

THE TRADING OF UNLIMITED LIABILITY BANK SHARES: THE BAGEHOT HYPOTHESIS

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by

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Abstract

From the mid-1820s, banks became the first business sector in Great Britain and Ireland to be granted the right to form freely on an unlimited liability joint stock basis. Walter Bagehot, the renowned contemporary banking expert, warned that shares in such banks would ultimately be owned by widows, orphans and other impecunious individuals. An alternative hypothesis is that the governing bodies of these banks constrained by special legal restrictions on share trading acted effectively to prevent such shares being transferred to the less wealthy members of society. We test both conjectures using the archives of an Irish joint stock bank. The results do not support Bagehot's hypothesis, but instead indicate that shares continued to be owned by wealthy individuals.

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1. Introduction

Conforming to liberalisation trends elsewhere, firms in Great Britain and Ireland were allowed to establish freely on an unlimited liability joint stock basis from the early 1820s.¹ This liberalisation was initiated with Irish banks, which could constitute freely on a joint stock basis as early as 1825², and was then extended to English banks the following year.³ Eventually all firms could freely constitute on a joint stock basis from 1844.⁴

The unlimited liability joint stock institutional form introduced into banking under the 1825 and 1826 Acts had a relatively long life, lasting until the general adoption of limited liability just after 1879.⁵ As joint stock banks operated without any other type of legal constraint apart from restrictions placed on note issues, a crucial issue was how secure were their deposit liabilities. As contemporaries fully realised, the security of deposits, in large part, depended on bank-owners' personal wealth.⁶ Just how much personal wealth secured deposits was subject to severe and relentless criticism by Walter Bagehot, the well-known author of *Lombard Street*.⁷ Bagehot (1862, p.397) in an article in *The Economist* argued, albeit without offering much in the way of evidence, that the shareholders of unlimited banks 'do not object to subject all their property to liability, because they have no property'. Similarly, he stated elsewhere that 'we enact that every person joining a bank shall be liable for every sixpence contained in it, to his last acre and shilling. The consequence is, that persons who join banks have very commonly but few acres and few shillings'.⁸ Bagehot, writing in the mid-1850s, admitted that many banks had wealthy owners, but he believed that this would not remain the case.⁹ Eschewing the belief in the brand name capital argument, Bagehot implicitly argued that all bank shares would ultimately end up being owned by widows, orphans and the impecunious.¹⁰ Thus, these banks would become *de facto* limited, leaving deposits unsecured.

As Bagehot implicitly realised, the bid price for bank shares depended on a buyer's wealth, with the most impecunious willing to bid the most. Nevertheless, an alternative conjecture is that the governing bodies of the banks constrained by the legislation governing the formation of joint stock banks operated to prevent shares being transferred to impecunious individuals. If the legal and institutional constraints were effective, new owners would be selected on the basis of meeting some minimum wealth requirements rather than on the basis of bid prices alone.

Using the business archives of an Irish joint stock bank, we examine the wealth characteristics of new bank investors. In particular, we analyse the occupational

and social profiles of individual investors. Using information from the probated wills of individual investors, we also analyse their wealth characteristics. In addition, using a proxy for information, we measure the information-gathering activities of individual sellers and the bank's governing body. We also present evidence on the wealth and shareholding characteristics of the individuals comprising the governing body to ascertain whether or not they had sufficient incentives to vet share transfers. Finally, we also test whether or not the governing body operated some mechanism that admitted low wealth investors provided they pay a compensatory premium.

Our findings suggest that the shares of the Irish joint stock bank were not transferred to impecunious individuals, even in periods when there was an increased probability of bank distress, indicating little support for Bagehot's view. We also find that the governing body contained the largest and wealthiest shareholders, indicating that this body had sufficient incentives to vet share transfers. Furthermore, we observe that the vast majority of investors lived in close proximity to the branches of our bank, indicating that the governing body may have used the branch network to gather information on prospective investors. We also have little evidence to indicate that the governing body implemented a price discrimination policy whereby investors paid a different price for bank shares dependent on their wealth.

While we focus on nineteenth-century Irish banks, our study has a much broader significance. A recent debate amongst legal scholars has centred on what impact introducing unlimited liability for corporate torts would have upon the capital markets.¹¹ Furthermore, modern economists recognise the issue raised by Bagehot, and several have suggested that the transferability of shares carrying unlimited liability may need to be somehow impaired.¹² However, despite a lot of debate concerning the unlimited liability firm, there is very little evidence as to how unlimited liability joint stock firms operated in the past (Hansmann and Kraakman, 1991, p.1924-5, Grossman, 1995).¹³

2. A Rationalisation of the Bagehot Hypothesis

In this section, we analyse under what conditions Bagehot's hypothesis may or may not hold. Given unlimited liability bank ownership and the condition that investors know each other's wealth, each incumbent surplus-wealth shareowner, *ceteris paribus*, would always value his ownership share less than any other individual with less surplus wealth.¹⁴ For the same reason, the shares of such a bank would be most valued by any individual whose share ownership approximates their total wealth. This conjecture derives from the fact that

whereas for each co-owner, the return from investment is proportional to his share of bank ownership, the cost is proportional to the level of their overall wealth, which, under certain conditions, is liable to claim by bank creditors. The conditions are that the bank has insufficient internal assets to meet its obligations in the eventuality of bankruptcy and that a subsection of co-owners are unable to meet their *pro rata* share of obligations to the extent that the entire wealth of each investor becomes liable.

To see the above better, consider the following example in which banks operate in a competitive environment, having no barriers to entry. This implies that bank owners earn zero expected economic profits over the long term. For simplicity, we also assume that ownership of the bank is equally divided among its initial owners all of whom enjoy similar levels of surplus wealth, implying *ceteris paribus*, all initial owners value their ownership equally. Under these circumstances, an unexpected transfer of ownership share by any initial owner to any buyer having substantially less surplus wealth than the incumbent owners must impose a significant pecuniary externality on remaining co-owners or on pre-existing depositors. The extent of the imposed externality would be proportional to the difference in surplus wealth between the buyer and the seller. Since any initial owner can extract rents by transferring ownership to any buyer having less surplus wealth, this raises the question as to whether all initial owners will ultimately transfer their shares to impecunious buyers, or whether some subset of initial owners will find it in their interest to prevent this occurrence.

As hinted at by Bagehot (1862a,b) the key to resolving this issue depends on depositor expectations in regard to the overall riskiness of the bank. We consider the more interesting case where owners are risk neutral and depositors are risk averse. If, as Bagehot believed, depositors remain ignorant of the bank's dilution of the level of wealth backing the bank's public liabilities, then the full cost of such share transfers are borne by depositors, and, as Bagehot clearly hypothesised, each surviving bank would become *de facto* limited. At the other extreme, when it is assumed that depositors are fully informed and there is a competitive market for bank shares, depositors will demand a higher fully compensatory risk premium from the bank owners, with the result that the remaining group of initial owners now suffer a negative return of greater magnitude than the distributional rent enjoyed by the seller. In contrast, given a sufficiently large number of potential bidders, the buyer will only earn a normal return that sufficiently compensates him for his share of the increased cost from the higher risk premium imposed by rational depositors.

In the absence of compensation to co-owners, if initial surplus wealth shareowners are unable to prevent the free transfer of shares, the unlimited joint stock bank would not be established in the first place. In the absence of such a scheme, one possibility is that initial owners would need to establish some anti-wealth-diluting mechanism to make the institution viable. Along these lines, a possibility is that co-owners can simply vet any buyer before validating any ownership transfer.¹⁵ This scheme would also be costly, as it would require the bank to acquire detailed information on each buyer. Another possibility, requiring only the knowledge of the standard deviation and mean of potential buyers for any known wealth distribution in the market for shares, would be for co-owners to simply set a price for each share transfer to ensure a certain level of surplus wealth for all new owners.

