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The impact of limited liability on ownership and control: Irish banking, 1877–1914[1]

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Limited liability is regarded as the *sine qua non* of the modern company, enabling firms to raise capital from a broad spectrum of investors who have well-diversified portfolios. This article uses the ownership records of an Irish bank, which converted to limited liability in 1883, to explore the impact of introducing limited liability upon ownership and control. We find that ownership becomes more dispersed amongst individuals from a broader social and geographical spectrum. However, there appears to be little impact on portfolio diversification. Furthermore, although limited liability appears to contribute to the rise of the professional director, the evidence suggests that managerial incentives may have been weakened.

In 1855, *The Economist*, commenting on the Limited Liability Act, stated that: 'never, perhaps, was a change so vehemently and generally demanded, of which the importance was so much overrated'.[2] However, 70 years later this same periodical had turned *volte-face*,[3] and by the end of the twentieth century, it claimed that limited liability is the lynchpin of industrial capitalism, and has ultimately transformed the world![4] Indeed, most modern scholars would concur with this latter viewpoint in that limited liability is regarded as the *sine qua non* of the modern corporation, bestowing enormous economic benefits upon society.[5] According to Hicks, the main

[1] Thanks go the Public Record Office of Northern Ireland for access to the archives of the Ulster Bank. We also greatly appreciate the permission granted by the Ulster Bank to access post-1900 records. This paper was presented at the Economic History Society conference at Royal Holloway University, April 2004 and the European Business History Association conference at UPF, Barcelona, September 2004. We are grateful for the comments of participants, especially Stefano Battilossi, Youssef Cassis, Larry Neal, Robin Pearson, Stephen Quinn, Duncan Ross, and Andrew Seltzer. We also appreciate the comments of two anonymous referees.

[2] *The Economist*, 25 August 1855. Cited in Hunt, *Development of the business corporation*, p. 116.

[3] *The Economist*, 18 December 1926, stated that 'the economic historian of the future may assign to the nameless inventor of the principle of limited liability, as applied to trading corporations, a place of honour with Watt and Stephenson, and other pioneers of the Industrial Revolution. The genius of these men produced the means by which huge aggregations of capital required to give effect to their discoveries were collected, organized and efficiently administered', p. 1053.

[4] *The Economist*, 23 December 1999. Notably, an early-nineteenth-century banking theorist believed that 'perhaps no other factor has been of equal importance in producing the enormous and sustained propensity of the country as the law of limited liability' (Pownall, 'Modern tendencies', p. 164).

[5] Easterbrook and Fischel, 'Limited liability'; Forbes, 'Limited liability'; Halpern, Trebilcock, and Turnbull, 'Economic analysis'; Hansmann and Kraakman, 'Essential role', pp. 423–7.

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benefit of limited liability is that it facilitates the raising of capital from a broad spectrum of investors, permitting firms to make large-scale investments, and consequently reap economies of scale.[6] From an investor perspective, limited liability is believed to have facilitated efficient portfolio diversification, but it may also have been a precursor to the separation of ownership from control.[7] However, very little evidence has been gathered, historical or otherwise, which examines the impact of introducing limited liability upon a firm's ownership and control.[8]

For a large part of the nineteenth century, banking in Great Britain was dominated by institutions having unlimited shareholder liability. However, following the infamous City of Glasgow failure in 1878, every major bank in the three kingdoms limited shareholder liability. Hence, we have a natural experiment where the impact of limited liability on ownership and control can be tested. This experiment is made more interesting by the fact that when banks converted to limited liability they had reserve liability, which was a form of uncalled capital only callable in the event of default. Uncalled capital was a common feature of many early limited liability firms, and there was a concern that it had a negative impact on the dispersion of ownership and on the social make-up of the shareholding constituency.[9]

There is almost a consensus amongst earlier writers that limited liability would encourage wealthier and more influential individuals to own bank shares.[10] However, very little is said about the expansion of the shareholding constituency that may have diluted the ownership and influence of these shareholders. Earlier writers also tend to emphasize that limited liability would lead to improved governance of banks, as a result mainly of a better class of shareholder and a more circumspect banking public.[11]

Fortunately, in stark contrast to most other banks, very detailed and complete records have survived for the Ulster Bank, an Irish bank that converted to limited liability in 1883. Using this bank's archives, we examine the changes to the diffusion of ownership, the social status of shareholders, the geographical dispersion of owners, and the governance of the bank after the limitation of shareholder liability. We do this by examining the shareholder records for 1877, 1892, and 1914. Then, using probate records, we gather wealth data for deceased shareholders for each year from 1877 to 1914 to ascertain whether bank shareholders were less wealthy after limited liability was introduced. This data also allows one to ascertain whether shareholders had adequate wealth to cover potential calls on reserve liability.

