38]

The stock market began to expand in response to these impulses of both the demand for, and supply of, funds.[39] Membership of, and trading on, the major stock exchanges grew with a broadening range and number of financial instruments.[40] The number of listed firms in manufacturing, including consumer industries, expanded. This was assisted by the abolition of wartime restraints on capital raising in 1922.[41] The number of listed securities doubled in the interwar decades, the number of listed companies more than doubled, while the aggregate paid up value of capital tripled.[42] The greater investment choice and improved liquidity both increased the attractiveness of equity investment especially in a small capital market that continued to be dominated by fixed interest securities.

The success of individual capital raisings was highly variable, however, with the proportion raised fluctuating significantly. This problem reflected the challenges facing inexperienced investors, particularly in a period of significant volatility in both economic performance and share prices.[43] They lacked the resources and insider connections of older generations of elite

[37] Merrett and Ville, 'Financing growth', p.574.
[38] Michie, *Global securities market*, p. 173, 176.
[39] Lougheed, *Brisbane stock exchange*.
[40] Salsbury & Sweeney, *The bull the bear and the kangaroo*; Gibbs, *Bulls, bears and wildcats*.
[41] Under the War Precautions Acts (1914), new issues required the approval of the Commonwealth Treasurer as did new company registrations and changes in a company's capital.
[42] Merrett and Ville, 'Financing growth', table 1; Hutchison and Lee, 'Equity market and industry development', p. 10.
[43] Madsen, 'Australian economic growth', p. 31; Pope, 'Private finance', p. 241.

shareholders to help them identify good investment opportunities.[44] Limited company disclosure requirements and weak accounting standards under the companies Acts presented problems of information asymmetries for investors, particularly in assessing the prospects of new, expanding or complex enterprises.[45] Even when there were some improvements in the 1930s, severe compliance deficiencies persisted among companies.[46] The first legislation requiring detailed profit and loss statements and consolidated group accounts was not passed until the end of 1938.[47] It was not until after World War Two that professional bodies, particularly the Australian Society of Accountants, began to provide broad guidance on accounting standards. Evolving stock exchange governance and rules also provided few protections or reassurances for wary shareholders. Aggregated statements submitted to the stock exchanges offered few insights into the performance of companies and particularly groups, with compliance to limited rules again a problem.[48] Investor protection was similarly lax elsewhere with inadequate regulation and company disclosure in the United Kingdom until 1948, in spite of some improvements to the requirements of the London Stock Exchange in the 1930s.[49]

Some investors turned to the expanding financial press and advisors for guidance. An earlier generation of financial publications – *Australasian Insurance and Banking Record* (from 1877) and *Australasian Joint Stock Companies Yearbook* (1899-1914) – were joined by new sources most notably *Australian Investment Digest* (from 1920), *The Wild Cat Monthly* (from 1923), and *Rydges Business Journal* (from 1928). Stockbrokers were a further source of information and advice with J. B. Were and Ian Potter in Melbourne leading the field and in

[44] Lamoreaux, *Insider lending*; Hall, *Australian company finance*.
[45] Gibson, *Disclosure by Australian companies*; Morris and Barbera, 'Chronology'.
[46] Hutchinson and Lee, 'Equity market and industry development'.
[47] Victorian Companies Act. Legislation came later in the other States. See Whittred, 'Evolution', p. 104.
[48] Whittred, 'Evolution', pp. 105-7.
[49] Chambers, 'Going public'.

some cases also underwriting new issues by the mid-1920s.[50] However, these sources were not without their drawbacks. The financial press was mostly reliant upon the level of disclosure provided by the companies and had to load this information with its own opinions including bemoaning the paucity of information available. It might also have access to some insider information which it could decide whether to pass on to its readers. The advisory industry was heterogeneous with the reputations and size of Were and Potter set against mostly small sole proprietors or partnerships that collected commission on trades as brokers but provided no advice. The smallness of the market made for an absence of issue houses, with investment banks largely missing until after World War Two. More worryingly, though, several unscrupulous operators were willing to exploit information asymmetries to dupe investors.[51] As early as 1923, Alex Jobson called for banks and stock exchanges to play a greater role in providing "sound advice" to ensure that "inexperienced investors" were protected from the "indiscriminate canvassing of brokerage companies".[52]

Our interest is in understanding why some new issues were more successful than others in this developing capital market and what steps were taken by firms to signal the quality of their stock and reduce investor uncertainty. Firms making new issues had to compete in a rapidly changing, but poorly regulated, capital market and target inexperienced investors to purchase risk capital in often new industries. Hutchinson and Lee have suggested several ways in which Australian firms sought to signal worth to those potential investors, who lacked the insider connections, during the interwar period.[53] High and stable dividends were one way to attract investors although poor disclosure meant that profits could be spiked by running down capital accounts. The ex post nature of this signal weakened its value to new

[50] Appleyard and Schedvin, *Australian financiers.*
[51] Gibson, *Disclosure,* p. 57.
[52] *Australian Investment Digest*, vol. IV, No.3, 1 March 1923.
[53] Hutchison and Lee, 'Equity market and industry development'.

firms or those with only a brief history. Longevity could serve as an alternative signal of a firm's performance but only if establishment dates were accurately recorded and known to investors. Finally, they also suggest the inclusion of prominent directors, particularly politicians, was another potential signalling strategy. While this may have acted as a deterrent against fraudulent behaviour, it was of doubtful value in influencing rates of return. These authors conclude that 'signals provided only a weak solution'.[54]

In the previous section of this paper, we drew upon some of the conceptual literature that addresses other strategies that might enable firms to signal their value to investors. These included the use of trusted intermediaries, the offer of lower risk forms of equity, and the disclosure of fuller information by companies about the intended use of funds. In the following section we introduce our dataset that enables us to test the effectiveness of these signals.

III. Australian equity issuances 1920 – 1939

Our data comprises 2,181 initial and seasoned equity issuances made by Australian publicly listed and private firms between 1920 and 1939.[55] The data was extracted from *Jobson's Investment Digest* (various titles) and the *Australasian Insurance and Banking Record*.[56] The latter had a long pedigree stretching back to the 1870s, while highly-regarded financial analyst, Alex Jobson, claimed comprehensive coverage for his digest.[57] The data includes the name of the firm, year registered as a joint stock public company (if relevant), industry, year of the equity issue, amount of ordinary and preference shares offered at issue (including the amount called at issue), the amount raised in ordinary and/or preference shares, whether an

[54] Hutchison and Lee, 'Equity market and industry development', p.12.
[55] Merrett and Ville, 'Financing growth'.
[56] New Zealand firms were not included in our list.
[57] *Australian Investment Digest*, June 1920, p. 3; Forster, 'Jobson, Alexander'.

underwriter was employed, and the stated use of proceeds (if provided).[58] Appendix A describes the variables used in the regression analysis, as well as summary statistics for the regression sample.