Above, we argued that once a bank has been established, there is no tendency toward dilution of surplus wealth. However, we have not discussed what determines the level of surplus wealth or ownership shares. For a given degree of depositor risk aversion, the greater the magnitude of aggregate surplus wealth of shareowners, the lower the risk premium. Indeed, given our assumption that depositors exhibit decreasing risk aversion, the risk premium can be expected to decline at an increasing rate. But as owners are risk neutral, correlated with a given risk premium, there is a particular minimum level of share ownership that allows each investor to cover his costs of ownership associated with his wealth level. Thus for a given risk premium there is an optimal magnitude of surplus wealth and share ownership. Therefore the level of risk premium is ultimately determined by the extent of depositor risk aversion. Conceivably, though unlikely, if depositor risk-aversion behaviour follows some distribution, it is possible for initial owners, having low surplus wealth and diffused ownership, to target that portion of the market. Thus, Bagehot's *de facto* limited liability bank might arise for some banks where all the initial shareowners establishing the bank had zero surplus wealth.¹⁶

Above we imposed the assumption that banks operated in a competitive environment earned zero profits. More realistically, we should expect such banks to average zero profits over the business cycle. This implies that a competitive bank will earn positive profits in boom years to offset negative profits during recessions. In particularly deep recession years, the prospect of bank insolvency dramatically increases, and existing owners would collectively and individually want to exit the bank by offloading their ownership shares. Consequently, rational depositors will require shareowners to provide a credible commitment not to exit in such periods. The post-sale-extended liability requirement imposed under the Banking Copartnerships Regulation Act of 1825 (6 Geo. IV, c.42) would have fulfilled this role.¹⁷ Specifically, section 18 of this Act specified that in the case where existing shareholders were unable to fully

meet all debt obligations, former owners having sold their ownership within the three-year extended liability period then became liable for remaining debts of the bank.¹⁸ After the 1862 Companies Act, banks were permitted to abandon their old co-partnership constitutions and register as unlimited liability companies. One of the main benefits to shareowners of doing this was a reduction from three years to one year for which a member was liable after they had sold their shares. (Crick and Wadsworth, 1936, p.33).

Interestingly, section 22 of the Irish Banking Copartnership Regulation Act specified that “no share transfer shall take place without the consent of the directors; nor is any transfer valid unless signed by one or more of such directors”. However, as argued above, it would be in the self-interest of the initial co-owners to set up such a structure. Therefore, it appears that this section 22 was somewhat redundant. Notably, the English Banking Copartnership Act (1826) had the post-sale-extended liability requirement of the Irish Banking Copartnership Regulation Act, but did not have section 22. It appears that English bank promoters voluntarily inserted such clauses into their bank’s deeds of copartnership (Plumptre, 1882, p.444).

The enactment of the post-sale-extended liability requirement raises the issue as to whether it would have been feasible for shareowners to adopt a similar provision voluntarily in their deeds of co-partnership. Mitigating against such a possibility is that such a provision could have been eliminated at the most expedient time, which would correspond with an increase in bank distress.

The rest of the paper analyses the trading of shares in an unlimited liability bank and tests the implications arising from this section. First, we test the validity of Bagehot’s hypothesis by specifically examining the wealth and occupational characteristics of our bank investors. We then explore the bank’s governing structure by examining the wealth and ownership of the individuals serving on the bank’s governing bodies. To test for the extent of information gathering, we measure the distance between buyers and sellers and the branches of our Irish bank. Finally, we test for the existence of price discrimination on the basis of wealth.

3. The Ulster Banking Company

We chose to test Bagehot’s hypothesis using the Ulster Banking Company (UBC) because its publicly accessible archives contain share transfer journals which recorded the details of every share transfer made.¹⁹ Unfortunately, for most banks such detailed records are not easily accessible as they are deemed to

have little archival value.²⁰ Fortunately, as we demonstrate below, this bank is a good example to study as *a priori* it would be most favourable to Bagehot's view.

The UBC opened in July 1836 to service the banking needs of the growing city of Belfast and its surrounding districts (Ollerenshaw, 1987, p.46). Originally it registered under the Banking Copartnerships Regulation Act (1825), but at the Annual General Meeting of 1867, it was unanimously resolved “that the Ulster Banking Company shall be registered as an Unlimited Liability Company, under the Companies Act, 1862”.²¹ By 1874, the bank, one of nine commercial banks in Ireland, had forty-three branches mainly concentrated in the north of Ireland, had total assets of just over £4.25 million, and had 1015 shareholders.²² Only one other bank in Ireland (the National Bank) had more branches than the UBC, and the UBC was a lot larger, in terms of branches and asset size, than the average English provincial bank.²³ Furthermore, the UBC had considerably more shareholders than the average English provincial bank, and just slightly less than the average Irish or Scottish bank. The average number of shareholders for each group in 1875 was as follows: Irish banks (1535), Scottish banks (1253) and English provincial banks (422). Indeed, only two English provincial banks had more shareholders than the UBC, the West of England and South Wales Bank (1808) and the Manchester and Liverpool District Bank (1250).²⁴

The management organisation of the UBC was advanced in that it consisted of four directors answerable to a shareholders' committee which had seven members. Directors, at their discretion, continued in office unless they were voted off by two-thirds of the shareholders (Barrow, 1975, p.130). In contrast, the shareholders' committee was elected annually, but from the minute books of the bank in fact two members of this committee were replaced annually.²⁵ The shareholders' committee generally met fortnightly, and one of their main orders of business comprised the authorisation of share transfers.

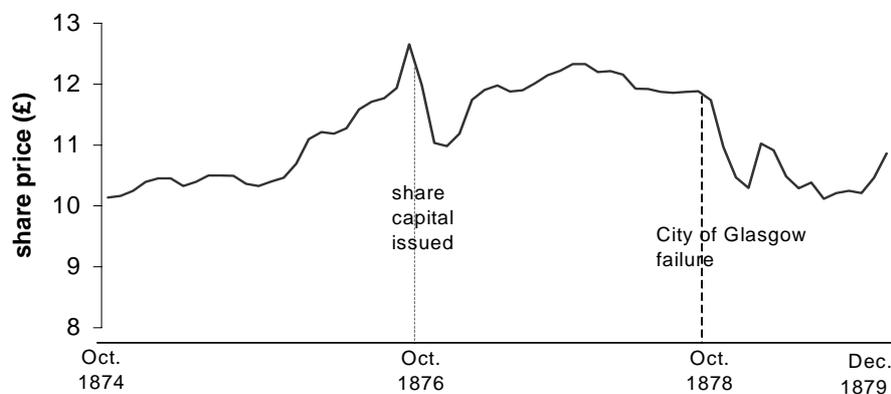
The period chosen for our study (October 1874 to December 1879) is interesting for several reasons. Firstly, trading in unlimited liability bank shares would have been highly developed by this stage given that the unlimited liability joint stock bank had been in existence for nearly half-a-century. Secondly, these were the final years of unlimited liability banking, as across the British Isles there was a general move by banks to limited liability after 1879. Finally, during the period of our study, the City of Glasgow Bank, a prominent unlimited liability Scottish bank, failed.²⁶ Following the collapse of this bank and the bankruptcy of the majority of its shareholders, there was a widespread concern across the British Isles that the wealthy shareholders of unlimited joint

stock banks would sell their shares to less wealthy investors or even transfer them to impecunious individuals (Levi, 1880, p.476; Gregory, 1936, p.212; Clapham, 1944, p.311; Alborn, 1998, p.135). Indeed, if the post-sale-extended liability requirement was an ineffective restriction for preventing shareholders selling to individuals with substantially less surplus wealth, then one would expect this to be especially apparent after the City of Glasgow failure.