[6] Hicks, 'Limited liability', pp. 11–12.

[7] Jensen and Meckling, 'Theory of the firm'.

[8] Hickson and Turner, 'Shareholder liability' examine the impact of moving to limited liability upon the risk of English bank shares in the 1880s. Weinstein, 'Share price changes' examines the impact of the introduction of limited liability in California during 1929–31 upon share prices. However, Californian firms were moving from a *pro rata* form of unlimited liability, not a joint and several form.

[9] See Jeffreys, 'Denomination'.

[10] Rae, *Country banker*, p. 233; Sykes, *Amalgamation*, p. 38.

[11] Pownall, *English banking*, p. 27; Anon, 'Callable capital', p. 465.

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In addition, the probate data is used to assess the impact of limited liability on portfolio diversification.

Our results show that the introduction of limited liability was followed by an increase in ownership diffusion and a more diverse shareholding constituency in terms of wealth and social status, suggesting that the Ulster Bank had access to a larger pool of capital. However, our results also show that the directors of the bank substantially reduced their holdings of bank stock. Lastly, our findings suggest that the diversification benefits of limited liability may not be as great as the standard view would suggest.

This article begins by tracing the evolution of limited liability in Irish banking. In section II, the benefits and costs of introducing limited liability are discussed. Section III describes the nature of our archival and probate data, as well as giving some background on the Ulster Bank. Sections IV to VIII examine the changes in ownership and control after the Ulster Bank moved to limited liability. Section IX concludes, and provides a brief discussion on the implications of our findings.

I

The first bank to be incorporated in Ireland was the Bank of Ireland in 1783. This bank's charter granted it limited liability,[12] whilst restricting all other banks to the partnership form of organization, with note-issuing restricted to banks having six partners or less.[13] The restriction on the formation of joint-stock banks lasted until 1825, when the Banking Copartnership Regulation Act (1825) was enacted. This Act permitted banks to form freely as joint-stock companies and enjoy all the privileges usually associated with incorporation, except limitation of liability.[14]

Following the liberalizing 1825 Act, there were two prominent waves of joint-stock bank promotion, with the Belfast Banking Company, Northern Banking Company, Hibernian Joint-stock Bank, and the Provincial Bank of Ireland being established in the mid-1820s, and the Royal Bank of Ireland, National Bank of Ireland, Ulster Banking Company, and Agricultural and Commercial Bank being established in the mid-1830s. All of these banks, apart from Agricultural and Commercial Bank, which failed in 1836, survived well into the twentieth century.[15]

Although the joint-stock banks had unlimited shareholder liability, shareholders could trade their ownership stakes. Consequently, a major concern was that the shares of such banks could eventually be owned by impecunious

[12] According to Hall, *Bank of Ireland*, p. 266, 'the question as to whether or not the liability of holders of Bank of Ireland stock was limited had been a matter of considerable doubt ever since the Bank was established'. However, after taking legal counsel, the bank issued a notice declaring that the liability of its shareholders was limited.

[13] 21 & 22 Geo. III, c.16 (Ir).

[14] 6 Geo. IV, c.42.

[15] For the details of the failure, see Barrow, *Emergence*, pp. 108–19; Hall, *Bank of Ireland*, pp. 158–71; Hickson and Turner, 'Genesis'.

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individuals, dramatically reducing depositor confidence in the stability of banks.[16] However, the deeds of settlement or copartnership of Irish banks granted directors the right to vet all share transfers and refuse entry to unsuitable individuals. Depositor confidence in these unlimited liability joint-stock banks was high as long as the directors were wealthy because such directors had a self-interest in maintaining shareholder quality, as they were jointly and severally liable to the full extent of their wealth for any debts that other shareholders were unable to meet.[17]

Limited liability only became freely available to Irish banks in the late 1850s.[18] However, despite this liberalization, none of the established joint-stock banks in Ireland converted to limited liability, and only one bank of any significance established with limited liability. This bank was the Munster Bank, which was established in 1864 to meet the demand for banking services in the south-western counties of Ireland.[19] Therefore, an interesting question is why the established joint-stock banks did not adopt limited liability for at least another two decades.

One possibility is that it was not attractive for note-issuing banks to convert to limited status, as liability was still unlimited with respect to note issue.[20] However, banks' note issue was relatively small compared to their deposits, effectively making the unlimited liability requirement for note issue redundant. Furthermore, the Hibernian Bank and the Royal Bank of Ireland did not have note issues.

