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Underpricing in a developing capital market:

**Australian equity issuances, 1920-1939\***

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*Abstract*

Developing capital markets generally lack the regulatory safeguards and rich informational sources that assist investors in judging new equity issues in modern markets. Focussing on the early stage capital market in interwar Australia, we calculate the success (underpricing and percentage raised) of 786 new equity issues, comparing initial public offerings, seasoned equity offerings, and right issues. We examine whether the use of underwriters and the choice of security (ordinary or preference shares) affected the success of the equity issue. We find that certification by underwriters had no effect on capital raising success once we controlled for firm specific factors in the multivariate regressions, while underpricing and percentage raised varied by type of shares offered to investors.

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

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

After the First World War, the products of the second industrial revolution were increasingly consumed by Australians. Some goods were imported but local production expanded through the 1920s as the domestic economy diversified from its natural resource foundations. The local equity market grew rapidly in response to new demands for funding. Investors, attracted into the capital market by wartime government loans, looked for new investment opportunities. However, these inexperienced investors faced challenges distinguishing profitable investment opportunities from poor, or indeed fraudulent, ones in an economy experiencing structural change. The relatively new market for equity in Australia lacked the potential safeguards provided by the regulations, rich information flows, and specialist intermediaries commonly found in larger and more mature capital markets. The protection offered to investors through company law (anti-director rights, mandatory disclosure, liability standards), stock market listing rules, and accounting standards have all

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\* The authors are grateful to Andrew Parnell, Dr Ben Huf, and Monica Lo Heni for research assistance. They also gratefully acknowledge the constructive comments of three referees.

<sup>1</sup> Madsen, 'Australian economic growth', p. 36; McLean, *Why Australia prospered*, p. 12.

<sup>2</sup> McLean, 'Why was Australia so rich?', p. 646.

<sup>3</sup> For example: Merrett, 'Paradise lost?'; Ville, *Rural entrepreneurs*; Blainey, 'Multinational factories'.

<sup>4</sup> Ergas and Pincus, 'Infrastructure and colonial socialism'.

<sup>5</sup> Nash, *Australasian joint stock companies*, pp. xxx–xxxii.

been associated with more developed capital markets.<sup>6</sup> Developing capital markets commonly lack investor protections or they allow a degree of interpretation by companies that can lead to less useful, or misleading, information being provided to investors during a capital raising.<sup>7</sup>

This law-finance hypothesis has been challenged by a group of historical studies. They asked why equity markets grew rapidly in several major industrial economies, particularly United States, United Kingdom and Germany, in the late nineteenth and early twentieth centuries prior to the development of modern securities and corporate law designed to protect investors.<sup>8</sup> Several explanations included that voluntary self-regulation by companies preceded statutory legislation, that informal markets, such as over-the-counter and curb, were the main areas of growth, and that economic and political contingency factors mattered more than the law.<sup>9</sup> Notions of social trust, based upon the localisation of equity markets, may have underpinned the success of self-regulation and informal markets.<sup>10</sup> Several studies have identified high, stable dividends and incentivised, experienced boards as signals to investors.<sup>11</sup>

The asymmetric information problems facing new shareholders could lead to a lemons dilemma where all firms are assumed to be of poor quality since high and low quality firms state that they are good investments. Investors can draw upon information about the future value of the firm from public information (prospectuses, financial accounts). However,

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<sup>6</sup> La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 'Law and finance'; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 'Investor protection'.

<sup>7</sup> Baskin and Miranti, *History of corporate finance*; Chambers and Dimson, 'IPO underpricing'; Chambers, 'Gentlemanly capitalism revisited'; Hutchinson and Lee, 'Equity market and industry development'.

<sup>8</sup> On the United States, Baskin and Miranti, *History of corporate finance*. On the United Kingdom, Chambers, 'Gentlemanly capitalism revisited'; idem, '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'.

<sup>9</sup> Acheson, Campbell and Turner, 'Private contracting, law and finance'; Cheffins, Bank and Wells, 'Questioning "law and finance"'; Musacchio and Turner, 'Does the law and finance hypothesis'.

<sup>10</sup> Campbell and Turner, 'Substitutes for legal protection'; Braggion and Moore, 'How insiders traded'; Hannah, 'Pioneering modern corporate governance'.

<sup>11</sup> Fjesme, Galpin and Moore, 'British IPO directors'; Campbell and Turner, 'Substitutes for legal protection'.

managers and inside shareholders will retain a greater level of information on managerial ability, future cash flows, market share, and corporate strategies.<sup>12</sup> High quality firms and managers may be more willing to use an underwriter to provide a level of certification to investors that the issue price is consistent with inside information about the future value of the firm.<sup>13</sup> The underwriters are incentivised to incur costs and undertake due diligence on offerings to build a reputation for representing quality issuers.<sup>14</sup> Fjesme et al. showed that before the First World War, when arms-length underwriting was uncommon, United Kingdom directors became involved with their company's underwriting needs.<sup>15</sup> Investment banks and stock brokers historically entered the underwriting market to support important company clients in their capital raising. However, equity markets also contain underwriters that 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 that have built reputational capital.<sup>16</sup>

In early twentieth-century America, the involvement of J. P. Morgan in a company's operations (underwriting; partner on the board of directors) provided a certification benefit and superior liquidity for the firm.<sup>17</sup> Universal banks dominated underwriting in Germany by the 1880s, when the number of equities traded on the Berlin stock exchange was expanding rapidly.<sup>18</sup> Investment banks in the United Kingdom were less involved in underwriting before the 1930s, where the Accepting Houses Committee group of underwriters were reluctant to lend credibility to an equity offering.<sup>19</sup> Instead, underwriters on the London Stock Exchange

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<sup>12</sup> Leone, Rock, and Willenborg, 'Disclosure of intended use of proceeds'.

<sup>13</sup> Booth and Smith, 'Capital raising'; Carter and Manaster, 'Initial public offerings'

<sup>14</sup> Beatty and Ritter, 'Investment banking'.

<sup>15</sup> Fjesme, Galpin and Moore, 'British IPO directors'.

<sup>16</sup> Chambers, 'Gentlemanly capitalism revisited'.

<sup>17</sup> 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'.

<sup>18</sup> Fohlin, 'Asymmetric information'.

<sup>19</sup> Chambers and Dimson, 'IPO underpricing'.

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’.<sup>20</sup> There has been little research on the underwriting of Australian equities in the 1920s and 1930s, and whether they affected the success of new issues.

A particular feature of equity markets prior to the Second World War was the issuing of different types of shares (ordinary and various classes of preference shares). Preference shares have preferential rights over cash flows and are ranked higher than ordinary shares in liquidation. Baskin and Miranti note that ‘the popularity of preferred stock financing crested’ in the United States with the financing of industrial stocks in the early twentieth century and observe that poorly informed investors felt ‘better protected by the right of prior claim to dividends’.<sup>21</sup> Preference shares were a common security choice by companies listing on the London Stock Exchange until the 1950s.<sup>22</sup> Why firms issued preference shares is less evident. Baskin and Miranti believe they were popular in the United States because, unlike debt, they did not require tangible assets for security and yet did not dilute control in the same way as ordinary equity.<sup>23</sup> Similarly, Acheson, Coyle and Turner in their study of the United Kingdom brewery industry note that preference shares were a way of raising additional capital without yielding control. For smaller firms where ordinary shares were unlikely to be traded, giving preference shareholders voting rights helped attract capital.<sup>24</sup> We examine whether choice of share type impacted the success of a company’s equity raising.

The paper will show that the interwar Australian equities market lacked adequate legal shareholder protection and that sources of company information were poor. In light of these shortcomings, we will estimate how effective firms were in their equity raisings in a developing capital market by calculating the level of underpricing and the percentage raised

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<sup>20</sup> See also Chambers, ‘Gentlemanly capitalism revisited’.

<sup>21</sup> Baskin and Miranti, *History of corporate finance*, p. 156.

<sup>22</sup> Chambers, ‘Gentlemanly capitalism revisited’, p. 34.

<sup>23</sup> Baskin and Miranti, *History of corporate finance*, pp. 151–7.

<sup>24</sup> Acheson, Coyle, and Turner, ‘Happy hour followed by hangover’, pp. 732–3.

of 786 initial public offerings (IPOs), seasoned equity issues to the public (SEOs), and rights issues to existing shareholders between 1920 and 1939. This is the first study of its kind on Australia and is a rare evaluation of equity raising in a developing capital market that uses two measures and compares the success of all three issue types (IPO, SEO, rights). We are also interested in the determinants of success and, consistent with our discussion, the significance of using underwriters and offering different share types.