The exact start date for our study (1st October, 1874) was determined by the first entry in the relevant share transfer journal (October marked the beginning of the bank's financial year). Our study stops at the end of 1879, as by this stage, there was the genesis of a general move to limited liability by banks, and the expectation that banks were going to convert to limited liability had already been incorporated into bank share prices (Hickson and Turner, 2001).

The average monthly share prices displayed in Figure 1 were calculated using prices reported in the Ulster Banking Company's Committee and General Meeting Minute Book (1864-1879).²⁷ The average share price in October 1874 was £10.2s.10d., peaking in September 1876 at £12.13s.0d., and falling by December 1879 to £10.17s.2d.. Indeed, an influential contemporary view was that banks like the UBC, with substantially lower than average share prices, would be the most susceptible to surplus wealth dilution (Thomas, 1936, p.100). For example, in October 1874, the share prices of the other six major Irish unlimited liability joint stock banks ranged from £30.10s.0d. to £125.10s.0d., with an average share price of £78.2s.5d..²⁸ Indeed, of all the English and Scottish banks reported in Dun's comprehensive statistical study of British banking, only one has a lower share price than the UBC.

Figure 1. *Average Monthly Share Price of Ulster Banking Company, October 1874-December 1879*



From Figure 1, it can be seen that the share price trended upwards until the decision to issue new share capital in 1877. Unsurprisingly, the share price fell over the next few months, but recovered again until early 1878, after which time it was relatively stationary until the City of Glasgow crisis occurring the end of October 1878. Similar to the pattern displayed by other banks, the share price fell 13.6%, between October 1878 and January 1879 (Baker and Collins, 1999, p.430). The dramatic decline in the price of bank shares was also mirrored in the market for industrial shares.²⁹

4. Data on Ulster Banking Company Investor Profiles

The UBC's share transfer journal contains the following information: the buyer's and seller's name, buyer's address and occupation / social status, whether seller was deceased, and number of shares transferred. Unfortunately, the share transfer journal does not report the share price associated with each transfer. Nevertheless these prices were recorded in the minute books of the UBC's shareholders' committee.³⁰ In many cases, shares were gratuitously transferred for a fee (to cover stamp duty) of ten shillings per share.

In our sample period, there were 1222 individuals and 68 married couples who invested in UBC shares.³¹ From the 1874 shareholder list contained in that year's published accounts, it was found that only 286 of the identified 1290 investors were shareholders prior to the start of our sample period.³² From Table 1, we can see that the majority of investors in our sample period accumulated between eleven and one hundred shares, with the median number of shares accumulated being twenty.

Table 1. *Share Accumulation Per Investor, Oct 1874 – Dec 1879*

Average number of shares accumulated	51.76
Standard deviation	114.24
Median number of shares accumulated	20
% Investors with less than 10 shares	31.6
% Investors with 11-50 shares	45.3
% Investors with 51-100 shares	13.2
% Investors with >100 shares	9.8

Note: A small number of shares were jointly owned by two and sometimes three individuals. No allowance is made for this fact in the above figures.

From Table 2, it can be seen that for our sample period there were 1881 transfers of UBC shares, giving only an average of approximately 1.5 transfers per working day. Unsurprisingly, after the issuance of share capital in 1877, the frequency and volume of transfers increased³³, but the increase in trading activity, particularly in 1879, could also be due to shareholder concerns following the failure of the City of Glasgow Bank in 1878. From Table 2, it can also be seen that just under half of all the shares transferred in the period were transferred gratuitously, with 65.43% transferred to relatives bearing the same surname as that of the transferor. As this figure stayed the same after the City of Glasgow failure, we can infer that shares weren't necessarily dumped on unrelated impecunious individuals in this period.³⁴

Table 2. *Frequency and Volume of Trading in Ulster Banking Company Shares, 1874-1879*

	Transfers made gratuitously		Transfers for monetary consideration			Total		
	frequency	volume	frequency	volume	average size of transfer	frequency	volume	average size of transfer
1874 ¹	16	1,257	55	811	14.7	71	2,068	29.1
1875	49	3,046	270	4,653	17.2	319	7,699	24.1
1876	51	2,862	249	3,892	15.6	300	6,754	22.5
1877 ²	74	5,335	192	2,696	14.0	266	8,031	30.2
1878	66	3,734	332	5,704	17.2	398	9,438	23.7
1879	68	7,218	459	8,089	17.6	527	15,307	29.0
Total	324	23,452	1,557	25,845	-	1,881	49,297	-

¹ The data for 1874 starts at the beginning of October.

² The figures for 1877 exclude transfers of the newly issued 'a' shares.

In order to estimate the wealth of the 1290 UBC investors included in our sample period, we use the terminal value of their wealth as recorded in probate records. This approach has the obvious drawback of not capturing the actual wealth of the investor at the time of share purchase. For example, of the thirty shareholders in our sample whose terminal wealth was less than £200, eleven actually owned shares having a greater value than their bequeathed estate. Indeed, due to life-cycle effects, the terminal wealth of an investor will generally underestimate their wealth at the time they bought UBC shares. The existence of *inter vivos* gifts may also lead to an underestimation of the terminal wealth of the testator. In addition, the testator's wealth may be underestimated in order to evade death duties, as would be especially easy if the testator's business was a partnership (Rubenstein, 1977, p.603-4).

Another drawback of our approach is that the majority of property owners did not leave wills in this period because property was transferred *in testate* or *inter vivos*. This becomes particularly problematic when certain types of investors are less likely to leave wills than others. For example, merchants may have been more likely to pass their business unto an heir before dying. In addition, spinsters would have a lower propensity to leave wills as the property bequeathed to them in their father's will would frequently have contained an entail enforceable through legal or social restrictions.

Fortunately, the UBC's share transfer journals record whether a particular seller was deceased. Searching through the share transfer journals from 1874 to 1898 (this was the last year which was available for public inspection), we found that close to 200 of our 1290 investors died during this time period. Using this information, we examined the relevant Will Calendar book to ascertain if the deceased had left a will.³⁵ By this method, we identified the probated wills of 84 of our possible 1290 investors.

In order to find the wills of the remaining investors, we searched the Ulster Historical Foundation's database which contains an index of the probated wills and letters of administration in Ireland for the years 1878 to 1900. We also searched various indexes located in the Public Record Office of Northern Ireland: the *Index to the Belfast Wills and Administrations 1900-1908*, the *Index to the Belfast Wills and Administrations 1900-1908*, and the *Index to the Armagh Wills and Administrations 1901-1908*. All the above will indexes typically only report the deceased's name, county of residence and year of probate. Of the names in these indexes matching those of our investors, we only accepted those having the same address and occupation / social status as recorded in the UBC share transfer journals. Using the above database and indexes, we identified the probated wills of a further 360 investors. Therefore, in total, we identified the probated wealth of 444 of our 1290 investors. This proportion is remarkable given that in 1879, the Irish Will Calendar contains about 4600 wills, while there were approximately 105,100 deaths (Mitchell, 1988, p.54).³⁶

The average year of probate for our sample was 1890, with the median being 1889. The probate date for 40 of our investors was in the 1870's; the probate date of a further 198 was in the 1880's, with 133 in the 1890's, and 73 in the first decade of the twentieth century. As there was a low rate of inflation from 1879 to 1910, we do not convert our terminal wealth figures into real terms.

5. The Wealth, Occupations and Social Status of UBC Investors

In this section, we contrast the evidence drawn from our sample against Bagehot's hypothesis. The information in Table 3 lists the occupations or social status of our 1290 UBC investors. Table 3 indicates that just over thirty per cent of these investors were widows or spinsters, although between them they only purchased 26.3 per cent of the shares in the period. Nevertheless, we also observe that by far the largest group of investors in terms of the number of shares purchased were merchants who bought nearly 3000 more shares than spinsters and nearly double the number of shares bought by widows. The professional classes as a whole were the next largest group in terms of number of shares purchased, buying nearly 2000 more shares than the spinsters group. We also observe that the average and median number of shares accumulated over our sample period was greater for the merchants, professionals and gentlemen than the spinsters or widows group.