Possibly the main reason for the reluctance of banks to convert to limited liability at this time was that unlimited shareholder liability was the best available form of note-holder and depositor protection. Notably, a contemporary banking expert argued that unlimited liability was 'thought by the shareholders more conducive to profit, and by the depositors, more likely to give safety'.[21] Undoubtedly, the collapse in May 1866 of Overend Gurney & Co., a large London discount firm that had recently adopted limited liability, added to the general distrust of limited liability in the banking community.[22] Attitudes may have been further hardened by the failure of two newly formed limited liability banks in Dublin in the mid-1860s.[23]

[16] See Hickson and Turner, 'Bagehot hypothesis'.

[17] The reason the Agricultural & Commercial Bank may have failed is that its directors were far from wealthy, and therefore had little incentive to prevent low-wealth individuals owning shares. See 'Agricultural Bank of Ireland', *The Banker's Magazine*, May 1845, p. 67; S.C. on Joint Stock Banks (P.P. 1837), Q. 2509; S.C. on Joint Stock Banks (P.P. 1838), Q. 518.

[18] 21 & 22 Vict. c.91.

[19] Ó Gráda, *Ireland economic history*, p. 362; Ó Gráda, 'Munster Bank'.

[20] Notably, this argument has been made with respect to Scottish banks, which were also reluctant to adopt limited liability at this time (See Carr, Glied, and Mathewson, 'Unlimited liability').

[21] Wilson, *Banking reform*, p. 69. A similar view is given in Crick and Wadsworth, *Hundred years*, p. 31.

[22] Clapham, *Bank of England*, vol. 2, p. 406 states that following this crisis 'both in Scotland and England, it was supposed that for a prominent concern to register as a limited company would be a suggestion of weakness that might impair its credit'.

[23] The two bank failures were the European Bank Ltd. (1864) and the Union Bank of Ireland Ltd. (1866).

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Banks' preference for unlimited liability ended with the failure of the City of Glasgow Bank in October 1878. The City of Glasgow Bank was a prominent unlimited liability Scottish bank, which by the mid-1870s had 123 branches, and had amassed some £8,489,000 in deposits.[24] According to Rae, the failure of this bank 'may be said to have brought unlimited liability in banking to a violent end'.[25] Indeed, prior to the City of Glasgow collapse, 'the old established and well managed Irish joint stock banks were reluctant to limit the liability of their members',[26] but that quickly changed following the bankruptcy of 1,565 of the City of Glasgow's 1,819 shareholders.[27]

Although there was a desire on the part of banks to move to limited liability, there was an acknowledgement that a major problem was how to move to limited liability and concurrently provide adequate security so as to retain the confidence of depositors. The Companies Act (1879)[28] was enacted partially to achieve this end by enabling banks to 'set aside and hypothecate a certain portion of its registered capital, as an inalienable fund for the protection of its depositors'.[29] This inalienable fund was referred to as reserve liability. Initially, it appears as if Irish banks were reluctant to take advantage of the 1879 Companies Act,[30] but by September 1883, the seven joint-stock banks had all converted to limited liability, and the reserve liability of Irish banks ranged from two to four times paid-up capital.[31]

II

The main costs associated with limited liability derive principally from ameliorating the moral hazard problem faced by creditors.[32] This problem is compounded in the banking industry by the opaque nature of bank loan portfolios.[33] This may explain why Irish banks were unwilling to convert to limited liability until reserve liability was embodied into company law in 1879. Reserve liability may have acted to assure depositors and note-holders that banks would not behave opportunistically.[34]

[24] Dun, *Banking institutions*, pp. 18, 55.
[25] Rae, *Country banker*, p. 257.
[26] Hall, *Bank of Ireland*, p. 265.
[27] Checkland, *Scottish banking*, p. 471.
[28] 42 & 43 Vict., c.76.
[29] Rae, *Country banker*, p. 258.
[30] See Simpson, *Belfast Bank*, pp. 140–3.
[31] The ratios for the seven banks were as follows: Belfast Bank (4), Hibernian (2), National Bank (3.33), Northern Bank (4), Provincial Bank (4), Royal Bank (3), and Ulster Bank (4). Data from *The Banking Almanac* (1885).
[32] Hansmann and Kraakman, 'Essential role', p. 423; Noe and Smith, 'Buck stops where?', pp. 48–51.
[33] Evans and Quigley, 'Shareholder liability regimes', p. 500; Hickson and Turner, 'Free banking', p. 905.
[34] Double liability may have played a similar role in the United States; Macey and Miller, 'Double liability'.