Equity issuances by Australian firms were fixed price raisings where the firm stated the amount to be raised at the offer at a particular share price, set by the firm. Investors decided whether to subscribe for shares or not at that price and there was no subsequent adjustment of the share price (upwards or downwards) to meet demand. Fixed price raisings were the most common method of equity raising on the London Stock Exchange and Australian markets followed London's lead.[59] Australian firms raised an average 91.9% of their equity offer (whether an IPOs or SEOs)(median 100% raised), with an average (median) equity raising of £10,753 (£10,773) and overall 92.6% of the 1,067 issuances in our sample raised 100% or more of the amount offered. The majority of equity raisings (74.6%) were by joint stock companies and issuances were to both public (44.5%) and existing (55.5%) shareholders. New issuances (IPOs) were 23.9% of equity issuances. Companies employed underwriters in 11.9% of cases (raising 17.5% of total equity raised), and issued preferences shares in 34.2% of cases.

TABLE 1. *Sample by percent raised*

About here

There were 15 cases of companies raising equity above the target offer amount (101% to 224% over-subscribed). For example, in 1927 the Swan Portland Cement Company raised £138,737 in ordinary shares from existing shareholders (135% above target, with £60,000

[58] For earlier years, we cross-checked date of registration for joint stock companies against Nash's *Australasian Joint Stock Companies Year-Book 1913-14*.
[59] Chambers, 'Gentlemanly capitalism', pp. 35-36.

underwritten) to acquire the works, site, plant, and licence to take shell from the Swan River from the liquidators of WA Portland Cement Co. Ltd.[60] In a more modest equity raising, in 1935 Kelvinator Australia Ltd raised £11,000 in ordinary and preference shares, both above target (115% and 103% respectively). By contrast, there were 162 issuances in the sample of 1,067 issuances which failed to raise their offer amount (0% to 99% raised), with an average of 58% raised for this group. In 33 cases the raising was 90% or above, providing a substantial proportion of the equity required. However, in other cases the equity raising was well below target. For example, Carpet Manufacturers Limited, having listed in 1936, sought £142,500 in ordinary shares a year later to finance the manufacture of carpets and allied products in Australia. The company raised £72,847 (51%).[61]

Table 1 presents the sample by percent raised, stratified by size, year of issuances and use of underwriter. The success of equity issuances was relatively consistent across size categories, with no statistical difference between the categories in terms of average amount raised, maximum raised and standard deviation (test statistics not reported). By contrast, the number of issuances by five-year periods varied greatly, with 71% of the sample raised between 1920 and 1929. Notably, the number of issuances, average amount raised, and maximum amount raised were substantially lower between 1930 and 1934 than other periods. Our regression models also found several years where percent raised was statistically different to the mean, and we employ fixed year effects to account for these variations. This is consistent with the experience of other countries as the interwar depression adversely affected both the number of issues and their success.[62]

[60] *Australian Investment Digest*, 1927 p. 283; 1928 p. 301.
[61] *Australian Investment Digest*, 1937 p. 196; 1939 p. 517.
[62] Chambers, 'Going public', pp. 58-67 measures success by longevity of IPOs rather than proportion of funds raised.

There were 127 underwritten equity issuances between 1920 and 1939 and these issuances resulted in higher average equity raised (95.7% of offer) as compared with non-underwritten issuances (91.4% of offer). The difference between underwritten and non-underwritten issuances is significant at the 5% level. We also tested for whether one of the leading underwriters – J.B. Were – raised more capital for their clients compared to other underwriters. J.W. Were underwrote 19 out of the 127 underwritten issuances, irregularly between 1927 and 1939. While in some years the firm was, on average, more successful at raising equity than other underwriters and non-underwritten issuances, there was no statistically significant difference between the groups. We will test whether the univariate results on the effectiveness of underwriters holds once we control for firm specific and macroeconomic factors.

IV. Success of equity raisings and signalling mechanisms

In this section we undertake a range of statistical analysis on equity raisings in Australia between 1920 and 1939. First, we examine which factors are associated with a successful equity raising, focusing on the effectiveness of two signalling mechanisms in particular: the use of underwriters and the issuing of preference shares. We then investigate when these signalling mechanisms were used by firms. Finally, we examine whether endogenous disclosure of the use of proceeds prior to equity raising increases the likelihood that the firm will raise their desired amount.

IV.1 Success of equity raising

First, we examine which firm-level, equity issuance, signalling mechanisms and market wide factors are associated with the variation in the percent of equity raised against the amount offered. We estimate an OLS regression model and provide various estimations of the model without and with fixed year effects. The dependent variable is SUCCESS, the amount of equity raised by the firm as compared to its offer amount (expressed as a percentage). Several other contributions to the historical literature have used under-pricing as the measure of the success of a new issue, which represents the degree to which the offer price falls below the price achieved on the first day of trading.[63] Since our database includes all known new issues, both private and public, under-pricing is not a satisfactory variable for us as we do not observe a trading price for private companies. In addition, because the trading volumes on the regional Australian stock exchanges remained quite thin, it is not clear that first day prices provide an unequivocal measure of the stock's true value for public companies.[64]

The general form of the OLS regression model is shown below.

$$SUCCESS = \alpha + \beta_1 * IPO + \beta_2 * UNDERWRITTEN + \beta_3 * PUBLIC + \beta_4 * PREFERENCE + \beta_5 * SIZE + \beta_6 * JOINT\ STOCK + \beta_7 * REPEAT + \beta_8 * MOMENTUM + \beta_{i-j} * CONTROL\ VARIABLES + \varepsilon$$

Based on our discussion of variables in section I, we hypothesise that IPO raisings will be less successful as compared with SEO (thus, β_1 is negative), given information asymmetries and potential adverse selection effects associated with a new equity raising. If underwriters certify quality in equity raisings, then we expect a positive sign for the coefficient of

[63] Chambers, 'Gentlemenly capitalism', p. 34; Fohlin, 'Asymmetric information', p. 631.
[64] While beyond the scope of this paper, *The Stock Exchange of Melbourne official record* is suggestive of thin trading in many stocks.