From a first glance, we see that very few shares were sold to individuals from the lower middle classes or below. The twenty-seven bank clerks may have been from wealthy banking or mercantile families, perhaps being groomed for higher office in the bank. Notably, there are only twenty-two individuals in the tradesmen category, accumulating only 1.2% of the shares traded in the period. However, these individuals, although categorised by the UBC as builders and butchers etc., could have been entrepreneurs, owning their own businesses.

From the information in Table 4, UBC investors, on average, bequeathed £5368, and median wealth of our investors was £1,971. Table 4 indicates that the majority of our investors had less than £5,000 of wealth, but eleven per cent of our 444 investors bequeathed wealth greater than £10,000. Furthermore, as can also be seen in Table 4, the failure of the City of Glasgow Bank did not lead to a reduction in the quality of individual entering the membership of the UBC. Indeed, it appears that, if anything, the average wealth of investors entering the UBC rose during this period, reflecting perhaps that depositors had become more risk averse following the City of Glasgow crisis.

Table 3. *Occupations / Social Status of Investors, 1874-1879*

	% of shares accumulated in the period	Number of investors	% of total investors	Average number of shares accumulated	Median number of shares accumulated
Merchants	20.5	164	12.7	83.7 (160.8)	32.5
Professionals¹	18.9	190	14.7	66.1 (147.9)	25.0
<i>Other professionals²</i>	5.5	47	3.6	78.4 (191.5)	22.5
<i>Clergymen</i>	4.9	66	5.1	49.8 (98.7)	23.5
<i>Doctors</i>	3.5	37	2.9	63.1 (112.9)	20.0
<i>Bank managers</i>	3.1	22	1.7	95.0 (213.0)	34.5
<i>Solicitors</i>	1.9	18	1.4	68.8 (60.8)	49.5
Spinsters	16.1	256	19.8	41.9 (115.5)	13.0
Gentlemen³	13.4	152	11.8	59.1 (117.3)	25.0
Widows	10.2	143	11.1	47.7 (116.8)	20.5
Farmers	9.5	187	14.5	33.9 (32.4)	21.0
Manufacturers	1.4	20	1.6	45.5 (74.7)	23.5
Semi-professionals⁴	1.2	34	2.6	23.3 (27.9)	15.5
Bank clerks	1.2	27	2.1	30.0 (68.4)	8.0
Tradesmen⁵	1.2	22	1.7	35.0 (56.8)	11.0
Teachers⁶	0.7	20	1.6	24.0 (41.7)	10.0
Army and Police officers	0.5	14	1.1	23.2 (26.0)	12.0
No occupation or status recorded (male)	3.5	41	3.2	59.0 (96.4)	20.0
No occupation or status recorded (female)	1.7	20	1.6	56.5 (83.5)	25.0
TOTAL	100	1290	100		

Notes. Figures in parenthesis are standard deviations. Some shares were jointly owned by two and sometimes three individuals. No allowance is made for this fact in the above figures.

¹ This category consists of solicitors, doctors, bank managers, clergymen and other professional occupations.

² This category includes Accountants, Auctioneers, Bankers, a Barrister, a Chemist, a Designer, Engineers, Insurance agents, Managers in public and private sectors, Stockbrokers.

³ These are mainly men living off rental income.

⁴ This category includes Bookkeepers, Clerks, Commercial Travellers, Salesmen, Muslin agents, Warder of jail.

⁵ This category includes a Bank porter, Builders, Butchers, Caretaker, Carpenters, Gardeners, a Mechanic, Servants, a Stonemason.

⁶ This includes 4 School Inspectors.

Table 4. *The Wealth of Investors in the Ulster Banking Company, 1874-79*

PART A: Statistics		
Number of wills		444
Total wealth of the 444 shareholders		£2,383,363
Average		£5,368
Standard deviation		£10,458
Median		£1,971
Smallest		£2
Largest		£91,316
PART B: Distribution of wealth		
		% of total number of investors with wills
Less than £200	30	6.8
£201-500	48	10.8
£501-£1000	64	14.4
£1001-£2000	91	20.5
£2001-£3000	64	14.4
£3001-£10,000	98	22.1
£10,001-£20,000	16	3.6
£20,000-£50,000	29	6.5
>£50,001	4	0.9
PART C: Impact of City of Glasgow failure on wealth profile		
Number of wills of shareholders who bought shares 1 st November 1878 to 31 st December 1879		180
Average wealth		£6,369
Standard deviation		£9,971
Median		£2,175
% bequeathing wealth < £1000		27.8

In order to get a measure of the relative wealth of our investors with respect to the population leaving wills during the late nineteenth century, we took a sample of wills from the Will Calendar book for 1889; that year being the median year of probate for our 444 investors who left wills.³⁷ The average probated wealth of our sample individuals was £2,277 compared to £5,368 for the UBC investors.³⁸ Notably, repeating this procedure using the Will

Calendar for 1879 yielded similar results.³⁹ Using the Welch (1938) procedure, the difference in means is statistically significant at the 99% confidence interval. In addition, 82.1% of the sampled individuals left less than £1000 of probated wealth, whereas 68% of UBC investors bequeathed estates valued at greater than £1000.

Table 5. *Occupations or Status Of UBC Investors Leaving Wills, 1874-1879*

	Average wealth	Median wealth	% bequeathing less than £1000	Number of investors	% of total investors with same occupation or status
Gentlemen	8,262 (14,719)	2,647	19.3	57	36.3
Merchants	7,588 (10,317)	3,288	27.3	66	40.2
Professionals	7,072 (14,229)	2,609	20.4	93	48.9
<i>Ministers</i>	2,119 (2166)	1,500	31.6	38	57.6
<i>Doctors</i>	5,923 (7463)	3,325.5	10.0	20	54.1
<i>Other professionals</i>	8,152 (14,577)	3,000	23.5	17	36.2
<i>Solicitors</i>	28,801 (30,049)	20,152.5	0	10	55.6
<i>Bank managers</i>	3,943 (3600)	2,653	12.5	8	36.4
Tradesmen	7,072 (12,078)	1,577	50.0	6	27.3
Spinsters	3,108 (5113)	1,356	41.2	51	19.9
Farmers	2,871 (4,999)	1,299	34.9	86	46.0
Widows	1,766 (2073)	941	52.5	61	42.7

Notes. Standard deviations are in parenthesis. See notes to Table 3.

The wealth characteristics of the main occupational / social status categories are reported in Table 5. Although, spinsters were less likely to leave wills than other investor categories, they were on average, relatively wealthy. Unsurprisingly, widows have the lowest average wealth with just over half of the widows having less than £1000 when they died. Notably, half of our sample of investors with estates smaller than £200 were either widows or spinsters, placing them at the bottom end of the wealth distribution of our sample.

While Table 3 shows that gentlemen, merchants and professionals accumulated 52.8% of the shares in our sample period, Table 5 reveals that these three occupational categories were, on average, the wealthiest. Furthermore, these three categories have the lowest percentage of investors bequeathing less than £1000. Notably, as can also be seen from Table 5, the tradesmen leaving wills were relatively wealthy individuals, which gives some support to our earlier claim that they may in fact have been entrepreneurs with their own businesses.

The above evidence strongly supports the view that the investors in the UBC were relatively wealthy individuals when compared to other members of society leaving wills. Notably, the total wealth of our 444 shareholders constitutes 63% of the UBC's total liabilities to the public in 1879, when the bank had 1454 shareholders.⁴⁰ The evidence in this section suggests that Bagehot's hypothesis does not hold, and supports our argument in section two that one should not expect the dilution of wealth which backs shares in unlimited liability joint stock banks.