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The main benefit of limited liability is that it enables firms to raise larger amounts of capital than they would otherwise be able to under unlimited shareholder liability, because of specialization in the provision of capital and decision-making. Under unlimited liability, capital providers are disproportionately affected by firm policies, with the wealthiest owners being affected most. Consequently, wealthy owners will want to participate actively in the firm's decision-making and management. On the other hand, limited liability or *pro rata* extended liability implies that all owners experience 'the same proportional gains or losses from the firm's policies, regardless of their identities or assets', resulting in capital providers having homogenous interests, greatly reducing the costs of collective decision-making.[35] The specialization in capital provision and decision-making results in several implications for the nature and structure of ownership and control.

First, specialization in capital provision and decision-making should lead to a more diffused ownership of shares.[36] Under unlimited shareholder liability, there is a particular minimum level of share ownership that allows each owner to cover their costs of ownership and influence firm decision-making. This minimum level of ownership will be correlated with shareholder wealth.[37] Under reserve liability, an owner's liability is directly correlated with the number of shares they own, and as a consequence, owners can be passive towards firm decision-making. Consequently, shareholders no longer have to own as many shares to protect their positions, resulting in a more diffuse ownership structure.

Second, specialization in capital provision implies that firms and shareholders no longer need to expend resources ensuring that existing and candidate owners have adequate wealth to cover any shortfall between creditors' claims and firm assets. Indeed, it is generally acknowledged that the credibility of unlimited shareholder liability depends upon unsuitable individuals being excluded from ownership.[38] As mentioned above, bank directors operated a vetting process whereby unsuitable individuals were excluded from ownership.[39] Therefore, one would expect that the introduction of limited liability should result in a broader shareholding constituency, with those having less wealth and belonging to a lower social class becoming shareholders. When reserve liability attaches to ownership, directors will still need to exercise some control over who owns bank shares, although their incentives to do so will be dramatically reduced as liability is now *pro rata* instead of joint and several. In addition, one would expect that bank directors

[35] Hansmann and Kraakman, 'Essential role', pp. 424–5.

[36] Manne, 'Two corporation systems', p. 262; Posner, 'Rights of creditors', p. 501; Halpern, Trebilcock, and Turnbull, 'Economic analysis', p. 137; Easterbrook and Fischel, 'Limited liability', p. 90.

[37] Hickson and Turner, 'Trading', p. 4.

[38] Alchian and Woodward, 'Reflections', p. 121; Carr and Mathewson, 'Unlimited liability', p. 769; Forbes, 'Limited liability', pp. 165–6; Woodward, 'Limited liability', p. 602; Winton, 'Limitation of liability', p. 500.

[39] Hickson and Turner, 'Bagehot hypothesis'.

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would now operate with lower minimum wealth levels for new shareholders. Furthermore, as directors now exercise less control over who becomes an owner, they may consequently require less information on candidate owners, possibly resulting in a geographical dispersion of ownership.

Third, it is commonly believed that the reduced costs of ensuring that existing and candidate owners have adequate wealth to cover any shortfall between creditors' claims and firm assets would result in a more active and liquid secondary market for stock.[40] This hypothesis has been tested elsewhere, and the evidence would suggest that the limitation of liability had little impact on the liquidity of bank stock.[41]

Fourth, another benefit of the specialization in capital provision is that it facilitates the holding of diversified portfolios.[42] As mentioned above, when shareholders have unlimited liability, they tend to own more shares in the firm. Furthermore, the more unlimited liability firms an individual invests in, the greater the likelihood that there will be calls on their wealth, with the consequence that individuals do not engage in much diversification. It will be difficult to assess the impact of the conversion of Irish banks to limited liability on portfolio diversification, as most other publicly quoted firms at this time were already limited. Nevertheless, it will be interesting to note what impact the conversion to limited liability had on the proportion of Ulster Bank stock that investors had in their asset portfolios.

Fifth, specialization of decision-making implies that the wealthiest shareholders will have dramatically reduced incentives to be involved in the bank's governance, and that other shareholders will tend to be more passive. Decision-making may be more efficiently conducted under limited liability, as the criteria for managerial selection will be decision-making expertise rather than who has the most to lose should the bank fail. However, this specialization-of-decision-making benefit may be outweighed by the presence of agency costs, as the incentives of managers may no longer be aligned with those of shareholders.

Unfortunately, amongst the Ulster Bank's records there are no statements as to what benefits it expected from adopting limited liability. However, in the context of the City of Glasgow failure, the absence of such statements is unsurprising as it would have been self-evident why the bank was limiting its liability. One contemporary observer, commenting on the City of Glasgow failure, captured the mood in stating that 'it was a calamity so unlooked for, so huge and disastrous, that it riveted men's gaze and made their hearts stand still, and we shall all remember it to our dying day as a landmark in the history of our generation'.[43] The widespread belief was that

[40] Easterbrook and Fischel, 'Limited liability'; Forbes, 'Limited liability'; Halpern, Trebilcock, and Turnbull, 'Economic analysis'; Hansmann and Kraakman, 'Toward unlimited liability'; Kraakman, 'Unlimited shareholder liability'; Winton; 'Limitation'; Woodward, 'Limited liability'.