UNDERWRITTEN (β_2). We hypothesise that equity raisings will be more successful when raised from insiders as compared with the general public (PUBLIC) given higher levels of information on the operating history and financial position of the company. Thus, we hypothesise a negative sign for the coefficient for PUBLIC (β_3). We expect that firms which issued preference shares (PREFERENCE) are more successful in their equity raising (positive β_4) than firms which issued ordinary shares, given that preference shares offer preferential rights over cash flows and are ranked higher than ordinary shares in liquidation.[65] We expect that firms which raise more equity (SIZE) will be more successful (positive β_5), as larger equity offerings are likely associated with larger companies, a greater amount of information and a lower probability that a larger company is poorer quality. We hypothesise that joint stock public companies (JOINT STOCK) are more likely to be successful in raising equity (positive β_6). Investors evaluating joint stock public companies potentially have the benefit of greater information and these firms are more salient in investors' minds. Indeed, a requirement of being registered as a joint stock company included making available on the register of companies a range of documents including capital, articles of association, shareholders, special resolutions and so forth.[66] By contrast, unlisted companies may be less well known to prospective investors and these companies are more likely to be circumspect about the level of information made available to investors prior to a capital raising. Another variable which proxies for information availability is whether the issuer had previously issued equity on the market (REPEAT). We expect that companies which were repeat issuers were

[65] Baskin and Miranti, *History of corporate finance*.

[66] For example, the New South Wales Registers of Companies, 1874-1937 held at the New South Wales States Archives & Records Office includes "company name; Company number; capital; Date of registration; Memorandum of association; Articles; Agreement; Increase of capital; List of shareholders; Special resolutions; Registered office; Name of secretary or manager; Winding up; Judge's orders; Appointment of liquidator and liquidators report.". See NSW Government, State Archives & Records, https://www.records.nsw.gov.au/archives/collections-and-research/guides-and-indexes/business-and-company-records-1 (accessed 7 February 2019).

more likely to be successful (positive β_7).[67] Finally, we expect that success of raising is positively associated with stock market momentum (MOMENTUM)(positive β_8). Periods of positive stock market momentum indicate that equity raisings are relatively easier, leading to a larger number of issuers raising capital at their stated offer level. We employ a range of control variables including DUAL and industry dummies (MANUFACTURING, UTILITIES, FINANCE & INSURANCE).

TABLE 2. *OLS regressions of success of equity raising*

About here

Table 2 reports the OLS regression results for six models without and with fixed year effects. We estimate the models on the full sample (Models 1 – 4) and on a reduced sample of joint stock companies only (845 observations in Models 5 and 6) for which we can calculate the age of the company. The regression results support the descriptive statistics reported above and several of the expected relationships. Success of equity raising is positively associated with the use of an underwriter (supporting the certification hypotheses), with repeat issuers and with older joint stock companies, and negatively associated with equity raisings made by IPO firms, offers made to public shareholders, and by companies in the finance and insurance industry. That use of underwriters led to more successful equity raisings for Australian companies contrasts with the mixed results reported for the United Kingdom and Germany.[68] Information asymmetries were likely enhanced in the smaller Australian capital markets,

[67] We are able to calculate company age (difference between the year of equity raising and year of registration) for all joint stock companies (a subset of all issuers). We expect age of the company to be positively associated with the success of equity raising.

[68] On the United Kingdom see Chambers, 'Gentlemanly capitalism revisited'; Chambers, 'Going public in interwar Britain'; Burhop, Chambers and Cheffins, 'Regulating IPOs'. On Germany see Gehrig and Fohlin, 'Trading costs'; Fohlin, 'Asymmetric information'; Lehmann, 'Taking firms'.

where pre-World War One equity had predominantly been raised from the London market or domestically for a smaller set of traditional industries. Post-World War One, firms from a range of new (predominantly manufacturing) industries came to market and underwriters were effective in certifying new issuances.[69] There was no difference in the success of equity raising between underwriters, despite contemporary warnings that "indiscriminate canvassing" from underwriters could lead to inexperienced investors being "loaded up with shares, concerning whose real merits they know little".[70] In particular, there was no difference in the success of equity raisings underwritten by J.B. Were and other underwriters.[71]

Criticisms of German underwriters for exploiting information asymmetries through price differentials cannot be easily measured using our methodology. By contrast the UK issues market suffered from the absence of prestigious underwriters. The Australian new issues market was not dominated by large and powerful intermediaries comparable to German banks. Its main actors, particularly J. B Were, had begun to develop skills and reputation, particularly in Melbourne.[72] The emergent underwriting industry in Australia does not appear to have had its reputation blighted by the opportunistic behaviour of intermediaries in the way that the likes of Horatio Bottomley, E.T. Hooley and H.J. Lawson may have discouraged reputable financial institutions from acting as underwriters until after World War Two.[73]

[69] Merrett and Ville, 'Financing growth'; Booth and Smith, 'Capital raising'; Carter and Manaster, 'Initial public offerings'
[70] *Australian Investment Digest*, vol. IV, No.3, 1 March 1923.
[71] We estimated the Success of Equity Raising OLS regression with an indicator variable for J.B. Were underwritten issuances. The J.B. Were variable was insignificantly different to the general underwriter variable, controlling for all other factors.
[72] From the late 1920s, they also began to manage investment funds in a portfolio of companies.
[73] Armstrong, 'Hooley'; Cottrell, *Industrial Finance*, p. 70.

Several of the variables associated with information asymmetries such as IPOs (higher information asymmetries), outside shareholders (PUBLIC)(higher), repeat issuers (lower) and older companies (lower) are associated with success of raising and these results are robust to fixed year effects. Firms coming to market for the first time (IPO) were more likely to raise equity below their target offer amount. This could have been due to an over-estimation by management and the board of directors of the attractiveness of the offering (thus, setting a high offer), or due to investor wariness of new issues. Firms which sought equity from outside their existing shareholder group (i.e. shares offered to the "public") tended to raise below their target, which may also have been due to investor wariness of companies about which they knew comparatively little. In 1925, for example, the Automobile Investment Company of Australia Ltd was formed to provide loans to purchasers of vehicles. This was a new company in a new industry and shares were offered to the public; only 71 per cent of its offer of equity stock of £285 000 was initially taken up.[74] By contrast, repeat issuers and older joint stock companies were more likely to raise equity at (or above) their target offer amount indicating that salience in the minds of investors (having recently issued and/or having a operating history) were important determinations in supporting an equity issuance.

We find no difference in success by other features of the equity raising. Companies which chose to issue preference shares rather than ordinary shares were no more successful in meeting their offer target. This is despite preference shares providing investors with quasi-fixed income characteristics that could be viewed as a signal that company management were confident the firm would meet its earnings targets. Size and ownership structure (joint stock versus private) are also not related to success of equity raising. Finally, historical stock

[74] When a subsequent annual report revealed it to be highly profitable the remainder of the shares were sold. The Herald (Melbourne) 4 Feb 1926.

market performance (momentum) is not statistically related to success of raising, although we note that several years loaded positive in the fixed year effect models.