6. The Importance of Information and the Transfer of Shares

As noted above, a major provision of the 1825 Banking Copartnership Regulation Act was the post-sale-extended liability requirement. As the provision would have forced a seller to internalise more any potential pecuniary externality stemming from the sale of ownership share, *a priori* we should expect that there was less need for the governing body to vet all share sales. However, as we argued above, the provision was at its most effective in recessionary periods, suggesting that an initial owner would have an incentive to offload his shares before any downturn. Indeed, such a strategy would have become easier when the post-sale-extended liability requirement was reduced to one year following re-registration under the 1862 Companies Act. This argument obviously depends on depositors not adjusting their risk premium immediately on dilution, and it also becomes less likely if the large shareholders attempted to exit. Thus to prevent surplus wealth dilution would have required the governing body to vet all shares in every period, particularly in good times. This argument implies that both the seller and the governing body both incur the cost stemming from opportunistic sales. In particular, we should expect a consistent level of vetting by the committee over all periods, and the individual to be particularly circumspect during periods of increased probability of bank distress.

Table 6. The Proximity of Buyers and Sellers of Ulster Bank Shares, 1874-79

Number of share transactions					
	>20 miles	between 10 and 20 miles	< 10 miles	No data	Total
1874 ¹	35 (63.6%)	5 (9.1%)	15 (27.3%)	0	55
1875	164 (60.7%)	35 (13.0%)	70 (25.9%)	1 (0.37%)	270
1876	155 (62.2%)	35 (14.1%)	54 (21.7%)	5 (2.0%)	249
1877 ²	140 (72.9%)	19 (9.9%)	30 (15.6%)	3 (1.6%)	192
1878	229 (69.0%)	25 (7.5%)	74 (22.3%)	4 (1.2%)	332
1879	263 (57.3%)	54 (11.8%)	118 (25.7%)	24 (5.2%)	459
Total	986 (63.3%)	173 (11.1%)	361 (23.2%)	37 (2.4%)	1557
Volume of share sales					
1874 ¹	497 (61.3%)	47 (5.6%)	267 (32.9%)	0	811
1875	2643 (56.8%)	893 (19.2%)	1097 (23.6%)	20 (0.4%)	4653
1876	2080 (53.4%)	788 (20.2%)	956 (24.6%)	68 (1.7%)	3892
1877 ²	1960 (72.7%)	225 (8.3%)	404 (15.0%)	107 (4.0)	2696
1878	3906 (68.5%)	397 (7.0%)	1317 (23.1%)	84 (1.5%)	5704
1879	4145 (51.2%)	747 (9.2%)	2870 (35.5%)	327 (4.0%)	8089
Total	15,231 (58.9%)	3,097 (12.0%)	6,911 (26.8%)	606 (2.3%)	25,845

¹ The data for 1874 starts at the beginning of October.

² The figures for 1877 exclude transfers of the newly issued 'a' shares. Note: Distance was measured as the crow flies. These figures exclude transfers that were made for nominal sums, usually to relatives. There were thirty-seven transactions for which we have no address for buyer or seller.

Given the information-gathering technology existing in the last quarter of the nineteenth century, one would expect shareowners to obtain, at a lower cost, information on prospective buyers living in close proximity. We therefore use the proximity of buyers and sellers of UBC shares as a proxy for the amount of information acquired. In Table 6 proximity was calculated by measuring the distance between (as the crow flies) buyers' and sellers' location. The addresses of the sellers were obtained from the shareholder lists contained in the UBC's annual reports.⁴¹ One validation of the usefulness of this measure is examine whether the size of trades is greater the further apart the buyer lives from the seller. One would expect that the costs of information gathering for trade are

fixed. Notably, there were 649 trades where more than ten shares were transferred; 61.9% of these took place between individuals living more than 20 miles apart, while only 26.3% took place between individuals living less than ten miles apart.

Table 6 indicates that the majority of trades were between individuals not living in close proximity. It is also worth noting that only 25.18% of trades and 28.54% of shares sold in our sample period took place between individuals living in the same county. Significantly, in 1879, the year following the City of Glasgow failure, these figures increased to 26.57% and 32.77% respectively. Indeed, these findings are supported by other evidence suggesting that it was common for the sale of Irish bank shares to be advertised in national newspapers.⁴² Notably, as can be seen in Table 6, between 1878 and 1879, there was a sharp decrease in the percentage of share trades and volume of share sales taking place between individuals living more than twenty miles apart. Thus, even though more shares were sold after the City of Glasgow failure, the evidence indicates that sellers gathered more information in this period, suggesting that the post-sale-extended liability requirement was effective in preventing opportunistic exiting.

Before we examine the evidence relating to the acquisition by the governing body of the UBC of information on new owners, we first explore their incentive to do so by looking at their wealth and share-owning characteristics. The UBC had four directors and a shareholders' committee comprised of seven men and during our sample period, sixteen different men served on the committee. From Table 7, we see that collectively these men owned 25,980 shares, constituting 21.65% of the UBC. Moreover, these men were the largest shareholders with the top five largest shareholders participating in the governance of the UBC. Furthermore, in our sample period, seven of the top ten largest shareholders and twelve of the top fifteen all served either as members of the shareholders' committee or as directors. Conversely, only three of the twenty men listed in Table 7 were ranked outside the thirty largest shareholders.⁴³ Finally, although thirteen of the thirty largest shareholders failed to serve on the shareholders' committee in our sample period, we note that of these, nine were either widows or spinsters, the others being composed of two merchants and two gentlemen. Indeed, one of these gentlemen had served on the shareholders' committee prior to our sample period.

Fortunately, we were able to obtain the probated wills of all the directors and seven of the committee members. Table 7 clearly shows that these individuals were very wealthy relative to other investors in the UBC. Indeed, the total wealth of the ten who left wills was nearly one-quarter of the wealth of our

sample of 444 investors. As predicted by our argument above, the evidence clearly shows that the members of the UBC governing bodies tended to be both the wealthiest and largest shareholders.

The above finding that the governing body of the bank predominately consists of the largest and wealthiest shareholders indicates that the unlimited liability joint stock bank may not suffer from the same kind of collective action problems associated with diffused ownership limited liability firms. Indeed, as we argued above in section 2, each individual shareholder's expected return increases with share of ownership, but paradoxically, the UBC's deed of co-partnership restricted an individual's share of ownership to a maximum of 2%. It is noteworthy that at least four co-owners approach this ceiling. One can rationalise this bank-imposed restriction on the basis that diversifying the collective surplus wealth efficiently across individuals, *ceteris paribus*, gives greater assurance to depositors.

We now turn to the access of the UBC's governing body to information regarding prospective owners. One likely possibility is that this body acquired detailed information regarding prospective owners on the basis of their access to intimate knowledge of local property owners. As one would expect, the vast majority of the men serving on this committee lived in Belfast or close to Belfast. Nevertheless, they may have been able to use the branch network to gain information on potential investors. Consequently, we use distance from a branch as a proxy for the degree of information gathered on potential investors. From Table 8, we note that the vast majority of our 1290 investors lived within 10 miles of the nearest UBC branch and only twenty-three lived outside of Ireland, confirming the possibility that the branch network served as a source of information.⁴⁴ Other evidence in support of the branch system serving as an information network is that, while over 75% of our investors lived in the six northern counties of Ireland, not all this area was covered by UBC branches.⁴⁵ For example, there were twenty-seven branches in the six northern counties, but there were no branches in large parts of North and East Antrim, South Down, Tyrone and much of Derry. Indeed these areas tended to be served by the two other major banks in the north of Ireland (Belfast Banking Company and Northern Banking Company).⁴⁶

Interestingly, in each annual report of the shareholders' committee, owners were exhorted with missionary-like zeal to do all that they could to increase the circulation and deposits of the bank.⁴⁷ Given such exhortations, one can deduce that many shareholders were also customers of the bank. If so, the UBC in this era would have been similar in this respect to other British banks (Holmes and Green, 1986, p.71).