[41] Hickson, Turner, and McCann, 'Much ado'.

[42] Easterbrook and Fischel, 'Limited liability', p. 94; Kraakman, 'Unlimited shareholder liability', p. 649.

[43] Wilson, *Banking reform*, p. 46.

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wealthy individuals would no longer be willing to hold bank shares, with the consequence that the safety of banks would rapidly diminish.[44] The general hysteria resulted in parliamentary intervention, which came in the form of the Companies Act (1879) with its concept of reserve liability.[45] Reserve liability was regarded as an acceptable alternative to unlimited shareholder liability, and, as a result, nearly all British and Irish banks limited their shareholders' liability.[46]

Although the main reason for banks adopting limited liability turned on the supposed weaknesses of unlimited liability, there were several commentators who suggested that limited liability would result in better corporate governance. However, these views were based on the belief that limited liability would result in a superior class of shareholders, which in turn would yield a better pool of potential directors. One observer, commenting just before the Great War, suggested that limited liability had enabled a specialization in capital provision and decision-making, giving rise to the professional banker.[47] Another observer at this time suggested that limited liability had improved bank governance because the banking public was now more circumspect.[48] Notably, this view is echoed in the modern literature, where it is suggested that limited liability shifts some of the costs of monitoring managers onto creditors.[49] However, the opaque nature of bank assets, the free-rider problem, and high depositor risk-aversion imply that depositor monitoring is unlikely to constrain managerial opportunism in the banking industry.[50]

III

In order to analyse the impact of the introduction of limited liability upon bank ownership and control, the Ulster Bank was selected because, preserved within its archives, unlike its Irish and British contemporaries, are detailed and comprehensive ownership records. The Ulster Banking Company was established in 1836 with the aim of developing trade in the Belfast region, whilst remaining under the control of local proprietors.[51] In 1867 it registered under the Companies Act of 1862 as an unlimited liability company, and it converted to limited liability in September 1883, changing its name to Ulster Bank Ltd., and setting its reserve liability at four times paid-

[44] Anon, 'Reasons in favour', p. 55; Levi, 'Reconstruction', p. 474; *The Economist*, 25 October 1879, p. 1224; Rae, *Country banker*, p. 257; Gregory, *Westminster Bank*, p. 212.

[45] Levi, 'Reconstruction', p. 476.

[46] Rae, *Country banker*, p. 260.

[47] Pownall, *English banking*, p. 27.

[48] Anon, 'Callable capital', p. 465.

[49] Hansmann and Kraakman, 'Essential role', p. 425; Kraakman, 'Unlimited shareholder liability', p. 649.

[50] Hickson and Turner, 'Free banking', p. 905.

[51] Ollerenshaw, *Banking*, p. 46.

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up capital.[52] The Ulster Bank existed as a limited liability bank for nearly 35 years before its share capital was acquired by the London County & Westminster Bank in late 1917.

In this article, snapshots of ownership and control are taken in 1877, 1892, and 1914. These particular years are selected for a number of reasons. First, 1877 was chosen because this is the last year in which we can examine the ownership of the bank prior to the effects of the City of Glasgow crisis in 1878 and the subsequent push for limited liability. Unfortunately, no shareholder registers prior to 1876 have survived. Second, 1892 was selected as an interim year, as at this stage it was nine years since the conversion to limited liability, and one would anticipate that changes in ownership and control, if they were going to occur, would have been noticeable by this time. The terminal year of 1914 was selected because it allows us to examine the ownership and control of the bank 30 years after conversion to limited liability, without the effects of the Great War influencing results.

The deeds of the Ulster Bank were similar to those of its two Belfast-based rivals in most respects. One unique feature of the Belfast-based banks was their corporate governance structure, whereby the banks were managed on a day-to-day basis by a permanent board of four directors who were answerable to a shareholders' committee of seven.[53] Unlike the directors, the shareholders' committee was elected annually, with at least two new members required to join the committee each year.[54] Under the deeds of the Ulster Bank, the directors (aided by the shareholders' committee) vetted share transfers so as to prevent low-wealth individuals owning bank shares.[55] Notably, this activity continued even after the bank moved to limited liability so as to ensure that new shareholders had sufficient wealth to cover any claims that might arise as a result of calls on reserve liability.