Our study raises broader questions about how former colonial nations, in an era of de-globalisation and retreating financial integration, transitioned to a more diversified and less dependent economic structure after the First World War.<sup>25</sup> The war and the subsequent slump sent global capital and consumer markets into retreat, particularly disrupting the United Kingdom, Germany and France. The New York market benefited from these disruptions and attracted investment in Canada away from London.<sup>26</sup> While trade and financial connections with the United Kingdom remained important, Australia turned to domestic sources of growth, particularly manufacturing, supported by an expanding body of local investors.<sup>27</sup> In the decades after the Second World War, Australian development gradually returned to a focus on export-led resource industries that could draw upon a larger and more developed capital market.

## II

The Australian capital market after the First World War was small and geographically spread across the state capitals. A series of small and often informal stock trading arrangements evolved from the 1830s and 1840s. Stimulated by the mid-century mining booms, provincial exchanges appeared in the gold mining towns of Ballarat and Bendigo in Victoria, Charters

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<sup>25</sup> Obstfeld and Taylor, *Global capital markets*, pp. 88–107.

<sup>26</sup> Michie, *Global securities market*, pp. 164, 175–6.

<sup>27</sup> O'Rourke, 'Economic history and contemporary challenges to globalization', p. 375; McLean, *Why Australia prospered*, pp. 144–75.

Towers in Queensland, and, by the 1890s, in Kalgoorlie and Coolgardie in Western Australia. Specialising in mining scripts, their importance waxed and waned with the fortunes of the industry. After periods of competing local exchanges in the colonial capitals, single exchanges emerged towards the end of the century in Sydney (1872), Hobart (1882), Melbourne (1884), Brisbane (1884), Adelaide (1887) and Perth (1890). Melbourne and Sydney became the main trading centres into the twentieth century, although we do not have precise figures on comparative orders of magnitude.<sup>28</sup>

Government infrastructure loans and British investors dominated capital raising in a narrow range of industries by 1914, particularly banking, mining, utilities, shipping, and brewing.<sup>29</sup> The stock market capitalisation to gross domestic product (GDP) ratio of 0.39 in Australia was low compared with Canada, France and the United Kingdom but similar to the much larger American economy.<sup>30</sup> The number of issued securities on the Sydney and Melbourne exchanges was less than 500 in 1919, and domestic investors mostly consisted of wealthy individuals who were closely connected to the local business community.<sup>31</sup> Reflecting the regionalised nature of the capital market, many securities were listed on a single exchange, their expansion being hindered by bans on sharing commissions and dual memberships.<sup>32</sup> The liquidity of the market was limited by thin trading in stocks, while the ability to raise additional funds was constrained by a new issues market described as ‘primitive and unstructured’.<sup>33</sup> There was no dominant conduit for share issuances with informal markets such as private sales, auctions, and sales at the company office sitting alongside the formal exchange business.<sup>34</sup>

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<sup>28</sup> Davis and Gallman, *Evolving financial markets*.

<sup>29</sup> Hall, *Stock exchange*.

<sup>30</sup> Rajan and Zingales, ‘The great reversals’, p. 15.

<sup>31</sup> Merrett and Ville, ‘Financing growth’, table 1. The figures from this source exclude gold and tin mining in Melbourne and all mining companies in Sydney.

<sup>32</sup> Michie, *Global securities market*, p. 175.

<sup>33</sup> Davis and Gallman, *Evolving financial markets*, p. 604.

<sup>34</sup> Davis and Gallman, *Evolving financial markets*, p. 604.

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.<sup>35</sup> The growth of population and incomes in the 1920s meant real GDP rose by 44 per cent in a decade.<sup>36</sup> Industrial expansion was driven by new consumer durables, entertainment and leisure services, and an expanding fast moving consumer goods sector.<sup>37</sup> The supply of overseas funds to meet these new opportunities was constrained by the growing caution of British investors and the effects of the War that caused, ‘major disruption in the operation and structure of securities markets around the world’.<sup>38</sup> We lack accurate data on the foreign share of the Australian equity market although it had begun declining before 1914.<sup>39</sup>

The growth in domestic incomes attracted a widening group of Australian investors, who 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.<sup>40</sup> Approximately 876,000 applicants took up loans, mostly individuals rather than institutions so that, ‘many of Australia’s one million households now owned a financial asset that was traded on the stock exchanges’.<sup>41</sup> As these securities matured from 1923, investors diversified into a broader set of assets.<sup>42</sup> While we lack accurate information on investor numbers, 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.<sup>43</sup> In the United

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<sup>35</sup> Whitwell, *Making the market*.

<sup>36</sup> Butlin, Dixon and Lloyd, ‘Statistical appendix’, p. 558.

<sup>37</sup> Merrett and Ville, ‘Tariffs’, pp. 56–60.

<sup>38</sup> Michie, *Global securities market*, p. 167.

<sup>39</sup> Nash, *Australasian joint stock companies*, pp. xxx–xxxii.

<sup>40</sup> Waller, ‘War loan bonds’; Dixon, ‘Advertising U.S. war bonds’.

<sup>41</sup> Merrett, ‘Capital markets’ pp. 193–4.

<sup>42</sup> Faulkner, *Commonwealth Bank of Australia*, chapter 9.

<sup>43</sup> Merrett and Ville, ‘Financing growth’, p. 574.

Kingdom domestic investors rose from 1 million to 13 million in the First World War, while investing had become a ‘mass activity’ of around 20 million people in the US in the 1920s.<sup>44</sup>

The stock market expanded in response to the impulses of both the demand for, and supply of, funds.<sup>45</sup> Membership of, and trading on, the major stock exchanges grew with a broadening range and number of financial instruments.<sup>46</sup> The number of listed firms in manufacturing, including consumer industries, expanded, assisted by the abolition of wartime restraints on capital raising in 1922.<sup>47</sup> The number of listed securities on the two main exchanges doubled in the interwar decades to 950, and the aggregate paid up value of capital tripled to £485 million.<sup>48</sup> Greater investment choice and improved liquidity increased the attractiveness of equity investment.<sup>49</sup>

However, the success of individual capital raisings was highly variable. The proportion of funds subscribed by investors fluctuated significantly between issues, as we discuss in section 3. Variations reflected the challenges facing inexperienced investors, particularly in a period of significant volatility in economic performance and share prices.<sup>50</sup> These investors lacked the resources and insider connections of older generations to help them identify good investments.<sup>51</sup> Limited company disclosure requirements and weak accounting standards under the companies Acts presented problems of information asymmetries for investors in assessing the prospects of new, expanding or complex enterprises.<sup>52</sup> Colonial legislation largely followed that of Britain. The 1874 NSW Companies Act did not require firms to prepare a director’s report, a balance sheet or a profit and loss account. The English Companies Acts of 1907 and 1912 required the disclosure of an audited

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<sup>44</sup> Michie, *Global securities market*, pp. 173, 176.

<sup>45</sup> Lougheed, *Brisbane stock exchange*.

<sup>46</sup> Salsbury & Sweeney, *The bull the bear and the kangaroo*; Gibbs, *Bulls, bears and wildcats*.

<sup>47</sup> 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.

<sup>48</sup> Merrett and Ville, ‘Financing growth’, table 1.

<sup>49</sup> Mathews, ‘Australian equities’, p. 4.

<sup>50</sup> Madsen, ‘Australian economic growth’, p. 31; Pope, ‘Private finance’, p. 241.

<sup>51</sup> Lamoreaux, *Insider lending*; Hall, *Australian company finance*.

<sup>52</sup> Gibson, *Disclosure by Australian companies*; Morris and Barbera, ‘Chronology’.

balance sheet and a profit and loss account but New South Wales did not follow suit until 1936.<sup>53</sup> Even with improvements in the 1930s, compliance deficiencies persisted among companies that took a minimalist approach to new requirements, for example by posting highly aggregated accounts.<sup>54</sup> The first legislation requiring detailed profit and loss statements and consolidated group accounts of the parent and subsidiary companies in Victoria was not passed until the end of 1938.<sup>55</sup> Legislation came later in the other States including Western Australia in 1943 and Tasmania in 1959. It was not until after the Second World War that professional bodies, particularly the Australian Society of Accountants, began to provide broad guidance on accounting standards.