Table 7. Shareholders' Committee and Directors of the Ulster Banking Company, 1874-79

Rank in terms of largest shareholders in 1878 ¹	Name	Size of shareholding in 1878	Wealth (£) ²
1	Henry J. McCance	3,407	43,821
2	William Gillis	3,240	-
3	William J. C. Allen	2,650	46,686
4	William C. Heron	2,483	75,068
5	Edward. C. Porter	1,742	-
7	Joseph M. Lynn	1,563	-
9	James Carr	1,200	68,114
11	James Lee	1,146	-
12	William Campbell	1000	-
13	Joseph Bigger	984	25,000
14	James Coleman	963	8,730 ³
15	John Heron	960	-
17	Francis R. Lepper	840	172,915
23	Nicholas Oakman	758	43,046
24	John Crawford	719	22,035
27	Charles Duffin	615	-
28	William Wann	600	-
33	Samuel Kingan	564	-
71	Daniel O'Rorke	296	15,353
85=	James Henry	<u>250</u>	<u>30,942</u>
	TOTAL	25,980	551,710

¹ Number of shareholders in 1878 = 1605

² Some of these individuals did not buy shares in our sample period; therefore their wealth figures are not included in our wealth estimates in Tables 4 and 5.

³ This gentleman was living in England when he died, and £8,730 is just the value of his estate in Ireland. Indeed, the value of his UBC shares alone would have exceeded this total.

Sources:

UBC Returns of Shareholders, 1878 (PRONI D/3499/CB/2).

Various Will Calendar books at PRONI.

TABLE 8. *Distance of Investors from Ulster Banking Company Branches*

		% of total shareholders
investors who lived <10 miles from nearest branch	1189	92.17
investors who lived between 10 and 20 miles from nearest branch	55	4.26
investors who lived further than 20 miles from nearest branch	40	3.10
investors who lived outside Ireland	23	1.78
investors for which there is no address recorded	6	0.5

Notes. distance was measured as the crow flies.

We now explore the possibility that the shareholders' committee was willing to admit less wealthy investors when appropriately compensated through some type of price discrimination mechanism. At first glance we note that there was little variation each month in the share prices paid by investors. The monthly standard deviations of share prices ranged from zero to £0.6557, with the average for the sixty-three months being £0.1189. Yet, when we take into account the events associated with the issuance of new share capital and the City of Glasgow failure, this average falls to £0.0993. Notably, only in nine of the months of our sample period did the standard deviation of share prices exceed £0.20, with five of these being the above-mentioned exceptional periods.

To account for general share price trends, we calculated a premium by first subtracting the average monthly share price away from the share price paid by each investor, and then dividing this figure by the share price paid by each investor. Given price discrimination exists, one should find that the wealthier investors pay a negative premium and the less wealthy pay a positive premium. The mean value of this premium is 0.059% with a standard deviation of 1.407 and a kurtosis equal to 5.516. Nevertheless, since the premium ranges from 6.411% to -8.945%, we explore below the possibility that these premiums are associated with differential prices based on wealth.

As indicated in Table 1, the total number of transfers for monetary consideration during the period under review was 1557, and of these, 561 transfers were made to investors on whom we have probated wills. Against the 561 shares transfers, we applied an OLS regression having the premium as our regressand. Given that a price discrimination policy could have been directly applied not only

against wealth, but also on the basis of socio-economic status, we include as our regressors both probated wealth and dummy variables indicating occupational or social status. In addition, we include a dummy variable to account for a City of Glasgow failure effect. This dummy variable takes on a 0 value for the period before October 1878, and the value of 1 thereafter.

Table 9. *Regression Results: Price Discrimination*

Regressors	Dependent variable - Premium	
Wealth	-0.000009	-0.000008
Constant	0.1155**	0.1544
City of Glasgow		-0.0315
Widow		0.3892*
Farmer		-0.2282
Professional		0.0318
Gentleman		-0.2700
Merchant		-0.0692
Spinster		-0.0115
R ²	0.0054	0.0220

Notes. The t-statistics are based on White's heteroscedastic-corrected covariance matrix.

** significant at the 5% level.

* significant at the 10% level.

N = 561.

The regression results in Table 9 show that the coefficients on the wealth variable is extremely small and is statistically insignificant. This finding provides little support for price discrimination based on investor's wealth. Interestingly, only the widow dummy variable is significant and has a positive sign, suggesting that widows pay a higher premium than other investors. The size of this coefficient indicates that this premium is relatively small, but an alternative interpretation may be that widows were less sophisticated than the other categories of investors. Consistent with our previous findings, the City of Glasgow variable is also statistically insignificant.

7. Conclusion

Our evidence from the UBC joint stock bank indicates that that the governing body of the bank, operating under the post-sale-extended liability legal requirement, successfully ensured that ownership was not transferred to those who have ‘but few acres and few shillings’. The evidence, drawn from the period after the City of Glasgow failure, also indicates that wealth dilution was particularly prevented in times of increased bank distress. Therefore, it appears from our evidence that Bagehot’s conjecture that unlimited liability bank owners were impecunious was mistaken. Significantly, the Joint Stock Companies Registration and Regulation Act (1844), which for the first time freely permitted all firms to constitute on a joint stock basis, also imposed a post-sale-extended liability requirement on the transfer of shares.⁴⁸

We also find little evidence of a price discrimination policy for share transfers. On the contrary, the evidence indicates that the bank preferred to acquire information on potential shareowners through their branch network, as evidenced by our proximity measure between buyers and UBC branches. Also contrary to Bagehot’s conjecture, we find that the governing body of the UBC consisted of the largest and wealthiest shareowners. This ensured that the governing body of the bank had sufficient incentives to enforce minimum wealth requirements for all investors. As this would have required substantial information regarding potential owners, this is consistent with our finding that for the majority of trades in our sample period, the buyers and sellers lived more than twenty miles apart.

Notes

- ¹ The reluctance to permit to form freely on a joint stock basis in Great Britain and Ireland may have been partially due to the conservative nature of the common law (Cottrell, 1980, p.45; Harris, 2000, p.78).
- ² Irish Banking Copartnerships Regulation Act (1825), 6 Geo. IV, c.42.
- ³ Banking Copartnerships Act (1826), 7 Geo. IV, c.46.
- ⁴ The Joint Stock Companies Registration and Regulation Act (1844), 7/8 Vict., c.110. Harris (2000, p.284) states that “for the first time in at least 500 years corporations could be formed without explicit, deliberated and specific State permission”. However, firms could only freely incorporate as limited liability companies under An Act for Limiting the Liability of Members of Certain Joint Stock Companies (1855), 18/19 Vict., c.113. This Act was repealed, but re-enacted in 1856 (Hunt, 1936, p.134). The re-enactment was entitled An Act for the Incorporation and Regulation of Joint Stock Companies, and other Associations (1856), 19/20 Vict., c.47. The privilege of limited liability was extended to banks under the Joint Stock Banking Companies Act (1857), 21/22 Vict., c.49.
- ⁵ Prior to the establishment of joint stock banks, note-issuing banks in Ireland and England were restricted to partnerships with less than six partners (Hall, 1949, p.37, Richards, 1929, p.147). The move to joint stock banking was preceded by numerous banking failures. In Ireland in 1820, nearly half the commercial banks failed (Hall, 1949, p.37). In 1825, sixty English banks failed which accounted for 7.5% of all banks (Pressnell, 1956, p.538). A possible explanation for the failure of these banks is that the six-partner restriction meant that banks were small and undercapitalised making them less robust to economic downturns (Ó’Gráda, C., 1994, p.139).
- ⁶ Professor Leone Levi, writing in the *Bankers’ Magazine*, expresses the view that the personal wealth of the unlimited liability bank shareholders acted to ‘inspire unlimited confidence’ in depositors (Levi, 1880, p.476). Indeed, many established bankers, sharing Levi’s views, believed that unlimited liability gave their banks prestige (*The Bankers’ Magazine*, “Banking Capital and Limited Liability”, Sept. 1882, p.717).
- ⁷ For example, see Bagehot’s *Unfettered Banking, The Safest Bank, Sound Banking, Limited Liability in Banking - I, Limited Liability in Banking II*.
- ⁸ Bagehot, *Unfettered Banking*, p.312.
- ⁹ *Ibid.*, p.312.
- ¹⁰ In 1879, *The Economist*, arguing in the spirit of Bagehot, stated ‘that the unlimited liability of the wealthy may be expected to prove as good if not a better security to the depositor as the unlimited liability of the poor’. “Banks and Limitation of Liability”, *Economist*, 25th October 1879.