IV.2 Underwriters and security choice

Next, we examine when signalling mechanisms were used by firms during an equity raising, with a focus on the use of an underwriter and the issuing of preference shares. All models have been estimated using logistic regression, with the dependent variables equalling 1 if the company used an underwriter or issued preference shares. Variables are as defined in earlier analysis. In addition, in Models 7 – 11 we excluded UTILITIES from the list of control variables given high correlation with other control variables. In Models 12 – 16 we excluded *DUAL* from the list of control variables given perfect correlation with the dependent variable (use of preferences shares).

TABLE 3. *Probability of using an underwriter or issuing preference shares*
About here

We find that firms which signal quality through use of an underwriter are more likely to do so for larger equity raisings, when offering equity to public shareholders and when they are manufacturing firms. We also find that the use of an underwriter is positively associated with firms issuing preference shares. The results support the proposition that firms which have to alleviate uncertainty about their historical and future earnings (e.g. private companies and/or operating in the younger, manufacturing sector) or are issuing equity to public shareholders (outsiders) who likely have less information than insiders, use underwriters to certify their

offering. Underwriters are less likely to be used by joint stock firms and when the company is a repeat issuer, also suggesting that information asymmetries are an important. Overall, the features of the firms using underwriters and the fact that only a small share of new issues used underwriters suggests that the initiative for underwriting came from the issuing firms when faced with particular information (and signalling) challenges, than from emergent intermediaries like J.B. Were opportunistically seeking to exploit information asymmetries.

Firms can signal quality of future earnings to investors through issuing preference shares (quasi-fixed income) rather than ordinary shares. Firms which issue preference shares are more likely to do so if they use an underwriter, when offering equity to public shareholders and during periods when recent stock market performance has not been strong (lack of momentum). We also find that companies operating in the utilities and finance and insurance are less likely to issue preference shares most likely due to institutional restrictions on capital raisings. Ownership (joint stock versus private), the size of equity issue, and repeat issuances are not important in determining whether a firm uses preference or ordinary shares. However, older (joint stock) companies are less likely to issue preference shares.

IV.3 Endogenous disclosure

Finally, we investigate whether endogenous disclosure of the use of proceeds prior to equity raising increases the likelihood that the firm will raise their desired amount. Our regressions examine whether companies which provide specific disclosures about the use of proceeds are more successful in equity raising. We estimate the following general OLS regression model and provide estimations of the model with fixed year effects.

$$SUCCESS = \alpha + \beta_{1\text{-}5}*USE\ OF\ PROCEEDS + \beta_{i\text{-}j}*CONTROL\ VARIABLES + \varepsilon$$

Firms often provided statements on the use of proceeds in a prospectus or in publicly available information on the equity raising. We reviewed each equity raising for a use of proceeds disclosure and coded these disclosures by the reason for the equity raising. Drawing on the work of Leone, Rock and Willenborg, we define five use of proceeds dummy variables relating to a new company raising capital for the first time to start operations (STARTUP), a new company raising equity for specific purposes to expand the business (e.g. acquisition; merger; rights to produce products; exploration; construction rights)(IPO EXPANSION), an existing company with operating history raising equity used for specific purposes to expand the business (e.g. acquisition; merger; rights to produce products; exploration; construction rights)(SEO EXPANSION), and specific statements from existing companies that proceeds would be used solely for repaying debt (REPAY DEBT) or for working capital purposes (WORKING CAPITAL).[75] We hypothesise that firms which are younger and provide less specific information about the use of proceeds (IPO; IPO EXPANSION) are likely to be less successful in equity raising, controlling for other factors. We employ a set of control variables for the firm and its equity raising (JOINT STOCK; SIZE; REPEAT; DUAL; industry variables), other signalling mechanisms (UNDERWRITTEN; PREFERENCE), target shareholders (PUBLIC), and stock market (MOMENTUM).

TABLE 4. *OLS Regression on success of equity raising by use of proceeds*

About here

We find mixed evidence that a firm's decision to disclose details of the use of proceeds is related to the success of the equity raising (Models 17 and 18). Firms stating that proceeds

[75] Leone, Rock, and Willenborg, 'Disclosure of intended use of proceeds', p.124.

are for business start-up (IPO) purposes were less successful in equity raisings, most likely due to the fact that investors were unable to accurately assess likely future cash flows for firms which had less operating history. By contrast, SEOs expanding operations, debt repayment and an increase in working capital are not statistically significant.

We also examined whether firms which stated that the equity raising would be used to finance patents or the exclusive rights to manufacture/provide a good or service in Australia experienced different equity raising success than other firms. Lehmann and Streb found that German firms which were deemed 'innovative' (as measured by number and longevity of patents) were characterised by lower under-pricing and comparatively high first day prices when listing on the Berlin stock market pre-World War One.[76] While we do not have data on patents held by Australian firms, we are able to examine when a firm states that the use of proceeds relates to the purchase of rights to manufacture and/or sell another company's goods or services (including patents). The results are presented in Model 19. While the coefficient for EXCLUSIVE RIGHTS & PATENTS is positive, it is statistically insignificant indicating that these firms experienced no different success than other firms (controlling for STARTUP; the only consistent result across all models).

V. Concluding remarks

Our paper provides the first analysis of the listing practices of Australian firms prior to World War Two. It uses comprehensive equity issuances data, including IPOs and SEOs for joint stock and private firms, to analyse the growth of the equities market between 1920 and 1938 as witnessed through the number of listed equities, companies, and the value of paid up

[76] Lehmann–Hasemeyer and Streb, 'Berlin stock exchange'.

capital. Stock market capitalisation as a ratio to GDP also suggests faster growth in Australia than many other nations during the period.[77] This growth was achieved in the face of the risks associated with diversification into new industries and the emergence of inexperienced investors whose ability to form judgements was hindered by a lack of market regulation and a paucity of investment information.

We use this historical episode to examine the idea that in markets where this infrastructure (regulation and information) is weak, participants find alternative solutions, particularly where firms seek to signal the value of their issue to potential investors. Signalling is a far from trivial exercise. In order for investors to read and value these messages, signalling involves costs that may eventually become prohibitive. Therefore, we tested for three major signals and found that security choice had no effect on the success of the raising, but that certification by underwriters had a positive effect, while an initial offering to public investors had a negative one. The positive effect of underwriting, particularly for large issue IPOs to the public, is important in light of alternative findings for other nations particularly the United Kingdom and Germany. The paper also engages with the recent work of Hannah who shows that the rapid expansion of the interwar Tokyo stock exchange occurred at a time when there was a relaxation of the rules protecting investors. He suggests that this can be explained by, 'the voluntary emergence of gatekeepers and information signallers trusted by investors'.[78] Our study tests this idea through an analysis of Australia, whose bourses also expanded rapidly between the wars in a non-prescriptive environment and establishes the importance of such private ordering. Future research might examine whether, and in what form, signalling occurred in other early growth stage equity markets.