Nor did stock exchange governance and rules provide protection or reassurance for wary shareholders. By the early twentieth century, a firm seeking to list needed to disclose its capital structure and cash position, its financial results for previous years, its Memorandum and Articles of Association, the Registrar's Certificate of Incorporation, Scrip Certificates, and a shareholder list.<sup>56</sup> Aggregated statements submitted to the stock exchanges frequently provided few insights into the performance of companies and particularly groups, with compliance to limited rules again a problem.<sup>57</sup> It was not until 1925 that the Sydney Stock Exchange required submission of a profit and loss account, although two years later it confounded this advance by only allowing consolidated accounts without separate reporting for subsidiaries.<sup>58</sup> Verification was problematic. Appearing before the Royal Commission on Banking and Monetary Systems in 1936, the President of the Stock Exchange of Melbourne,

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<sup>53</sup> Morris, 'Corporate disclosure', p. 56.

<sup>54</sup> Hutchinson and Lee, 'Equity market and industry development'.

<sup>55</sup> Victorian Companies Act. See Whittred, 'Evolution', p. 104.

<sup>56</sup> Also see Salsbury and Sweeney, *The bull the bear and the kangaroo* pp. 115–16, 143–6 and 202–8.

<sup>57</sup> Whittred, 'Evolution', pp. 105–7.

<sup>58</sup> Morris, 'Corporate disclosure', p. 63.

Charles Robertson, observed, ‘it would be impossible to inquire into every company that applies for listing. ... It would be impossible to thoroughly investigate their bona fides’.<sup>59</sup>

Some investors turned to the expanding financial press for guidance. Newspapers reported daily share prices but with little analysis. An earlier generation of specialist financial publications – *Australasian Insurance and Banking Record (AIBR)* (1877) and *Australasian Joint Stock Companies Yearbook* (1899-1914) – were joined by new sources particularly *Jobson’s Investment Digest (Jobson’s)* (1920, various titles), *The Wild Cat Monthly* (1923), and *Ryldges Business Journal* (1928). Some advisers enunciated their opinion of a good float. *Jobson’s* mentions financial variables such as past profits, size of reserves, and liquidity levels, but emphasises a prospectus that is clear and non-technical about the nature of its business and its future plans: ‘time spent in scrutinising the personnel ... of a new company and looking into credentials will never be wasted’.<sup>60</sup>

A potential source of investor guidance, the underwriting industry during the 1920s and 1930s was embryonic, with few established players able to assess, recommend and underwrite equity issues.<sup>61</sup> J. B. Were & Son, established in Melbourne in 1861, was the leading stockbroking firm in terms of reputation and size and had begun underwriting new issues by the mid-1920s.<sup>62</sup> It accounted for 17 of the 94 underwritten issues in our analysis and was the only firm that featured regularly. The small market meant few issue houses or investment banks until after the Second World War. Market commentators observed that ‘indiscriminate canvassing’ from underwriters could lead to inexperienced investors being ‘loaded up with shares, concerning whose real merits they know little’.<sup>63</sup> The Australian industry, though, did not have its reputation blighted by the opportunistic behaviour of

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<sup>59</sup> Minutes of Evidence, Stock Exchanges, 7.

<sup>60</sup> *Australian Investment Digest*, vol. I, no. 4, April 1920, pp. 1–2; vol. II, no. 4, April 1921, p. 1.

<sup>61</sup> From the late 1920s, J. B. Were also began to manage investment funds investing in a portfolio of companies.

<sup>62</sup> Appleyard and Schedvin, *Australian financiers*.

<sup>63</sup> *Australian Investment Digest*, vol. IV, no.3, 1 March 1923.

intermediaries like Horatio Bottomley, E.T. Hooley and H.J. Lawson that discouraged reputable British financial institutions from underwriting before the Second World War.<sup>64</sup>

Preference shares became a common form of equity raised from the 1920s on the Melbourne and Sydney Stock Exchanges. They may have helped to attract new investors to equity markets, although contemporary commentators warned that companies issuing preference shares could be riskier, as they might have little ordinary share capital and large liabilities ranking ahead of preference shares.<sup>65</sup> Cumulative preference shares (CPS) were the most common type of preference and they could have a fixed or participating dividend. Smith & Waddington (motor vehicle body builder and repairer) listed in Sydney in 1926 by issuing CPS with a preferential dividend of 8 per cent per annum and the right to participate with ordinary shares up to 10 per cent, after ordinary shares have received 8 per cent. Some preference shares had features such as convertibility (into ordinary shares) or redeemability. That the conditions on preference could weaken their priority over ordinary shares or be redeemed prompted Alex Jobson to warn that, ‘use of the term, “preference”, to describe company shares carrying special rights has now so wide an application that it is no longer possible to accept that term as describing a complete preference over all other classes of shares as to capital and dividends’.<sup>66</sup>

Our interest, therefore, is in understanding why some issues were more successful than others in a developing capital market. Issuing firms had to compete in a rapidly changing, but poorly regulated, market and win the confidence of inexperienced investors to purchase risk capital in often new industries. High, stable dividends might attract investors although the ex post nature of this signal weakened its value to new or recent firms. The inclusion of prominent directors, particularly politicians, may have deterred fraudulent

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<sup>64</sup> Armstrong, ‘Hooley’; Cottrell, *Industrial finance*, p. 70.

<sup>65</sup> Hutchinson and Lee, ‘Equity market and industry development’.

<sup>66</sup> Jobsons, *Australian Investment Digest*, August 1921, p. 218.

behaviour, but exerted little influence on rates of return.<sup>67</sup> Our paper examines whether underwriters influenced the success of an equity raising and whether success depended on the types of shares offered.

Finally, localisation between the head office and listing exchange of firms may have fostered social trust and more effective information flows to assist equity raising. Dual listings across several exchanges increased, particularly where Sydney or Melbourne mining stocks appeared on smaller exchanges like Brisbane when some of their operations took place in Queensland.<sup>68</sup> However, interwar Australia mostly comprised free standing State capital markets serving local companies and investors.<sup>69</sup> As a result, there was a significant local bias in listings, with the location of company headquarters highly correlated with the stock exchange on which its shares were quoted. Our new issues data provides the head office location of companies issuing over 90 per cent of securities, of whom almost all listed on the stock exchange in the same town or city. In addition, the street addresses of the head offices were often close to the stock exchange in the centre of Sydney and Melbourne.<sup>70</sup>

### III

We construct a data set of companies that raised equity between 1920 and 1939 by an initial public offering, a rights issue or an equity offering to the public (seasoned equity offerings) using information from *Jobson's* and the *AIBR*.<sup>71</sup> We identified 1,070 equity issuances by 649 companies for which we could collect the number of ordinary and preference shares offered at issue (including the number called at issue), the amount raised, the date of issue,

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<sup>67</sup> Hutchinson and Lee, 'Equity market and industry development', p. 12.

<sup>68</sup> The Brisbane Stock Exchange thus added 22 additional listings in the 1920s. Lougheed, *Brisbane stock exchange*, pp. 78–9.

<sup>69</sup> Carew, *National market*.

<sup>70</sup> We looked at the 1928 edition of *Australian Investment Digest* and found that 689 of 755 companies had their head offices located in the relevant central business district.

<sup>71</sup> New Zealand firms were not included in our list.

and whether an underwriter was employed, as well as company information such as year of incorporation, location of head office, and industry.

We adopt two variables to measure the success of an equity issuance: underpricing and percentage raised. Underpricing has been used in the historical literature on IPO and equity raisings and is calculated as the first day return to the equity issue (the percentage change in the first day share price over the offer or listing price).<sup>72</sup> High underpricing indicates that, relative to expectations, selling shareholders received low proceeds from the sale while new equity holders benefited. Percent raised is the amount of equity raised by the company compared with its offer amount.<sup>73</sup> Equity issuances were fixed price raisings where the firm stated the amount to be raised and specified the share price. This followed the London Stock Exchange's lead.<sup>74</sup> In some cases, companies allowed for over-allotment so that they could accept additional equity, resulting in percent raised being greater than 100 per cent.