- ¹¹ Some of the main contributions in the law literature include Halpern et al (1980), Hansmann and Kraakman (1991, 1992), Grundfest (1992), Presser (1992).
- ¹² See Alchian and Woodward, 1988, p.71; Carr and Mathewson (1988, p.769); Jensen and Meckling, 1976, 331; Winton (1993, p.480,500); Woodward (1985, p.601). Notably, Manne (1967, p.262) argued that investments in unlimited liability firms would tend to come from investors who were nearly insolvent and wealthy individuals would almost never invest in such a firm.
- ¹³ Grossman (1995) in a study of the market for shares in American Express does not discuss the mechanisms used to deal with the problems of trading in unlimited liability shares, and indeed, Grossman's evidence suggests that there were no restrictions on resale or little monitoring of transfers. However, American Express had *pro rata* unlimited liability where each shareholder's liability is determined by the amount they own, implying that there would be no need for restrictions on resale or costly monitoring of other shareholders. Indeed, Grossman's study does not contain convincing evidence that shares were not in the hands of those whose wealth would be insufficient to cover any claims made upon the firm.
- ¹⁴ Grossman (1995, p.68) and Kraakman (1998, p.651).
- ¹⁵ Several scholars have argued that wealthier shareholders may engage in monitoring activities to ensure that other shareholders have sufficient wealth to meet any claims that would be made on the firm (Carr and Mathewson, 1988, p.769; Hansmann and Kraakman, 1991, p.1893).
- ¹⁶ In this case, the bank could reduce the compensating risk premium it pays to depositors by accumulating idle resources in the form of reserves. The bank would make its marginal decision to hold additional reserves by equating the marginal cost of doing so to the reduction in its risk premium.
- ¹⁷ Winton (1993, p.480) suggests two possible solutions to the pecuniary externality we describe above. Either forbid the sale of shares without approval by all shareholders or impose a post sale extended liability requirement.
- ¹⁸ Section 13 of the Banking Copartnership Act imposed the same requirement upon shareholders of English banks. However, the Companies Act of 1862 permitted English and Irish banks to abandon their old copartnership constitutions and register as unlimited liability companies. One of the main advantages of doing this was a reduction from three years to one year for which a member was liable after they had sold their shares. (Crick and Wadsworth, 1936, p.33).

- ¹⁹ Ulster Banking Company's Share Transfer Journal (1874-1880) - PRONI D/3499/CC/3.
- ²⁰ We thank Dr. John Booker (Archivist at Lloyds-TSB) for pointing this out to us.
- ²¹ AGM of 1867 - Ulster Banking Company's Committee and General Meeting Minute Book (1864-1879) - PRONI D/3499/AA/2.
- ²² Ulster Banking Company's Yearly Reports 1868-1881 - PRONI D/3499/AE/1.
- ²³ The average English provincial bank had eight branches and the average asset size of such banks was £2012.78. Calculations based on data contained in Dun (1876).
- ²⁴ The average for Irish banks excluding the National Bank was 1183. Figures are from Dun (1876).
- ²⁵ Ulster Banking Company's Committee and General Meeting Minute Book (1864-1879) - PRONI D/3499/AA/2. The Deeds of Copartnership of the Northern Banking Company stipulate that each year at least two members of the shareholders' committee should be new members (PRONI D546/4). Unfortunately, the UBC's deeds have been lost, but the UBC's deeds were modelled on the deeds of the Northern, explaining why we find at least two new members coming onto the board each year.
- ²⁶ The City of Glasgow Bank failed on the 1st October 1878 with assets of £7,200,000 against liabilities of £12,400,000 (Checkland, 1975, p.741). The depositors and note-holders of this bank did not incur any losses, but after the bank's liquidation, the majority of shareholders were insolvent (Checkland, 1975, p.471).
- ²⁷ PRONI D/3499/AA/2.
- ²⁸ Share prices obtained from *Investors' Monthly Manual*, Oct. 1878.
- ²⁹ By July 1879, the Smith and Horne (1934) monthly index of industrial shares had fallen 13.8% from its level in October 1878.
- ³⁰ Ulster Banking Company's Committee and General Meeting Minute Book (1864-1879) - PRONI D/3499/AA/2.
- ³¹ A relatively small number of individuals jointly purchased shares in the bank and they are included in these figures.
- ³² Ulster Banking Company's Yearly Reports 1868-1881 - PRONI D/3499/AE/1.
- ³³ The original capital of the bank was made up of 100,000 shares of £10 each, with one quarter paid-up, and there were approximately 800 shareholders (Knox, 1965, p.13). On the 1st September 1876, the shareholders resolved that the capital of the company should be increased by 100,000 shares of £10 each (Knox, 1965, p.97). Consequently, existing shareholders were offered twenty thousand shares in proportion of one

share for every five held at a price of £5 per share. This meant that from 1877 onwards, there were 120,000 issued shares. Notably, the number of shareholders grew from 1015 in 1874 to 1454 in 1879.

³⁴ Between start of Nov. 1878 and end of Dec. 1879, 65.88% of shares were transferred to relatives having the same surname as that of the transferor.

³⁵ The Will Calendar books for Ireland can be found at the PRONI.

³⁶ The Will Calendar book for 1879 has 773, and on average each page has six entries. With the passage of time, there appears to be a greater propensity for individuals to leave wills. For example, in 1889, there were approximately 6700 probated wills in Ireland.

³⁷ The Will Calendar for 1889 had 747 pages with an average of nine entries per page. We took the top three entries from each page which gave us the estates left by 2189 deceased individuals.

³⁸ The standard deviation for the sample was £37,897.78 and the median was £239.

³⁹ The average for 1879 was £2289.42, with a standard deviation of £11,820.98 and a median of £450.

⁴⁰ The total public liabilities were £3,785,399. Ulster Banking Company's Yearly Reports 1868-1881 - PRONI D/3499/AE/1.

⁴¹ Ulster Banking Company's Yearly Reports 1868-1881 - PRONI D/3499/AE/1.

⁴² I thank Philip Ollrenshaw for this information.

⁴³ In 1878, only thirty-six UBC shareholders owned more than 500 shares. Ulster Banking Company's Return of Shareholders 1876-79 - PRONI D/3499/CB/2.

⁴⁴ The twenty-three investors who lived outside Ireland had mostly local connections or had emigrated from Ireland. These twenty-three investors lived in Aberdeen, Keith, Stranraer, Dumfries, Glasgow (4), Liverpool (2), York, Kent (2), Sheffield, Leeds (3), London (2), Newark, Montpellier, Vienna and Massachusetts

⁴⁵ The investors in the north of Ireland are as follows: Belfast (268), Down (284), Antrim (199), Tyrone (147), Armagh (82), Derry (42), Fermanagh (21).