[77] Rajan and Zingales, 'The great reversals', p. 15.
[78] Hannah, 'Corporate governance', p. 22.

On a more contemporary canvas, the paper speaks to the current debate over prescriptive rules for governance and the level of information disclosures for companies listed on the stock market.[79] Our findings suggest that firms endogenously find solutions to information problems without the need for highly prescriptive stock market listing rules or regulation.

[79] A good summary can be found in Hannah, 'Corporate governance', p. 4.

Footnote references

Appleyard, R. T. and Schedvin, C.B., eds *Australian financiers: biographical essays* (Sydney, 1988).

Armstrong, J. 'Hooley and the Bovril Company', Business History, 28, 1 (1986), pp. 18-34.

Australian Investment Digest (Sydney, 1920-24).

Baskin, J. and Miranti, P., *A history of corporate finance* (Cambridge, 1997).

Battacharya, S. and Ritter, J., 'Innovation and communication: signalling with partial disclosure', *Review of Economic Studies*, 50 (1983), pp. 331–46.

Beatty, R. and Ritter, J., 'Investment banking, reputation and the underpricing of initial public offerings', *Journal of Financial Economics*, 15 (1986), pp. 213–32.

Blainey, G (1984) 'The history of multinational factories in Australia' in A. Okochi and T. Inoue eds., *Overseas Business Activities*, Tokyo: University of Tokyo Press

Booth J. and Smith, R., 'Capital raising, underwriting and the certification hypothesis', *Journal of Financial Economics*, 15 (1986), pp. 261–81.

Brailsford, T.J., Handley, J.C. and Maheswaran, K., 'Re-examination of the historical equity risk premium in Australia', *Accounting and Finance*, 48 (2008), pp. 73–97.

Brailsford, T.J., Handley, J.C. and Maheswaran, K., 'The historical equity risk premium in Australia: post-GFC and 128 years of data', *Accounting and Finance*, 52 (2012), pp. 237–47.

Burhop, C. and Chambers, D., 'Initial public offerings: a historical overview', in D. Chambers and E. Dimson, eds, *Financial market history: reflections on the past for investors today* (Charlottesville, VA, 2016), pp. 132–46.

Burhop, C., Chambers, D. and Cheffins, B., 'Regulating IPOs: evidence from going public in London, 1900–1913', *Explorations in Economic History*, 51 (2014), pp. 60–76.

Butlin, M., Dixon, R., and Lloyd, P.J., 'Statistical appendix: selected data series, 1800–2010', in S. Ville and G. Withers, eds, *Cambridge economic history of Australia* (Melbourne, 2015), pp. 555-94

Carter, R. and Manaster, S., 'Initial public offerings and underwriter reputation', *Journal of Finance,* 45 (1990), pp. 1045–67.

Chambers, D., 'Gentlemenly capitalism revisited: a case study of the underpricing of initial public offerings on the London Stock Exchange, 1946–86', *Economic History Review*, 62 (2009), pp. 31–56.

Chambers, D., 'Going public in interwar Britain', *Financial History Review*, 17 (2010), pp. 51–71.

Chambers, D. and Dimson, E., 'IPO underpricing over the very long run', *Journal of Finance,* 64 (2008), pp. 1407–43.

Cottrell, P. L. *Industrial Finance 1830-1914: the finance and organization of English manufacturing industry* (London, 1980).

Darrough, M. and Stoughton, N., 'Financial disclosure policy in an entry game', *Journal of Accounting and Economics*, 12 (1990), pp. 219–43.

Davis, L. E. and Gallman, R. E., *Evolving Financial Markets and International Capital Flows: Britain, the Americas, and Australia, 1865-1914* (Cambridge, 2001).

De Long, B., 'Did J.P. Morgan's men add value? a historical perspective on financial capitalism', *NBER Working Paper Series, Working Paper No. 3426*, (1991).

Donald D. 'Advertising U.S. War Bonds in the First World War', *Journal of Nonprofit & Public Sector Marketing*, 3:1 (1995), pp. 65-80.

Ergas, H. and Pincus, J. J. 'Infrastructure and colonial socialism' in S. Ville and G. Withers, eds, *Cambridge economic history of Australia* (Melbourne, 2015), pp. 222-244.

Faulkner, C. C. *The Commonwealth Bank of Australia* (Sydney, 1923).

Fleming, G., Merrett, D.T. and Ville, S., *The big end of town: big business and corporate leadership in twentieth century Australia* (Melbourne, 2004).

Fohlin, C. 'Asymmetric information, market power, and the underpricing of new stock issues in Germany, 1882–1892', *Journal of Economic History*, 70 (2010), pp. 630–56.

Forster, C. 'Jobson, Alexander (1875–1933)', *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, http://adb.anu.edu.au/biography/jobson-alexander-6847/text11841

Frydman, C and Hilt, E. 'Investment Banks as Corporate Monitors in the early Twentieth-Century United States', *American Economic Review*, 107, 7 (2017), pp. 1938-70.

Gehrig, T. and Fohlin, C., 'Trading costs in early securities markets: the case of the Berlin stock exchange 1880–1910', *Review of Finance*, 10 (2006), pp. 587–612.

Gibbs, R. M. *Bulls, bears and wildcats: a centenary history of the stock exchange of Adelaide* (Adelaide, 1988).

Gibson, R. W. *Disclosure by Australian companies* (Melbourne, 1971).

Hall, A. R. *Australian company finance: sources and uses of funds of public companies, 1946-1955* (Canberra, 1956).

Hall, A. R. *The stock exchange of Melbourne and the Victorian economy 1852–1900*, (Canberra, 1968).

Hanley, K. and Hoberg, G., 'The information content of IPO prospectuses', *Review of Financial Studies*, 23 (2010), pp. 2821–64.

Hannah, L. 'Corporate governance, accounting transparency and stock exchange sizes in Germany, Japan and "Anglo-Saxon" economies, 1870-1950' (Hitotsubashi University Repository, 2018). http://hdl.handle.net/10086/29661

Hutchinson, D. and Lee, P., 'The equity market and industry development: new companies on the SSX, 1920–50', Asia Pacific Economic and Business History Conference, Queensland University of Technology, 2006.