To calculate underpricing we require share prices for the company raising equity. We cross-referenced the 1,070 equity issuances against the Official Records of the Melbourne Stock Exchange and the Sydney Stock Exchange, the daily price lists of the Sydney Stock Exchange, and the financial sections of local newspapers. The records were organised slightly differently by the two exchanges. The Official Record of the Melbourne Stock Exchange (the larger of the two) provided 'market quotations' (expressed as a buyer price and a seller price) for shares at the end of each month as well as the range of prices at which the share traded during the month (often no prices but sometimes up to six different prices). The Official

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<sup>72</sup> Chambers, 'Gentlemanly capitalism', p. 34; Fohlin, 'Asymmetric information', p. 631; Fjesme, Galpin and Moore, 'British IPO directors', p. 5. Underpricing is often used in contemporary studies. Ritter and Welch, 'Review of IPO activity'; Habib and Ljungqvist, 'Underpricing and entrepreneurial wealth'; Loughran and Ritter, 'Why don't issuers get upset'; Brau and Fawcett, 'Initial public offerings'; Nielsson and Wojcik, 'Proximity and IPO underpricing'

<sup>73</sup> Fjesme, Galpin and Moore, 'British IPO directors', use a similar variable – 'sufficient share subscriptions' – as a measure of IPO success (see p. 5).

<sup>74</sup> Chambers, 'Gentlemanly capitalism', pp. 35–6.

Record of the Sydney Stock Exchange provided the month-end ‘market price noon this day’ for a buyer and a seller of shares trading on the exchange. The record also listed the highest and lowest ‘sales’ price for the month. The daily price lists provide handwritten records of share trades, buyer and seller prices three times – morning (forenoon), noon and afternoon.

We reviewed each daily (Sydney) and monthly (Sydney and Melbourne) publication of the stock exchanges for the companies in our original sample and recorded the traded share price (when there was more than one trade, the average price) or when no trades the mid-point between the buyer and seller price for that company for that month. IPO underpricing is calculated as the percentage change in the first observable share price over the offer price as stated in the company prospectus or in the official record section which listed companies registered for quotation. In most cases, the first observable price was the month in which the IPO occurred. Where there were no sales price/s recorded and no buyer and seller price, we moved to the next month up to eighteen months after the raising. If no sale price was recorded, we went back and used the first available bid price (or ‘buyer’ price) which reflects the price at which a willing buyer would buy the share if it were for sale.<sup>75</sup> If there is no share price and no buyer price recorded after eighteen months, we removed the observation from the sample. We performed the same process for rights issues and SEOs with one notable difference.

The calculation of underpricing over a number of months may be a biased measure if systemic changes in the stock market influenced the observed price months later.<sup>76</sup> Therefore, we adjust the underpricing return for the change in the stock market prices over the same monthly period(s). Given the lack of a daily or monthly share price index, we

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<sup>75</sup> Loderer, Sheehan and Kadlec, ‘Pricing of equity offerings’; Corwin, ‘Determinants of underpricing’, notes that the closing inside bid (buy price) may be a ‘better estimate of the potential selling price than the closing trade price’ because it reflects the price at which a share could be sold (p. 2257).

<sup>76</sup> We also note that delays in observing the first share price may result in our return reflecting long-run reversal post-raising rather than underpricing. See Ritter, ‘Long run performance’; Gompers and Lerner, ‘Really long run performance’; and Jegadeesh, ‘Long-term performance’.

constructed an equally-weighted index for ten of the largest companies on the Sydney Stock Exchange, using the end of month prices. We used this as our stock market index.<sup>77</sup>

Companies sometimes issued ordinary and preference shares together. We refer to these as dual issuances. Typically, preference shares were listed for quotation but ordinary shares were, for various reasons, not listed or not traded frequently enough to have a quoted price. Sometimes preference shares were issued to the public while ordinary shares went to the vendor in consideration for transferring their assets into the new entity. Yoffa Hosiery and Knitting Mills listed on the Melbourne Stock Exchange in June 1937, raising £127,498 from 50,000 £1 7 per cent CPS. In addition, 77,498 £1 ordinary shares were issued fully paid to the vendors and were not traded. Similarly, Lucullus (café proprietors, Melbourne) issued preference and ordinary shares in 1930 to acquire the Victorian business of Sargents and various hotels. Jobson noted that the preference shares ‘have not an active market, and there have been no quotations of late. The ordinary shares are not listed’.<sup>78</sup> In all dual issuances, we found that preferences traded (sometimes thinly) and that ordinary shares were not traded often or were not listed. Therefore, our analysis of dual issuances uses preference share underpricing and percent raised.

We collected total assets, net profit, and the dividend rate from the profit and loss statements and balance sheets published in *Jobson's* and AIBR. For listed companies issuing new equity via a rights issue or SEO we used the financial information for the year prior to the raising. For IPO companies the financial information came from the first available balance sheet after listing (typically in the year of the IPO). As a historical dividend rate is not available for IPO companies, we use (where stated) the expected dividend rate published

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<sup>77</sup> We used Fleming, Merrett and Ville, *Big end of town*, Table 3.1 and Appendix B, to determine the largest companies by total assets at 1930. The index comprises a bank (New South Wales), mining companies (Broken Hill Proprietary; Broken Hill South), transport (Adelaide Steamship), gas (Australian Gas Light), brewing (Tooth & Co.), and miscellaneous industrials (British Tobacco; Burns Philp; Colonial Sugar Refining; and Perdriau Rubber). For a quarterly index see Matthews, ‘Australian equities’, and for an annual index see Brailsford, Handley and Maheswaran, ‘Historical equity risk premium’.

<sup>78</sup> Jobsons, *Australian Investment Digest*, 1 December 1930, p. 596.

in the prospectus. We calculated the company's age by subtracting the year it was publicly registered from the year of the equity issue. Finally, for IPOs we recorded whether (and if so, how many years) the company had stated historical profits in their prospectus (track record).

Table 1 indicates the final sample of 786 issuances by 439 companies. We divided the sample into nine categories of IPO, rights issue and SEO companies that issued ordinary shares only, preference shares only and both ordinary and preference shares at the same time.

### **TABLE 1**

#### ***Sample Selection***

#### **About here**

Data loss was greatest for IPO companies and SEO companies, and within those categories IPO ordinary shares only is most pronounced. To investigate how representative our final sample is, we test for differences between the original and final sample using a common variable, size of the issuance (natural logarithm of the issuance amount), which is available for all observations; for six out of nine categories, there is no statistically significant difference between the two samples. The exceptions are IPO preference only, rights issue ordinary only, and SEO ordinary only, where the final sample contains companies that issue a larger amount of equity than those in the original sample. The companies for which we could not collect share prices tended to be smaller and less likely to have regularly traded shares.

There were few observations during 1930–5 when equity markets were effectively shut, contrasting to the increases in the amount raised during periods of hot equity markets (Figure 1). IPOs raised comparatively more equity during 1925–8. There were at least two periods of higher issuances by rights issue – mid-late 1920s and the late 1930s. Trends in the number of IPOs, SEOs and rights issues correspond closely to the amount of equity raised.

We compared the final to the original sample by year of issuance and found no major difference in the portion of equity issuances by year. The final sample was broadly spread across twelve industries with the largest shares in manufacturing (28 per cent) and finance, insurance (28 pre cent).

## TABLE 2

### *Summary Statistics*

#### **About here**

The average underpricing for all equity issuances was 28.8 per cent (Table 2). However, IPO and SEO underpricing is on average 11.5 per cent and 16.4 per cent contrasting with rights issues at 37.7 per cent. The average underpricing for IPOs in Australia is higher than that reported by Chambers and Dimson for the United Kingdom (mean of 5.43 per cent for IPOs, 1930-9), although lower than Fjesme, Galpin and Moore's study of British IPOs pre-First World War (mean 18 per cent). It is broadly similar to underpricing recorded in later periods in the United Kingdom (Chambers and Dimson report mean IPO underpricing of 12.09 per cent for the post-1945 period). IPOs raised on average 94.4 per cent of their target amount, while SEOs and rights issues raised 98.7 per cent and 97.1 per cent. The difference in percent raised for IPOs versus SEOs is significant at the 5 per cent level.

IPO companies were on average 2.5 years old at listing, significantly younger than SEO companies (30.1 years) and rights issue companies (25.3 years). IPO companies reported an average 1.9 years of track record although the median is no track record (zero years). Non-financial companies undertaking an IPO have a median £148,476 in assets, were profitable (median ROA of 6.3 per cent) and expected to deliver a dividend (median 8.0 per cent per annum). The ten IPOs of financial companies were smaller firms and were typically newly formed banks or life assurance companies. Non-financial companies which issued an SEO or rights issue were larger than IPO companies but were no more profitable. SEO

companies had a median £404,496 in assets (2.7 times larger than IPO companies), a median ROA of 6.1 per cent and 8.0 per cent per annum dividend yield. Rights issue companies have a median £365,929 in assets, a median ROA of 6.5 per cent and 10.0 per cent per annum dividend yield. We tested for differences in average total assets, ROA and dividend yield for each group. Non-financial IPO firms were smaller in terms of total assets and had lower stated dividends than SEOs and rights issue firms. Financial firms that issued equity through a SEO were on average smaller than those which held a rights issue. There was no difference in average ROA between IPO, SEO or rights issue firms.