⁴⁶ The Northern Banking Company (NBC) had branches in North and East Antrim market towns (Ballyclare, Ballycastle, Ballycarry, Carrickfergus and Cushendall). Much of Derry was covered by the two banks, with both banks having branches in Coleraine, Newtownlimavady and Magherfelt, and the NBC also having branches in Kilrea, Dungiven and Claudy. South Down was covered by the two banks, with the NBC having branches in Ardglass, Castlewellan, Dromore, Gilford, Hillsborough and Newry, and the Belfast Banking Company (BBC)

having branches in Kilkeel, Newry, Portaferry, Rathfriland and Saintfield. The NBC had three Tyrone branches (Fintona, Fivemiletown, Newtownstewart), whilst the BBC had a branch in Dunngannon.

⁴⁷ Ulster Banking Company's Committee and General Meeting Minute Book (1836-1864, 1864-1879) - PRONI D/3499/AA/1 and PRONI D/3499/AA/2.

⁴⁸ The Joint Stock Companies and Regulation Act (1844), 7/8 Vict., c.110.

References

- Alborn, T. L. (1998). *Conceiving Companies: Joint-Stock Politics in Victorian England*. London: Routledge.
- Alchian, A. A. and Woodward, S. (1988), "The Firm is Dead, Long Live the Firm." *Journal of Economic Literature*, **26**, 65-79.
- Bagehot, W. (1856a), "Sound Banking", *Saturday Review* (Oct. 4th), In *The Collected Works of Walter Bagehot*, 1976, London: The Economist.
- Bagehot, W. (1856b), "Unfettered Banking", *Saturday Review* (Nov. 1st), In *The Collected Works of Walter Bagehot*, 1976, London: The Economist.
- Bagehot, W. (1857), "The Safest Bank", *The Economist* (April 18th), In *The Collected Works of Walter Bagehot*, 1976, London: The Economist.
- Bagehot, W. (1862a), "Limited Liability in Banking - I", *The Economist* (May 17th), In *The Collected Works of Walter Bagehot*, 1976, London: The Economist.
- Bagehot, W. (1862b), "Limited Liability in Banking - II", *The Economist* (June 21st), In *The Collected Works of Walter Bagehot*, 1976, London: The Economist.
- Baker, M. and Collins, M. (1999), "Financial Crises and Structural Change in English Commercial Bank Assets, 1860-1913." *Explorations in Economic History*, **36**, 428-444.
- Barrow, G. L. (1975), *The Emergence of the Irish Banking System, 1820-1845*. Dublin: Gill and Macmillan Ltd..
- Carr, J. L. and Mathewson, G. F. (1988), "Unlimited Liability as a Barrier to Entry." *Journal of Political Economy*, **96**, 766-784.
- Checkland, S. G. (1975), *Scottish Banking A History, 1695-1973*. Glasgow: Collins.
- Clapham, J. (1944), *The Bank of England: A History*. London: Cambridge University Press.
- Cottrell, P. L. (1980). *Industrial Finance, 1830-1914*. London: Methuen.
- Crick, W. F. and Wadsworth, J. E. (1936), *A Hundred Years of Joint Stock Banking*. London: Hodder and Stoughton.
- Dun, J. (1876). The banking institutions, bullion reserves, and non-legal-tender note circulation of the United Kingdom statistically investigated. *Journal of the Statistical Society* **39**, pp. 1-189.
- Gregory, T. E. (1936), *The Westminster Bank Through a Century*. London: Westminster Bank Ltd.
- Grossman, P. Z. (1995), "The Market for Shares of Companies With Unlimited Liability: The Case of American Express." *Journal of Legal Studies*, **24**, 63-85.
- Grundfest, J. A. (1992), "The Limited Future of Unlimited Liability: A Capital Markets Perspective." *Yale Law Journal*, **102**, 387-425.

- Hall, F. G. (1949). *The Bank of Ireland 1783-1946*, Hodges, Figgis & Co, Dublin.
- Halpern, P., Trebilcock, M. and Turnbull, S. (1980), "An Economic Analysis of Limited Liability in Corporation Law." *University of Toronto Law Journal*, **30**, 117-150.
- Hansmann, H. and Kraakman, R. (1991), "Toward Unlimited Liability for Corporate Torts." *Yale Law Journal*, **100**, 1879-1934.
- Hansmann, H. and Kraakman, R. (1992), "Do the Capital Markets Compel Limited Liability? A Response to Professor Grundfest." *Yale Law Journal*, **102**, 427-36.
- Harris, R. (2000). *Industrializing English Law: Entrepreneurship and Business Organization*, Cambridge University Press, Cambridge.
- Hickson, C. R. and Turner, J. D. (2001), "Shareholder Liability Regimes in English Banking: The Impact Upon the Market for Shares"
- Holmes, A. R. and Greene, E. (1986), *Midland: 150 Years of Banking Business*. London: BT Batsford Ltd..
- Hunt, B. C. (1936), *The Development of the Business Corporation in England, 1800-1867*, Harvard University Press, Cambridge, MA.
- Jensen, M. C. and Meckling, W. (1976). 'Theory of the Firm: Managerial Behaviour, Agency Costs and Capital Structure', *Journal of Financial Economics*, **3**, 305-360.
- Levi, L. (1880), "The Reconstruction of Joint Stock Banks on the Principle of Limited Liability", *The Bankers' Magazine*, **40**, 468-479.
- Knox, W.J. (1965), *Decades of the Ulster Bank, 1836-1964*. Belfast: Ulster Bank Limited.
- Kraakman, R. (1998), "Unlimited Liability", in *The New Palgrave Dictionary of Law and Economics*, P. Newman (editor). London: Macmillan.
- Manne, H.G. (1967), "Our Two Corporation Systems: Law and Economics", *Virginia Law Review*, **53**, 259-284.
- Mitchell, B. R. (1988), *British Historical Statistics*. Cambridge: Cambridge University Press.
- Munn, C. W. (1981). *The Scottish Provincial Banking Companies 1747-1864*, John Donald, Edinburgh.
- Munn, C. W. (1988), *Clydesdale Bank: The First One Hundred and Fifty Years*. London; Collins.
- Ó'Gráda, C. (1994), *Ireland: A New Economic History*, Oxford: Clarendon Press.
- Ollerenshaw, P. (1987), *Banking in Nineteenth Century Ireland: The Belfast Banks, 1825-1914*. Manchester: Manchester University Press.
- Plumptre, C. C. M. (1882), *Grant's Treatise on the Law Relating to Bankers and Banking Companies*. London: Butterworths.

- Pressnell, L. S. (1956). *Country Banking in the Industrial Revolution*, Clarendon Press, Oxford.
- Presser, S. B. (1992), "Thwarting the Killing of the Corporation: Limited Liability, Democracy and Economics", *Northwestern University Law Review*, 87, pp.148-177.
- Richards, R. D. (1929), *The Early History of Banking in England*, London: P. S. King and Sons.
- Rubenstein, W.D. (1977), "The Victorian Middle Classes: Wealth, Occupation, and Geography", *Economic History Review*, 33, pp.602-623.
- Simpson, N. (1975), *The Belfast Bank 1827-1970*. Belfast: Blackstaff Press.
- Smith, K. C. and Horne, G. F. (1934), "An Index Number of Securities, 1867-1914." Royal Economic Society Memorandum 47, London.
- Thomas, S. E. (1934). *The Rise and Growth of Joint Stock Banking*. London: Sir Issac Pitman and Sons.
- Welch, B. L. (1938), "The Significance of the Difference Between the Two Means When Population Variances Are Unequal", *Biometrika*, **29**, 350-362.
- Winton, A. (1993), "Limitation of Liability and the Ownership Structure of the Firm." *Journal of Finance*, **48**, 487-512.
- Woodward, S. (1985), "Limited Liability in the Theory of the Firm." *Journal of Institutional and Theoretical Economics*, **141**, 601-611.