Lamoreaux, N.R. *Insider lending: banks, personal connections, and economic development in industrial New England* (Cambridge, 1996).

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 'Law and finance', *Journal of Political Economy,* 106 (1998), pp. 1113–55.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 'Investor protection and corporate valuation', *Journal of Finance,* 57 (2002), pp. 1147–70.

Lehmann, S. 'Taking firms to the stock market: IPOs and the importance of large banks in imperial Germany, 1896–1913', *Economic History Review*, 67 (2014), pp. 92–122.

Lehmann–Hasemeyer, S. and Streb, J., 'The Berlin stock exchange in imperial Germany: a market for new technology?', *American Economic Review,* 106 (2016), pp. 3558–76.

Leone, A.J., Rock, S., and Willenborg, M., 'Disclosure of intended use of proceeds and underpricing in initial public offerings', *Journal of Accounting Research*, 45 (2007), pp. 111–53.

Leuz, C. and Wysocki, P., 'The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research', *Journal of Accounting Research*, 54 (2016), pp. 525–622.

Lougheed, A. L. *The Brisbane stock exchange, 1884-1984* (Brisbane, 1984).

McLean, I. W. *Why Australia Prospered: The Shifting Sources of Economic Growth* (Princeton, 2013).

McLean, I. W. 'Why was Australia so rich?' *Explorations in Economic History* 44 (2007), pp. 635–656.

Madsen, J. ‘Australian economic growth and its drivers since European settlement’ in S. Ville and G. Withers, eds, *Cambridge economic history of Australia* (Melbourne, 2015), pp. 29-51.

Merrett, D.T. ‘Capital markets and capital formation in Australia, 1890-1945’, *Australian Economic History Review*, 37 (1997), pp. 181–201.

Merrett, D. T. ‘Paradise lost? British banks in Australia’ in G. Jones ed. Banks as Multinationals, London, 1991).

Merrett, D.T. and Ville, S., ‘Tariffs, subsidies and profits: a re-assessment of structural change in Australia, 1901-1939’, *Australian Economic History Review*, 51 (2011), pp. 46–70.

Merrett, D.T. and Ville, S., ‘Financing growth: new issues by Australian firms, 1920–1939’, *Business History Review*, 83 (2009), pp. 563–89.

Michie, R. *The global securities market: a history* (Oxford, 2006).

Morris, R.D. and Barbera, M.R., ‘A chronology of the development of corporate financial reporting in Australia: 1817 to 1988, in R.H. Parker, ed. *Accounting in Australia: historical essays* (New York, 1990).

Nash, R. L. *The Australasian Joint Stock Companies’ Year Book* (Sydney, 1914).

Pope, D. ‘Private finance’ in W. Vamplew ed. *Australians. Historical Statistics* (Sydney, 1987).

Ramirez, C. ‘Did J.P. Morgan’s men add liquidity? corporate investment, cash flow, and financial structure at the turn of the twentieth century’, *Journal of Finance*, 50 (1995), pp. 661–78.

Rajan, R.G. and Zingales, L., ‘The great reversals: the politics of financial development in the twentieth century’ *Journal of Financial Economics*, 69 (2003), pp. 5–50.

Salsbury, S. and Sweeney, K., *The bull, the bear and the kangaroo: the history of the Sydney stock exchange* (Sydney, 1988).

Schrand, C. and Verrecchia, R., 'Information disclosure and adverse selection explanations for IPO underpricing', Working paper, University of Pennsylvania, (2005).

Thomadakis, S., Gounopoulos, D., Nounis, C., and Riginos, M., 'Innovation and upheaval: early growth in Greek capital market listings and IPOs from 1880 to the second world war in the Athens stock exchange', *Economic History Review*, 70 (2017), pp. 859–92.

Ville, S. *The rural entrepreneurs: a history of the stock and station agent industry in Australia and New Zealand* (Melbourne, 2000).

Waller, D. S. 'War loan bonds in Australia 1915-1921: patriotism or propaganda?', *Journal of*

Nonprofit & Public Sector Marketing, 3:1 (1995), pp. 81-96.

Whitwell, G. *Making the market: the rise of consumer society* (Fitzroy, 1989).

Whittred, G. 'The evolution of consolidated financial reporting in Australia', *Abacus*, 22 (1986), pp. 103–20.

APPENDIX I: DATA

The quantitative analysis is based on 2,181 initial and seasoned equity issuances made by Australian publicly listed and private firms between 1920 and 1939. The full sample of 2,181 equity issuances is reduced to a final regression sample of 1,067 equity issuances for which we can calculate all variables.

Our analysis uses the following variables. SUCCESS is defined as the amount of equity raised by the firm as compared to its offer amount (expressed as a percentage; with 100% being fully subscribed). If percent raised is low, the equity raising is less successful. A low percent also implies that if the share price was able to be changed during the offer (as in a book-build), we would expect to observe higher under-pricing. As stated above, the dataset includes initial public offerings (IPOs) and seasoned equity offerings (SEOs) for private and public companies. IPO is a dummy variable equalling 1 if the firm was raising equity for the first time. We also employ an alternative (stricter) definition of IPO (IPO1) which is a dummy variable equalling 1 if the company which raised equity for the first time was a new formed company (as opposed to being established prior to the equity raising). UNDERWRITTEN is a dummy variable indicating that the equity issuance was underwritten (to some extent) by an underwriter. PUBLIC is a dummy variable equalling 1 if the equity raising was raised from the general public (outsiders) rather than existing shareholders (insiders).

Firms could choose to offer ordinary or preference shares. Preference shares had preferential rights over cash flows (e.g. defined dividend) and were ranked higher than ordinary shares in liquidation, but could be repaid at the choice of the issuer. PREFERENCE is a dummy

variable equalling 1 if the firm issued preference shares. SIZE is the size of the equity issue expressed in Australian pounds. JOINT STOCK is a dummy variable equalling 1 if the company was registered as a joint stock company at the time of raising equity. For all joint stock companies, we are also able to calculate the AGE of the company as the difference between the year of equity raising and year of registration (measured in years). REPEAT is a dummy variable equalling 1 if the company had previously issued equity at the time of the current equity raising. MOMENTUM is a dummy variable for stock market momentum, where MOMENTUM = 1 if for year *t* the previous two years (*t-1* and *t-2*) both had a positive return year (as measured by the change in the Stock Accumulation Index).[80]

We employ a number of control variables. DUAL is a dummy variable which equals 1 if firms raised both ordinary and preference shares. We employ three control variables for three main industry groups: MANUFACTURING: the largest group of issuers constituting 34.3% of issuances; UTILITIES: regulated industries such as gas, electricity and water (8.4% of issuances) which were awarded local monopolies to provide essential services. For example, gas companies were governed by separate acts of parliament which stated the extent to which they could raise equity and debt, and the process by which they raised capital (auctions were required for gas company equity issuances).[81] FINANCE & INSURANCE*:* banks and insurance companies (15.5% of issuances) have fundamentally different balance sheets than other companies. We also control for year effects, defined as the year of equity issuance.