#### *Univariate Results – Underpricing and Percent Raised by Security*

We examine underpricing and percent raised at issuance for Australian IPOs and SEOs by type of security issued. Rights issues, whose results are quite distinctive, are discussed in section VII. We break down the sample into ordinary share issues, preference share issues and dual issuances. This allows us to control for the time in the firm's corporate life when it issues equity, which may have an influence on security choice. We also separate the subsamples by whether the issues was underwritten or not, to see whether there is an univariate evidence that underwriters improved the success of an equity raising.

Table 3 shows average and median underpricing and percent raised for IPO and SEO issue firms. IPO firms used underwriters 34 per cent of the time, with preference shares more likely to be underwritten than ordinary shares. There is no statistically significant evidence that underwriting reduced underpricing, although median underpricing was lower. The percent raised for underwritten ordinary share IPOs is higher than the non-underwritten IPOs, as is that for dual issuances, consistent with the view that using an underwriter results in a more successful equity raising. We note that there is a difference in IPO underpricing by type

of issuance. On average, the underpricing for ordinary shares (18.37 per cent) was higher than for dual issuances (14.93 per cent) and preference shares (1.98 per cent). These differences are significant at the 5 per cent level. Investors likely evaluate ordinary and preference issuances according to their particular features and on average required less ('first day') return from preference share IPOs in order to be convinced to subscribe to the issue. We also find that the percent raised by IPO firms was on average higher for SEOs.

### TABLE 3

#### *Underpricing & Percent Raised by Security Type*

#### **About here**

SEOs involved both ordinary share and preference share issuances. Underpricing of SEO preference shares is lower than SEO ordinary shares, significant at the 1 per cent level. Underwriters were used 12 per cent of the time. As with IPOs, SEOs of preference shares are more likely to be underwritten than ordinary shares. However, there is no clear indication that underwritten issuances result in a more successful equity raising, measured by underpricing or percent raised. Indeed, there is the possibility of selection bias in SEOs, with SEO ordinary underpricing higher for underwritten than for non-underwritten issuances.

### IV

#### *Probability of Using an Underwriter*

As we saw in section II, underwriting was a very young industry in interwar Australia. A small group of stockbrokers underwrote equity issuances, led by J. B. Were, although as we note in the previous section, the instance of underwriting varied by IPOs, SEOs and rights

issues. In this section, we examine the factors associated with the probability that an underwriter is involved in the equity raising process.

We estimate the probability that an underwriter will be employed through a logistic regression model with the dependent variable (Underwritten) equaling one if the company used an underwriter or zero if they did not. One might expect that firms associated with greater information asymmetries – smaller firms; younger firms; firms located in newer industries such as manufacturing – would be more likely to use an underwriter. However, underwriter quality is important. Carter and Manaster argue that firms with lower risk will select underwriters with higher ‘prestige’ in order to signal their low risk characteristics to the market.<sup>79</sup> Therefore, we might expect that the probability of using a quality (or prestigious) underwriter increases with firm size (as size is associated with lower risk).<sup>80</sup> To measure underwriter prestige, we employ the dependent variable J. B. Were, which equals one if the company used them as an underwriter or zero if they did not. The general form of the logistic model is shown below.

$$\text{Underwritten/JB Were} = \alpha + \beta_1 * \text{IPO} + \beta_2 * \text{SEO} + \text{Company Financial Variables} + \text{Size of Issuance} + \text{Other Control Variables} + \varepsilon$$

The dummy variables for IPO and SEO control for when the firm issued equity via these avenues as opposed to a rights issue (existing shareholders only). IPO and SEOs are likely to have higher information asymmetries compared with rights issues, because these equity raisings involve new investors (outsiders) having to judge firm quality from publicly available information. Three variables measure the size (total assets) and financial

<sup>79</sup> Carter and Manaster, ‘Initial public offerings’.

<sup>80</sup> We acknowledge that a firm’s choice in using an underwriter and issue price (and therefore, level of underpricing) may be endogenously determined. See, for example, Habib and Ljungqvist, ‘Underpricing and entrepreneurial wealth’; Loughran and Ritter, ‘Why don’t issuers get upset’; Brau and Fawcett, ‘Initial public offerings’.

performance (return on assets; dividend yield) of the firm. If certification is important, we would expect that the probability of using an underwriter would increase for smaller firms where information is typically less abundant and where the gains to using an underwriter are relatively greater. By contrast, the use of a quality underwriter (J. B. Were) is more likely to be associated with larger, lower risk firms. The variable Size of Issuance measures how important, in a relative sense, the equity raising is for the firm. We scale the size of the equity issuance by total assets and conjecture that the probability of using an underwriter will be positively associated with size of issuance as firms will be more likely to seek certification for relatively larger equity raisings. Two industry dummy variables indicate whether the firm was located in the manufacturing or finance and insurance industries. We expect that the probability an underwriter is used in the equity raising increases for firms in newer industries such as manufacturing with higher information asymmetries. We also include variables controlling for age of the company and whether the company disclosed use of proceeds (Disclosure) in the equity issuance (a factor which may have reduced information asymmetries at the time of equity raising). Definitions for all variables can be found in the Appendix.

Table 4 shows the results for six estimations of the logistic model. Models 1, 2 and 3 report the probability of using an underwriter – regardless of quality – in the equity issuance. Models 4, 5 and 6 introduce quality of underwriter by examining the probability of using J.B. Were as an underwriter, estimating the regressions on two samples (all equity raisings and underwritten equity raisings only).

**TABLE 4.**

***Probability of using an underwriter***

**About here**

We find that the probability an underwriter is used increases if the firm is raising equity via an IPO or SEO as opposed to a rights issue. The IPO result is significant at the 1 per cent level. Underwriters are also more likely to be employed for equity raisings that are relatively large and by manufacturing firms. These findings support the argument that the use of underwriters (and certification) occurs in conditions where information is less available. It also suggests that underwriters may have played a coordination and market-making role increasing the pool of prospective investors, a role that was valuable for companies issuing a proportionately larger equity raising. We note that the significant results for Size of Issuance disappears once we include Disclosure and Age.

The probability that a quality underwriter (J. B. Were) is employed is investigated in Models 4 to 6. Model 4 estimates probability using the full sample and shows that larger firms and manufacturing firms are positively associated with the likelihood that Were underwrites the issue. However, Model 5 shows that this result is not robust once we include controls for disclosure and age. Model 6 is estimated using the sub-sample of underwriters to see what particular features are associated with the choice of Were over other underwriters. No variables are significant. In sum, there is weak evidence that Were was more likely to be used, consistent with the argument that the underwriting industry in Australia was in its infancy.

## V

### *The Choice of Type of Shares*

Business history research suggests that the choice to issue preference shares may be influenced by a desire to avoid dilution of control (non-voting preference shares), when it is difficult for a firm to raise ordinary equity (offering voting and/or fixed dividends), or where insiders wish to maintain rights over future profits (thus, issuing preference shares and

keeping ordinary shares themselves).<sup>81</sup> We found that underpricing of preference shares was lower than ordinary shares for IPOs and SEOs, suggesting that firms leave less money on the table when raising equity this way. In this section we examine firms' choice of issuing ordinary or preference shares when they undertake an IPO or SEO. We exclude rights issues from this analysis as a company raising equity through a rights issue does not make a choice between ordinary or preference shares, raising equity in shares that are already listed. Our univariate analysis indicated that IPO and SEO firms were more likely to issue ordinary than preference shares (by number of issuances) even though underpricing was higher. We run a set of logistic models separately for each group of IPOs (Models 7 and 8) and SEOs (Models 10 and 11) for the probability the company will issue ordinary or preference shares when it comes to market (for completeness Table 5 also includes regression results for dual issuances; Models 9 and 12). The models have the general form:

$$\text{Ords/Dual/Prefs} = \alpha + \beta_1 * \text{Underwritten} + \text{Company Financial Variables} + \text{Other Control Variables} + \varepsilon$$

The dependent variables (Ords; Dual; Prefs) equal one if the company issued that type of security or zero if they did not. Definitions for all other variables can be found in the Appendix.