As discussed above, one of the main consequences of limiting liability is that firms have access to a larger pool of capital. As can be seen from table 1, the Ulster Bank increased its capital after limiting shareholder liability. In 1877 the bank's nominal capital was £2 million, consisting of 200,000 shares of £10 each, but only 120,000 of these were actually issued. In September 1882, in preparation for its conversion to limited liability, 40,000 shares were issued.[56] A further 20,000 shares were issued in 1889. Interestingly, as can be observed from table 1, only the Belfast Bank, the Northern Bank, and the Ulster Bank made significant additions to their paid-up capital.

[52] Special meeting of shareholders' committee, 18 September 1883, Public Record Office of Northern Ireland (hereafter PRONI), Ulster Banking Company's Committee and General Meeting Minute Book, D/3499/AA/3.

[53] See Hickson and Turner, 'Genesis'.

[54] Deed of Copartnership of the Ulster Banking Company, p. 16, section 14.

[55] Hickson and Turner, 'Bagehot hypothesis'.

[56] Knox, *Decades*, p. 117.

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Table 1. *Capital and owners of Irish banks in 1877, 1892, and 1914*

	1877			*1892*			*1914*		
	No. of owners	*Paid-up capital £('000s)*	*Share Price (£)*	*No. of owners*	*Paid-up capital £('000s)*	*Share Price (£)*	*No. of owners*	*Paid-up capital £('000s)*	*Share Price(£)*[c]
Belfast Bank	714	250	117	1,403	400	111.88	2,939	500	10.25
Hibernian Bank	1,380	500	66.75	1,800	500	2.56	2,000	500	5.97
Munster Bank[a]	1,410	350	10	—	—	—	—	—	—
Munster & Leinster Bank[b]	—	—	—	2,000	200	4.69	2,000	200	7.25
National Bank of Ireland	3,700	1,500	74.25	6,000	1,500	21.13	7,300	1,500	19.50
Northern Bank	718	150	93.25	1,592	400	23.50	n/a	500	22.88
Provincial Bank of Ireland	2,000	500	84.00	2,400	500	24.94	3,319	540	25.50
Royal Bank of Ireland	1,410	300	33.25	1,670	300	25.50	1,700	300	13.25
Ulster Bank	1,444	300	12.25	3,914	450	10.81	7,014	500	10.37
Median	1,410	325	70.50	1,900	425	22.32	2,939	500	11.81

Notes: The Bank of Ireland is excluded from this table because ownership figures were never reported or published. Furthermore, it differed somewhat from the other Irish joint-stock banks due to its charter and special relationship with the government.
a, b The Munster Bank failed in 1885 and was replaced by the Munster & Leinster Bank in 1887.
c The share price figures are taken from the December issue of the *Investors' Monthly Manual*, apart from the 1914 figure, which is the opening price as reported in the January 1914 edition.
Sources: Ownership and paid-up capital figures are from the *Banking Almanac* and the *Bankers' Almanac and Yearbook*. Share prices are from *Investors' Monthly Manual*.

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The Hibernian and Royal had little need to raise capital as they both had high levels of paid-up capital relative to deposits prior to adopting limited liability.[57] The National Bank and the Provincial Bank, however, did not have high capital-deposits ratios prior to moving to limited liability. Notably, there was a very close relationship between bank capital and growth of bank deposits in the limited liability era. The three banks that substantially augmented their capital (Belfast, Northern, and Ulster) experienced the largest deposit growth, as did the Hibernian, which had the highest capital-deposits ratio of all Irish banks.[58] Contrastingly, both the National and the Provincial experienced relatively low deposit growth in this period. The relationship between capital and deposit growth is unsurprising as paid-up capital is part of a bank's commitment to depositors that they will not be expropriated. Furthermore, newly raised capital can be used to fund branch expansion.

As can be seen from table 1, the paid-up capital of the Ulster Bank was very close to the median for Irish banks in each of the three selected years, implying that it was typical from a size viewpoint.[59] In terms of shareholder numbers, the Ulster Bank was very close to the median in 1877, but in the other two sample years, it was at least double the median. Indeed, only the National Bank, with 7,300 shareholders in 1914, had a similar shareholder base, despite the Ulster having less paid-up capital. Over the period, shareholder numbers increased for all banks, with the differences in growth partially attributable to the relative success of banks in terms of deposit-raising and profitability, with the Ulster being the most successful in this period.[60]

As can be seen in table 1, the share price of the Ulster Bank was substantially less than the median share price in 1877, approximately half the median in 1892, and close to the median in 1914. The Ulster Bank's low share price may have made it more attractive to smaller investors.[61] Indeed, if any bank was going to be better able to attract smaller investors after moving to limited liability, it was going to be banks having low share prices. This point was recognized by Mr H. Johns, a director of the Belfast Bank, who, whilst advocating a stock split at the 1906 AGM, argued that:

[57] For example, in 1885, the paid-up capital-deposit ratios were as follows: Belfast 11.1%, Hibernian 34.6%, National 17.3%, Northern 13.5%, Provincial 13.9%, Royal 18.5%, and Ulster 11.5%.