Summary statistics for the regression sample are provided in Table A1 and a correlation matrix for the variables is provided in Table A2.

[80] Brailsford, Handley and Maheswaran, 'Historical equity risk premium'.
[81] See for example *Metropolitan Gas Company's Act 1878* (and 1920)(Victoria).

TABLE A1. *Summary statistics*

About here

TABLE A2. *Correlation matrix*

About here

TABLE A1. *Summary Statistics*

Variable		*Observations*	*Mean*	*Median*	*Standard Deviation*	*Minimum*	*Maximum*
SUCCESS	%	1,067	91.9%	100.0%	22.6%	0.0%	224.4%
IPO	1,0	1,067	0.239	0.000	0.427	0.000	1.000
UNDERWRITTEN	1,0	1,067	0.119	0.000	0.324	0.000	1.000
PUBLIC	1,0	1,067	0.445	0.000	0.497	0.000	1.000
PREFERENCE	1,0	1,067	0.342	0.000	0.475	0.000	1.000
SIZE	£000s	1,067	10.753	10.773	1.147	7.231	14.914
JOINT STOCK	1,0	1,067	0.748	1.000	0.434	0.000	1.000
REPEAT	1,0	1,067	0.419	0.000	0.494	0.000	1.000
DUAL	1,0	1,067	0.096	0.000	0.294	0.000	1.000
MANUFACTURING	1,0	1,067	0.343	0.000	0.475	0.000	1.000
UTILITIES	1,0	1,067	0.084	0.000	0.278	0.000	1.000
FINANCE & INSUR.	1,0	1,067	0.155	0.000	0.362	0.000	1.000

TABLE A2. *Correlation matrix*

	SUCCESS	IPO	UNDER-WRITTEN	PUBLIC	PREF.	SIZE	JOINT.	REPE.	DUAL	MANU.	UTILITIES	FINANCE & INSUR.
SUCCESS	1.000											
IPO	-0.196***	1.000										
UNDERWRITTEN	0.061*	0.222***	1.000									
PUBLIC	-0.165***	0.559***	0.177***	1.000								
PREFERENCE	-0.071*	0.105***	0.132***	0.245***	1.000							
SIZE	0.037	0.028	0.145***	0.0054	-0.064*	1.000						
JOINT STOCK	0.049	-0.110***	-0.100**	-0.036	-0.009	0.172***	1.000					
REPEAT	0.152***	-0.418***	-0.142***	-0.352***	-0.116***	0.096**	0.173***	1.000				
DUAL	-0.064*	0.162***	0.028	0.094**	0.437***	-0.090**	-0.024	-0.044	1.000			
MANUFACTURING	-0.006	0.026	0.094**	0.000264	0.099**	-0.030	-0.040	-0.065*	0.000	1.000		
UTILITIES	0.065*	-0.146***	-0.112***	0.054	-0.112***	0.098**	0.060	0.207***	-0.053	-0.219***	1.000	
FINANCE & INSUR.	-0.063*	0.022	-0.021	-0.065*	-0.155***	0.124***	-0.026	-0.006	-0.007	-0.309***	-0.130***	1.000

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 1. *Sample by percent raised*

	Observations	*Mean*	*Median*	*Standard Deviation*	*Minimum*	*Maximum*
All	1,067	91.9%	100.0%	22.6%	0%	224.4%
Size Category						
Size 1	267	88.6%	100.0%	27.6%	0%	224.4%
Size 2	267	93.3%	100.0%	19.6%	0%	140.0%
Size 3	267	93.4%	100.0%	21.5%	0%	156.0%
Size 4	266	92.4%	100.0%	20.4%	0%	107.0%
Year Category						
1920 - 1924	333	90.3%	100.0%	24.2%	0%	156.0%
1925 - 1929	421	92.7%	100.0%	22.7%	0%	224.4%
1930 - 1934	57	86.2%	100.0%	26.2%	7.1%	100.0%
1935 - 1939	256	94.0%	100.0%	18.6%	9.5%	114.8%
Underwriter						
Yes	127	95.7%	100.0%	16.4%	10.0%	134.8%
No	940	91.4%	100.0%	23.2%	0%	224.4%
Mean Equality Test						
Yes - No		4.24%*				
(t-stat)		(-2.59)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 2. *OLS regressions by success of equity raising*

	Model (1)	*Model (2)*	*Model (3)*	*Model (4)*	*Model (5)*	*Model (6)*
IPO	-0.070***		-0.065**		-0.064**	
	(0.021)		(0.021)		(0.024)	
UNDERWRITTEN	0.088***	0.081***	0.085***	0.077***	0.082**	0.078**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.025)	(0.024)
PUBLIC	-0.038*	-0.046**	-0.040*	-0.046**	-0.048**	-0.045**
	(0.017)	(0.016)	(0.017)	(0.016)	(0.018)	(0.017)
PREFERENCE	-0.021	-0.025	-0.012	-0.015	-0.0040	-0.019
	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)
SIZE	0.0015	0.0019	0.0025	0.0029	-0.0055	-0.0017
	(0.0062)	(0.0062)	(0.0063)	(0.0063)	(0.0068)	(0.0068)
JOINT STOCK	0.019	0.021	0.014	0.017		
	(0.018)	(0.018)	(0.019)	(0.019)		
REPEAT	0.031*	0.035*	0.036*	0.037*	0.018	0.014
	(0.016)	(0.015)	(0.017)	(0.016)	(0.018)	(0.017)
MOMENTUM	0.028	0.026	0.045	0.040	0.040	0.026
	(0.024)	(0.024)	(0.040)	(0.040)	(0.046)	(0.045)
DUAL	-0.0094	-0.0068	-0.018	-0.016	-0.036	-0.025
	(0.026)	(0.026)	(0.026)	(0.026)	(0.029)	(0.028)
MANUFACTURING	-0.0083	-0.014	-0.0063	-0.012	-0.0036	-0.0055
	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)
UTILITIES	0.023	0.028	0.026	0.030	-0.00035	0.011
	(0.027)	(0.027)	(0.027)	(0.027)	(0.029)	(0.029)
FINANCE & INSUR.	-0.047*	-0.034	-0.044*	-0.031	-0.035	-0.0095
	(0.020)	(0.021)	(0.021)	(0.021)	(0.022)	(0.023)
IPO1		-0.10***		-0.10***		-0.16***
		(0.026)		(0.026)		(0.031)
AGE					0.0013**	0.00097*
					(0.0004)	(0.0004)
Fixed Year Effects	NO	NO	YES	YES	YES	YES
Constant	0.89***	0.88***	0.90***	0.90***	0.98***	0.96***
	(0.067)	(0.067)	(0.071)	(0.071)	(0.081)	(0.080)
Observations	1,067	1,067	1,067	1,067	845	845
Adjusted R^2	0.061	0.065	0.074	0.079	0.096	0.118