**TABLE 5.**

***Probability of type of equity issuance by IPO, SEO and Rights Issue***

**About here**

The results for Models 7 and 8 indicate that in IPOs the issuing of ordinary shares increases in probability for smaller firms with lower stated dividend yields. By contrast, the issuing of preference shares increases in probability if the firms has a higher stated dividend.

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<sup>81</sup> Baskin and Miranti, *History of corporate finance*; Acheson, Coyle, and Turner, 'Happy hour followed by hangover'.

The use of an underwriter is not associated with the choice of security type for IPO firms. Security choice by SEO firms (Models 10 and 11) is also influenced by whether the firm pays dividends, but in the opposite way to IPO firms. Ordinary shares are more likely to be issued in an SEO by smaller firms and firms with higher dividends, perhaps because the existence of dividends provides information on the firm's financial viability and quality. Preference share issuances decrease in probability for larger firms and for firms that pay higher dividends. The security issuance story for SEOs is likely to be associated with a firm's capability to support dividends on existing and new shares.

Few other variables are significant in the security choice models. For SEOs, disclosure is negatively associated with ordinary shares and positively associated with preference shares. Firms which disclose use of proceeds are less likely to issue ordinary shares and more likely to issue preference shares in SEOs. Ordinary share issuances increase in probability if the firm undertaking the SEO is older (Age), while preference shares increase in probability for younger firms. Underwriter is not associated with the choice of security type for SEO firms. Finally, we find that none of our explanatory variables are significant in explaining the probability that a firm will issue both ordinary and preference shares (Models 9 and 12).

## VI

We define the success of an equity raising in terms of level of underpricing and percent raised. Lower underpricing indicates that the issue was more successful, with higher gross proceeds and less money left on the table for investors. A higher percent raised indicates that the firm raised (or exceeded) its desired equity amount. The certification benefit of underwriters should be associated with lower levels of underpricing and higher percent raised. Companies can also choose which type of security to issue and earlier analysis shows

differences in underpricing and percent raised by type of share. In this section we examine in ordinary least square (OLS) regression models whether underwriter and security type are associated with underpricing and percent raised, taking into account firm characteristics, size of equity issuance, and industry. The dependent variables are Underpricing and Percent Raised, with the intercept representing ordinary shares. The general form of the regression model is shown below.

$$\text{Underpricing/Percent Raised} = \alpha + \beta_1 * \text{Underwritten} + \beta_{2-3} * \text{Type of Share} + \text{Company Financial Variables} + \text{Other Control Variables} + \varepsilon$$

The underwritten and type of share issuance variables are dummy variables equalling one if the equity issuance was underwritten or were ordinary, preference or dual issuances. In the Percent Raised regressions we also include the level of underpricing to control for the pricing of the equity issue. Company financial variables in the regressions control for firm size (log of total assets), profitability (measured as *ROA*), dividend yield, and the size of the equity issuance (the ratio of the amount of equity raised to total assets). For IPO models we control for track record and age of firm, and age of firm for the SEO and rights issue models. Two industry control variables are included for manufacturing and finance and insurance companies. The definitions for all variables can be found in the Appendix. We estimate the OLS models on each group of IPOs, SEOs and rights issue firms.

**TABLE 6.**

***OLS regressions of underpricing and percent raised***

**About here**

Table 6 shows the OLS regression results for the *Underpricing* and *Percent Raised* models. They indicate that there is no association between underpricing or percent raised and underwriting. The results are robust to firm size, ROA and dividend yield as well as the

control variables. Our findings are consistent with those on underpricing and underwriter certification in the United Kingdom and Germany.<sup>82</sup> While the developing Australian capital market and a range of new industries raising funds could have presented conducive underwriting conditions, we find no evidence that they were effective at improving the success of issuances.<sup>83</sup>

Underpricing reduces for IPO companies when they issue preference shares rather than ordinary shares, controlling for all other factors. We also note that the percent raised is higher for IPO preference shares as compared with ordinary shares. Taken together, an IPO firm was more successful in its equity raising when it choose to issue preference shares because it was able to increase the gross proceeds from the IPO and raise closer to its target amount. By contrast, there is no difference in underpricing or percent raised for SEO firms by type of shares issued. For rights issue firms, underpricing was lower for firms that were raising more preference shares compared with ordinary shares.

## VII

Rights issues constituted the majority (62 per cent) of our final sample, with ordinary share issues 78 per cent of all rights issues. This suggests the importance of rights issues in the interwar Australian capital market in an era before they became dominant in the UK.<sup>84</sup> It is also consistent with the observation that a significant number of Australian firms were not ‘managerial controlled’, but closely-held by small groups of shareholders.<sup>85</sup> The results for rights issues were distinctive. In particular, under pricing was much greater for rights issues (37.7 per cent) than IPOs (11.5 per cent) and SEOs (16.4 per cent), particularly for ordinary

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<sup>82</sup> On the United Kingdom see Chambers, ‘Gentlemanly capitalism revisited’; idem, ‘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’.

<sup>83</sup> Merrett and Ville, ‘Financing growth’; Booth and Smith, ‘Capital raising’; Carter and Manaster, ‘Initial public offerings’

<sup>84</sup> Marsh, ‘Equity rights issues’; Franks, Mayer and Rossi, ‘Ownership’, table 5.

<sup>85</sup> Wheelwright, *Ownership and control*, p. 3; Mitchell et al., ‘Shareholder protection in Australia’, pp. 96–8.

issuances (Table 3). High underpricing may reflect the fact that a new issue to existing shareholders would not be dilutive, if all shareholders participate. Therefore, companies priced their equity issuances to ensure that they raised close to or more than their stated gross proceeds. The average percent raised for ordinary rights was 98.65 per cent.<sup>86</sup> Alternatively, high underpricing might indicate rent extraction from closely held existing shareholders; but we do not know how many shareholders participated.

Underwriters were used in only 6 per cent of rights issues, consistent with the argument that the information asymmetries between the firm and shareholders are lower for existing than new shareholders. Where an underwriter was employed, ordinary rights issues had lower underpricing (average 28.18 per cent) compared with non-underwritten rights issues (average 45.02 per cent) although these differences are not statistically significant. Underwritten preference share rights issues had lower underpricing (average -1.17 per cent) compared with non-underwritten preference rights issues (average 14.54 per cent), with averages significantly different at the 1 per cent level. We encourage further research on the rights issues market.

## VIII

Our paper provides the first analysis of the listing practices of firms prior to the Second World War when the Australian stock market was at an early stage of development. It uses comprehensive data for IPOs, SEOs and rights issues to analyse the growth of the equities market 1920–39 as witnessed through the number of listed equities, companies, and the value of paid up capital. Stock market capitalisation as a ratio to GDP suggests faster growth than many other nations. This was achieved in the face of the risks associated with industry diversification and inexperienced investors.

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<sup>86</sup> Habib and Ljungqvist ‘Underpricing and entrepreneurial wealth’, argue that owners care about underpricing to the extent that they stand to lose from it.

We apply two measures to evaluate the success of equity raisings, namely percentage raised and level of underpricing. Average underpricing was higher than the UK in the 1930s but lower than its pre-1914 level, perhaps reflecting the smaller, less developed local market with greater information asymmetries. Underwriting was still in an embryonic stage in Australia and did not improve the success of equity raising. Underwriters may have helped firms expand the set of prospective investors at a time when equities were a relatively new asset class but use of an underwriter (including Were) did not benefit the underwritten firm.

A distinctive aspect of the interwar market was the issue of preference as well as ordinary shares. Consistent with contemporary commentators, public interest was spurred by a preferential dividend and priority over ordinary shares in claiming the assets of the company. We found that underpricing was lower and percent raised higher for IPOs and SEOs that issued preference shares. Rights issues were another important feature of the Australian market and accounted for the largest share of equity issues, probably reflecting the many firms that were closely owned. These firms relied more on existing shareholders to finance new capital needs as opposed to SEOs. Higher underpricing encouraged existing shareholders to subscribe.

The paper engages with Hannah's work, which shows that the rapid expansion of the interwar Tokyo stock exchange occurred at a time of relaxation of the rules protecting investors. He explains this by, 'the voluntary emergence of gatekeepers and information signallers trusted by investors'.<sup>87</sup> Our findings suggest that Australian equity markets had yet to develop gatekeepers and information providers that materially impacted the pricing of equity issuances or the behaviour of shareholders. Nevertheless, investors differentiated between equity offerings on the basis of types of security and financial characteristics of firms despite the lack of prescriptive rules about disclosure. On a more contemporary canvas,

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<sup>87</sup> Hannah, 'Corporate governance', p. 22.

the paper speaks to the current debate on prescriptive rules for governance and the level of information disclosures for companies listed on the stock market.<sup>88</sup>

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<sup>88</sup> A good summary can be found in Hannah, 'Corporate governance', p. 4.