[58] The nominal deposit growth for the period from 1883 to 1914 is as follows: Belfast 127%, Hibernian 137%, National 37%, Northern 155%, Provincial 41%, Royal 18%, and Ulster 134%. The 1883 figures are from Dick, 'Banks and banking', and the 1914 figures are from the *Banking Almanac*.

[59] In terms of branches, the Ulster Bank had 48, 56, and 77 in 1877, 1892, and 1914 respectively. The median number of branches for Irish banks in 1877, 1892, and 1914 was 38, 44, and 61 respectively, implying that the Ulster Bank was at the upper end of the distribution. Indeed, in each of the three snapshot years, it was the second largest bank in terms of size of branch network.

[60] Ollerenshaw, *Banking*, p. 183.

[61] Notably, Jeffreys, 'Denomination', p. 49 suggests that the same held true for the early limited liability companies.

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> Yet the undoubted benefit that the Bank will secure by spreading its shares over a greater number of shareholders may be to some extent counterbalanced by a diminution in quality, so to speak, of the new shareholders, that we should be drawing our shareholders from a lower grade of society, and that this might in some way militate against or adversely affect the position of the Bank. I do not think that this is an objection that need cause you the least apprehension or uneasiness. We wish to put our shares within the reach of thrifty persons who are just beginning to save money, but while this is so the same supervision which at present exists will be exercised by your Board and Directors so as to prevent any undesirable person from coming on to the Bank's Share Register.[62]

This director believed that in order to increase capital in the future and take further advantage of limited liability, the shares of his bank had to be made more attractive to a wider group of investors by substantially lowering the price at which they traded. In contrast, the low value of Ulster Bank shares in 1883 enabled it to take immediate advantage of the capital-raising benefits of limited liability.

In order to examine the changes in ownership after the move to limited liability, data was collected from the Ulster Bank's Annual Return of Shareholders.[63] These annual returns contain information on each shareholder's profession, address, and number of shares held. For the purposes of our study, shares owned by a group of individuals were split and assigned equally between them.[64] Following the social conventions of the era, shares owned jointly by a husband and wife are viewed as being owned by the husband.

In order to gain an estimate of shareholder wealth, a data set of shareholder probated effects was constructed. The first step was to obtain each shareholder death recorded in the Ulster Bank's Shareholder Registers for 1877 to 1914 inclusive.[65] Thankfully, the death of a shareholder was always entered into these registers. We then gathered information on a deceased owner's shareholding, occupation, and address from the relevant annual shareholder register. Between 1877 and 1914, 2,043 Ulster Bank shareholders died, and details on the bequeathed wealth of 1,213 of these were obtained from Will Calendar books.[66] The bequeathed wealth figures were then adjusted for inflation by converting all wealth figures to 1877 values.[67]

There is a drawback with using this methodology to estimate the wealth of shareholders, in that many of the shareholders who died in the period may have been elderly, and, as such, they may have run down their wealth reserves. Additionally, many individuals may have attempted to avoid death

[62] Quoted in Simpson, *Belfast Bank*, pp. 185–6.

[63] PRONI, Ulster Bank Return of Shareholders, D/3499/CB/2, 7, 21.

[64] The clause forbidding joint ownership of shares in the original deed of copartnership was repealed in a general meeting on the 24 September 1868 (PRONI, Ulster Banking Company's Committee and General Meeting Minute Book, D/3499/AA/3).

[65] PRONI, Ulster Bank Return of Shareholders, D/3499/CB/2-21. Unfortunately, the Return of Shareholders for 1902, 1903, and 1913 have not survived.

[66] PRONI, Will Calendar books.

[67] A consumer price index obtained from Mitchell, *International historical statistics*, p. 864 was used.