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

TABLE 3. *Probability of using an underwriter or issuing preference shares*

	Underwriter					*Preference Shares*				
	Model (7)	*Model (8)*	*Model (9)*	*Model (10)*	*Model (11)*	*Model (12)*	*Model (13)*	*Model (14)*	*Model (15)*	*Model (16)*
IPO	0.99***	1.00***	1.08***	1.08***	0.94**	-0.34	-0.34	-0.37	-0.37	-1.11***
	(0.27)	(0.27)	(0.28)	(0.28)	(0.35)	(0.19)	(0.19)	(0.20)	(0.20)	(0.26)
SIZE	0.50***	0.50***	0.51***	0.51***	0.47***	-0.13*	-0.12	-0.12	-0.12	-0.016
	(0.094)	(0.094)	(0.097)	(0.097)	(0.12)	(0.064)	(0.064)	(0.066)	(0.066)	(0.080)
PUBLIC	0.43	0.45	0.47	0.47	0.59	1.05***	1.05***	1.04***	1.04***	0.93***
	(0.27)	(0.27)	(0.28)	(0.28)	(0.32)	(0.16)	(0.16)	(0.17)	(0.17)	(0.20)
JOINT STOCK	-0.62**	-0.58*	-0.44	-0.44		0.022	0.045	0.066	0.066	
	(0.24)	(0.24)	(0.26)	(0.26)		(0.17)	(0.17)	(0.19)	(0.19)	
SUCCESS	2.00***	2.03***	2.12***	2.12***	2.03**	-0.54	-0.54	-0.39	-0.39	-0.29
	(0.56)	(0.57)	(0.59)	(0.59)	(0.69)	(0.30)	(0.30)	(0.31)	(0.31)	(0.37)
REPEAT	-0.42	-0.43	-0.61*	-0.61*	-0.49	-0.15	-0.16	-0.32	-0.32	-0.091
	(0.27)	(0.27)	(0.28)	(0.28)	(0.34)	(0.16)	(0.16)	(0.17)	(0.17)	(0.21)
MOMENTUM		-0.34		-1.06	-1.07		-0.16		-1.24**	-1.41*
		(0.35)		(0.58)	(0.76)		(0.24)		(0.43)	(0.55)
DUAL	-0.44	-0.44	-0.53	-0.53	-0.23					
	(0.36)	(0.36)	(0.37)	(0.37)	(0.43)					
MANUFACTURING	0.49*	0.49*	0.54*	0.54*	0.56*	0.23	0.23	0.22	0.22	-0.16
	(0.22)	(0.22)	(0.23)	(0.23)	(0.28)	(0.15)	(0.15)	(0.15)	(0.15)	(0.18)
FINANCE & INSUR.	0.12	0.13	0.30	0.30	0.36	-0.91***	-0.90***	-0.94***	-0.94***	-0.91**
	(0.32)	(0.32)	(0.33)	(0.33)	(0.39)	(0.24)	(0.24)	(0.24)	(0.24)	(0.30)

PREFERENCE	0.69**	0.69**	0.74**	0.74**	0.92**					
	(0.23)	(0.23)	(0.24)	(0.24)	(0.30)					
UNDERWRITTEN						0.70***	0.69**	0.70**	0.70**	0.98***
						(0.21)	(0.21)	(0.22)	(0.22)	(0.28)
AGE					-0.0061					-0.050***
					(0.0080)					(0.0066)
Fixed Year Effects	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Constant	-9.77***	-9.58***	-10.6***	-9.55***	-9.60***	0.77	0.86	-0.36	0.88	1.07
	(1.25)	(1.26)	(1.39)	(1.33)	(1.69)	(0.72)	(0.73)	(0.83)	(0.78)	(1.03)
Observations	1067	1067	1049	1049	836	1067	1067	1067	1067	844
Pseudo R^2	0.153	0.154	0.183	0.183	0.180	0.081	0.081	0.105	0.105	0.185

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

TABLE 4. *OLS regression on success of equity raising by use of proceeds*

	Model (17)	*Model (18)*	*Model (19)*
Use of Proceeds			
STARTUP	-0.12***	-0.12***	-0.066**
	(0.028)	(0.028)	(0.021)
IPO EXPANSION	-0.047	-0.048	
	(0.025)	(0.025)	
SEO EXPANSION	-0.0019	-0.00081	
	(0.017)	(0.017)	
REPAY DEBT	-0.013	-0.015	
	(0.048)	(0.048)	
WORKING CAPITAL	0.033	0.030	
	(0.060)	(0.060)	
EXCLUSIVE RIGHTS & PATENTS			0.011
			(0.042)
Control Variables			
UNDERWRITTEN	0.084***	0.085***	0.085***
	(0.022)	(0.022)	(0.022)
PUBLIC	-0.033	-0.034*	-0.039*
	(0.017)	(0.017)	(0.018)
PREFERENCE	-0.028	-0.028	-0.011
	(0.017)	(0.017)	(0.017)
SIZE	0.0029	0.0024	0.0025
	(0.0062)	(0.0062)	(0.0063)
JOINT STOCK	0.022	0.018	0.015
	(0.017)	(0.018)	(0.019)
REPEAT	0.027	0.029	0.036*
	(0.016)	(0.016)	(0.017)
MOMENTUM		0.028	0.045
		(0.024)	(0.040)
DUAL	-0.00064	-0.0015	-0.018
	(0.026)	(0.026)	(0.026)
MANUFACTURING	-0.012	-0.012	-0.0071
	(0.016)	(0.016)	(0.016)
UTILITIES	0.021	0.023	0.025
	(0.027)	(0.027)	(0.027)
FINANCE & INSUR.	-0.037	-0.038	-0.044*
	(0.021)	(0.021)	(0.021)
Constant	0.90***	0.88***	0.90***
	(0.066)	(0.068)	(0.071)
Observations	1,067	1,067	1,067
Adjusted R^2	0.065	0.065	0.073

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