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## FIGURE 1

### *Equity Raised by Year*

TABLE 1

*Sample Selection*

	Total Original Sample	No Share Price Data	Total New Sample	Percent of Original Sample	Under Pricing < 0	Under Pricing > 0	Percent > 0
IPO – Ords	145	91	54	37%	22	32	59%
IPO – Dual	47	23	24	51%	3	21	88%
IPO – Prefs	66	18	48	73%	13	35	73%
Total IPO	258	132	126	49%	38	88	70%
Rights Issue – Ords	444	61	383	86%	42	341	89%
Rights Issue – Dual	40	5	35	88%	9	26	74%
Rights Issue – Prefs	93	21	72	77%	16	56	78%
Total Rights Issue	577	87	490	85%	67	423	86%
SEO – Ords	113	29	84	74%	9	75	89%
SEO – Dual	16	6	10	63%	1	9	90%
SEO - Prefs	106	30	76	72%	19	57	75%
Total SEO	235	65	170	72%	29	141	83%
Total	1070	284	786	73%	134	652	83%

TABLE 2

*Summary Statistics*

	<i>Obs</i>	<i>Mean</i>	<i>Median</i>	<i>Standard</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Total Sample</i>						
Underpricing	780	28.8%	14.3%	47.2%	-77.2%	390.8%
Percent Raised	786	97.0%	100.0%	15.4%	0.0%	224.4%
Amount Raised (£)	786	132,801	52,174	256,129	0	2,595,608
ROA	775	7.4%	6.4%	10.8%	-23.8%	268.3%
Dividend Yield	768	9.3%	9.0%	4.2%	0.0%	40.0%
Age (Years)	643	23.1	16.0	23.5	0	110.0
<i>Total Assets (£)</i>						
Non-Financials	682	897,276	321,997	1,557,840	9,056	16,000,000
Financials	98	10,800,000	489,008	17,900,000	16,909	79,100,000
<i>IPOs</i>						
Underpricing	126	11.5%	5.8%	34.8%	-67.6%	183.0%

Percent Raised	126	94.4%	100.0%	17.7%	0.0%	134.8%
Amount Raised (£)	126	140,254	73,924	245,586	0	2,000,000
ROA	118	9.8%	6.3%	25.7%	-23.8%	268.3%
Dividend Yield	116	5.8%	8.0%	4.3%	0.0%	15.0%
Age (Years)	91	2.5	0	6.6	0	33.0
Track Record (Years)	125	1.9	0	2.7	0	15.0
<b>Total Assets (Pounds)</b>						
Non-Financials	111	335,882	148,476	577,874	9,056	3,388,263
Financials	10	86,439	67,298	67,600	25,000	263,200
<b>SEOs</b>						
Underpricing	169	16.4%	8.1%	30.5%	-55.2%	179.1%
Percent Raised	170	98.7%	100.0%	11.9%	0.0%	156.0%
Amount Raised (£)	170	101,388	58,233	140,238	0	1,000,000
ROA	169	6.8%	6.1%	4.3%	0.0%	31.7%
Dividend Yield	167	8.8%	8.0%	3.2%	0.0%	20.0%
Age (Years)	142	30.1	16.0	30.5	0	103.0
<b>Total Assets (£)</b>						
Non-Financials	159	1,282,674	404,496	2,014,358	30,254	8,583,800
Financials	10	9,266,064	4,925,631	19,600,000	22,246	64,400,000
<b>Rights Issues</b>						
Underpricing	485	37.7%	21.5%	52.3%	-77.2%	390.8%
Percent Raised	490	97.1%	100.0%	15.7%	0.0%	224.4%
Amount Raised (£)	490	141,783	50,000	287,507	0	2,595,608
ROA	488	7.1%	6.5%	4.2%	-5.3%	31.4%
Dividend Yield	485	10.3%	10.0%	4.1%	0.0%	40.0%
Age (Years)	410	25.3	19.0	20.4	0	110.0
<b>Total Assets (£)</b>						
Non-Financials	412	899,792	365,929	1,493,093	25,229	16,000,000
Financials	78	12,400,000	622,219	18,500,000	16,909	79,100,000

TABLE 3

*Underpricing & Percent Raised by Security Type*

	<i>IPOs</i>			<i>SEOs</i>			<i>Rights Issues</i>		
	<i>Number</i>	<i>Mean</i>	<i>Median</i>	<i>Number</i>	<i>Mean</i>	<i>Median</i>	<i>Number</i>	<i>Mean</i>	<i>Median</i>
<i>Ordinary Shares Only</i>									
<i>Underpricing</i>									
All	54	18.37%	4.23%	84	22.16%	9.56%	381	44.18%	27.24%
Underwritten	16	31.11%	1.15%	6	34.68%	1.53%	19	28.18%	13.68%
Not underwritten	38	13.01%	7.28%	78	21.19%	10.49%	362	45.02%	28.36%
<i>Percent Raised</i>									
All	54	88.68%	100.00%	84	98.21%	100.00%	383	98.65%	100.00%
Underwritten	16	98.16%	100.00%	6	100.00%	100.00%	20	100.00%	100.00%
Not underwritten	38	84.69%	100.00%	78	98.07%	100.00%	363	98.58%	100.00%

*Dual Issuances*

*Underpricing*

All	24	14.93%	10.58%	10	36.15%	23.80%	34	15.79%	7.36%
Underwritten	10	17.21%	16.75%	.	.	.	3	7.22%	6.06%
Not underwritten	14	13.31%	8.53%	10	36.15%	23.80%	31	16.61%	8.47%

*Percent Raised*

All	24	98.69%	100.00%	10	100.00%	100.00%	35	88.09%	100.00%
Underwritten	10	100.00%	100.00%	.	.	.	3	100.00%	100.00%
Not underwritten	14	97.75%	100.00%	10	100.00%	100.00%	32	86.97%	100.00%

*Preference Shares*

*Only*

*Underpricing*

All	48	1.98%	4.80%	75	7.43%	4.71%	70	12.92%	7.74%
Underwritten	17	6.60%	5.56%	15	7.70%	4.08%	7	-1.74%	0.80%
Not underwritten	31	-0.56%	2.46%	60	7.36%	4.83%	63	14.54%	9.54%

*Percent Raised*

All	48	98.58%	100.00%	76	99.01%	100.00%	72	93.22%	100.00%
Underwritten	17	100.00%	100.00%	15	99.49%	100.00%	7	100.00%	100.00%
Not underwritten	31	97.80%	100.00%	61	98.90%	100.00%	65	92.50%	100.00%

TABLE 4. *Probability of using an underwriter*

	(1)	(2)	(3)	(4)	(5)	(6)
	U/W	U/W	U/W	JB Were	JB Were	JB Were
IPO	1.80 <sup>***</sup> (0.34)	1.40 <sup>***</sup> (0.36)	1.75 <sup>***</sup> (0.42)	1.03 (0.74)	0.60 (0.96)	-1.33 (1.20)
SEO	0.86 <sup>**</sup> (0.31)	0.69 <sup>*</sup> (0.32)	0.73 (0.38)	0.68 (0.68)	0.39 (1.01)	0.16 (1.31)
Total Assets (Log)	-0.21 (0.14)	-0.11 (0.14)	0.071 (0.20)	-0.068 (0.29)	0.34 (0.48)	0.19 (0.70)
ROA	-1.33 (1.06)	-1.20 (1.04)	-2.46 (2.47)	-1.24 (1.83)	-0.94 (1.84)	4.21 (9.78)
Dividend Yield	-4.08 (3.36)	-3.95 (3.37)	-2.67 (4.28)	-11.6 (7.42)	-15.5 (10.1)	-25.4 (17.9)
Size of Issuance	0.49 <sup>**</sup> (0.18)	0.43 <sup>*</sup> (0.18)	0.20 (0.22)	0.76 <sup>*</sup> (0.38)	0.59 (0.53)	1.44 (0.88)

Manufact.	0.89 <sup>***</sup> (0.27)	0.80 <sup>**</sup> (0.27)	0.66 <sup>*</sup> (0.32)	1.45 <sup>*</sup> (0.61)	1.02 (0.76)	0.40 (0.94)
Finance & Insur.	0.76 (0.41)	0.73 (0.41)	0.53 (0.52)	0.92 (0.93)	1.31 (1.27)	1.44 (1.68)
Disclosure		0.95 <sup>**</sup> (0.33)	1.22 <sup>**</sup> (0.40)		1.84 (1.21)	2.39 (1.49)
Age			-0.0036 (0.0096)		-0.044 (0.032)	-0.025 (0.037)
Constant	-5.40 <sup>***</sup> (1.32)	-6.40 <sup>***</sup> (1.38)	-6.52 <sup>***</sup> (1.75)	-11.7 <sup>***</sup> (2.86)	-15.5 <sup>***</sup> (4.00)	-20.5 <sup>**</sup> (7.53)
Observations	765	765	626	765	626	62
Pseudo $R^2$	0.150	0.166	0.182	0.146	0.272	0.287

U/W = Underwritten

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

TABLE 5. Probability of type of equity issuance by IPO and SEO

	IPOs			SEOs		
	(7) Ords	(8) Pref	(9) Dual	(10) Ords	(11) Pref	(12) Dual
Underwritten	0.053 (0.64)	-0.59 (0.57)	0.71 (0.65)	-1.76 (1.24)	2.15 (1.17)	0 (.)
Total Assets (Log)	-0.92 <sup>**</sup> (0.32)	0.51 <sup>*</sup> (0.25)	0.16 (0.26)	-0.53 <sup>*</sup> (0.25)	0.49 <sup>*</sup> (0.24)	-0.16 (0.41)
ROA	0.38 (1.40)	-2.88 (3.48)	0.22 (1.13)	-14.1 (9.79)	10.3 (7.57)	-6.96 (9.77)
Dividend Yield	-23.3 <sup>***</sup> (6.87)	20.1 <sup>**</sup> (7.73)	8.31 (8.16)	42.0 <sup>***</sup> (12.4)	-29.2 <sup>**</sup> (10.4)	-18.7 (15.9)
Age	0.079 (0.043)	-0.041 (0.039)	-0.033 (0.048)	0.072 <sup>***</sup> (0.015)	-0.072 <sup>***</sup> (0.016)	-0.0074 (0.023)
Manufact.	0.048 (0.62)	-0.11 (0.55)	0.0037 (0.64)	0.46 (0.62)	-0.61 (0.58)	0.43 (0.93)
Finance & Insur.	1.41 (1.32)	-0.71 (1.31)	0 (.)	-0.46 (1.48)	0.73 (1.38)	0 (.)
Disclosure				-1.55 <sup>**</sup> (0.54)	1.10 <sup>*</sup> (0.51)	1.09 (0.99)

Constant	11.5** (3.81)	-7.23* (2.98)	-4.25 (3.10)	3.11 (3.28)	-3.72 (3.10)	0.72 (5.52)
Obs	79	79	75	140	140	121
Pseudo R <sup>2</sup>	0.300	0.178	0.046	0.477	0.420	0.102

TABLE 6. OLS regressions of underpricing and percent raised

	Underpricing				Percent Raised			
	(13A) IPOs	(13B) IPOs	(14) SEOs	(15) Rights Issues	(16A) IPOs	(16B) IPOs	(17) SEOs	(18) Rights Issues
Underwritten	0.043 (0.07)	0.11 (0.07)	0.0064 (0.10)	-0.16 (0.12)	0.063 (0.04)	0.094 (0.05)	-0.021 (0.04)	0.045 (0.03)
Dual	-0.18 (0.095)	-0.31** (0.11)	0.16 (0.13)	-0.16 (0.10)	0.095 (0.05)	0.11 (0.08)	0.033 (0.05)	-0.093** (0.03)
Prefs	-0.36*** (0.00)	-0.41*** (0.09)	-0.17* (0.07)	-0.25** (0.08)	0.087 (0.05)	0.12 (0.07)	0.024 (0.03)	-0.071** (0.02)
Underpricing					0.026 (0.056)	-0.0020 (0.081)	-0.00082 (0.035)	0.0092 (0.014)
Total Assets (Log)	0.099* (0.05)	0.0049 (0.05)	0.0074 (0.04)	0.016 (0.03)	-0.032 (0.02)	-0.049 (0.03)	-0.0057 (0.01)	0.0033 (0.01)
ROA	-0.014 (0.13)	-0.13 (0.12)	0.66 (0.68)	0.59 (0.85)	-0.025 (0.07)	-0.018 (0.08)	-0.21 (0.26)	0.57* (0.24)
Dividend Yield	1.65* (0.82)	2.64** (0.90)	0.99 (0.93)	2.58** (0.81)	0.66 (0.44)	1.38* (0.63)	0.46 (0.35)	-0.15 (0.23)
Size of Issuance	-0.030 (0.05)	0.052 (0.05)	-0.0094 (0.04)	0.037 (0.04)	0.027 (0.03)	0.044 (0.04)	0.0077 (0.02)	0.0030 (0.01)
Track Record	0.010 (0.01)	0.016 (0.01)			-0.0020 (0.01)	-0.0032 (0.01)		
Age		0.010* (0.01)	-0.00064 (0.00)	-0.0022 (0.00)		-0.0024 (0.00)	0.00028 (0.00)	0.00013 (0.00)
Manufacturing	0.13 (0.07)	0.16* (0.07)	0.094 (0.07)	0.062 (0.06)	0.016 (0.04)	0.026 (0.05)	0.0089 (0.03)	-0.026 (0.02)
Finance & Insur.	0.34* (0.13)	0.022 (0.15)	0.028 (0.12)	0.035 (0.08)	-0.064 (0.07)	-0.037 (0.10)	0.059 (0.05)	0.016 (0.02)
Constant	-0.76* (0.37)	-0.58 (0.38)	0.095 (0.33)	-0.45 (0.29)	0.93*** (0.20)	0.85** (0.26)	0.93*** (0.12)	0.89*** (0.08)
Observations	112	79	139	403	112	79	140	407
Adjusted R <sup>2</sup>	0.161	0.305	0.061	0.079	0.043	0.098	-0.032	0.058

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

**Appendix: Variable Definitions for Regressions**

<b>Variable</b>	<b>Description</b>	<b>Data Source</b>
Age	The difference between the year the company issued equity and the year the company registered as a public company	Jobsons; AIBR
Disclosure	A dummy variable equals 1 if the company disclosed the use of proceeds of the equity raising, 0 otherwise.	Jobsons; AIBR
Dividend yield (%)	The corresponding dividend per share (% per annum) for either an equity raising in preference or ordinary shares, in the year of the equity raising.	Jobsons; AIBR
Dual	A dummy variable equals 1 if the company issues both ordinary and preferences shares, 0 otherwise.	Jobsons; AIBR
Finance & Insurance	A dummy variable equals 1 if the company's ANZSIC division code is K, 0 otherwise.	Jobsons; AIBR
JB Were	A dummy variable equals 1 if the company was underwritten by J.B. Were, 0 otherwise.	Jobsons
Manufacturing	A dummy variable equals 1 if the company's ANZSIC division code is C, 0 otherwise.	Jobsons; AIBR
Ords	A dummy variable equals 1 if the company issues ordinary shares, 0 otherwise.	Jobsons; AIBR
Prefs	A dummy variable equals 1 if the company issues preferences shares, 0 otherwise.	Jobsons; AIBR
Return on assets	A ratio of the net profit (in pounds) and the total assets (in pounds) in the year of the equity raising.	Jobsons; AIBR
Size of issuance	The total amount (in pounds) of the equity issuance divided by total assets	Jobsons; AIBR
Success	The amount of equity raised by the company as compared to its offer amount (expressed as a percentage)	Jobsons
Total assets	The natural logarithm of total assets (in pounds) of the company at the year of the equity raising.	Jobsons; AIBR
Track Record	The number of years of historical profits reported in the company's prospectus for an initial public offering	Jobsons; AIBR

Underpricing	A percentage change in the first observable traded share price (or the average traded share price) over the offer price, adjusted for the change in the stock market price index over the same period	MSX; SSX; Jobsons; newspapers
Underwritten	A dummy variable equals 1 if it was reported that equity raising was underwritten (fully or partially), 0 otherwise.	Jobsons

This table provides the definition of every variable we use in the empirical work. Variables are listed in alphabetical order. Jobsons is *Jobson's Investment Digest* with various titles. AIBR is *Australasian Insurance and Banking Record*. MSX is The Stock Exchange of Melbourne Official Record. SSX is Sydney Stock Exchange Official List of Prices. ANZSIC is Australian and New Zealand Standard Industrial Classification code

FIGURE 1  
*Equity Raised by Year*