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duties by making *inter vivos* gifts or by understating the value of their business.[68]

IV

This section explores the changes in diffusion of Ulster Bank shares over the three sample years. From table 2 one can see that there was nearly a 500 per cent rise in the number of shareholders between 1877 and 1914, with only a 67 per cent increase in the number of issued shares, implying a significant diffusion of ownership. In contrast, there was little ownership diffusion between 1836 and 1877, with shareholder numbers and the number of issued shares both increasing by 50 per cent.[69]

The dilution of ownership is apparent from the fall in the average and median number of shares owned between 1877 and 1914. Notably, the standard deviation also dropped dramatically, suggesting that more shareholders had holdings close to the mean. From table 2 one can also see that there was a rise in the number of small shareholders over the period, with the percentage of shareholders owning 30 shares or less rising from 53.0 per cent in 1877 to 76.2 per cent in 1914. At the other end of the ownership spectrum, there was a significant fall in the percentage of owners with more than 51 shares. Furthermore, there was a fall in the concentration of ownership with the percentage of stock held by the largest owners falling substantially over the period, indicating a much more diffused ownership following the introduction of limited liability. Notably,

Table 2. *Ownership of Ulster Bank shares in 1877, 1892, and 1914*

	1877	*1892*	*1914*
Number of shares	120,000	180,000	200,000
Paid-up capital (£)	300,000	450,000	500,000
Number of shareholders	1,444	3,914	7,014
Average number of shares	83.0	45.9	28.4
Median number of shares	27.0	20.0	15.0
Standard deviation	210.7	107.5	54.3
Maximum	3,240.0	2,808.0	1,500.0
Minimum	0.5	0.33	0.33
% of investors with <10 shares	21.9	31.9	40.8
% of investors with 11–30 shares	31.1	33.9	35.4
% of investors with 31–50 shares	13.4	13.4	11.7
% of investors with 51–100 shares	14.9	10.8	6.6
% of investors with >100 shares	18.8	10.1	5.5
% held by top 10 shareholders	16.9	8.4	4.2
% held by top 20 shareholders	24.8	12.5	6.6
% held by top 30 shareholders	30.9	15.6	8.7

Sources: see text

[68] Hickson and Turner, 'Bagehot hypothesis', p. 944.
[69] In 1836 there were 916 shareholders, but only 80,000 issued shares.

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Table 3. *Analysis of Ulster Bank shareholders (1892)*

	Shareholders who had been owners in 1877	*Shareholders who had acquired shares since 1877*
Share capital (%)	27.5	72.5
Shareholders (%)	9.2	90.8
Average number of shares	137.5	36.6
Median number of shares	50	18
Standard deviation	280.6	62.1
Maximum	2,808	900
% investors with <10 shares	12.3	33.8
% of investors with 11–30 shares	22.3	35.1
% of investors with 31–50 shares	16.7	13.0
% of investors with 51–100 shares	18.1	10.0
% of investors with >100 shares	30.6	8.0

Sources: see text

during its time as an unlimited bank, ownership had actually become increasingly concentrated.[70] This trend was only reversed with the coming of limited liability.

Given that there had been 9,771 transfers of Ulster Bank stock and 214,498 shares transferred between 1877 and 1892, one would expect a new equilibrium to have been established by 1892, and that subsequent changes would have been the result of factors other than limited liability.[71] However, as can be seen from table 3, although only 9.2 per cent of shareholders in 1892 had been shareholders in 1877. These shareholders were typically large owners. In 1892 they owned 27.5 per cent of the bank's capitaly and included the top 10 shareholders. The diffusion of the capital owned by these large shareholders may explain why we find significant changes occurring between 1892 and 1914.

Overall, the evidence in table 2 suggests that after the introduction of limited liability, ownership was opened up to a wider spectrum of investors, with smaller investors (and by implication less wealthy investors) now welcome to own shares as liability was no longer unlimited. Additionally, under reserve liability, an owner's liability was directly correlated with the number of shares they owned. Therefore, one would expect to see smaller and more diffuse shareholdings after the bank converted from unlimited liability. Indeed, the correlation between liability and number of shares owned may also explain the large fall in ownership concentration after the move to limited liability.

[70] In 1836 the 10 largest shareholders owned 9.64% of the bank's stock, the 20 largest owned 15.4%, and the 30 largest owned 20.6%.

[71] This data was compiled from PRONI, Ulster Banking Company's Committee and General Meeting Minute Books, 1877-1892, D/3499/AA/1, D/3499/AA/2, D/3499/AA/3, and D/3499/AA/4.

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Table 4. *Occupational and social status of Ulster Bank shareholders in 1877, 1892, and 1914*

		% of share capital			% of total shareholders		
		1877	*1892*	*1914*	*1877*	*1892*	*1914*
Male	Professionals[a]	19.69	15.26	13.46	14.61	11.42	10.21
	Gentlemen	19.26	11.99	7.52	12.26	9.86	6.46
	Merchants	17.87	15.61	11.46	12.88	9.35	8.14
	Farmers	9.54	14.92	15.67	16.48	17.35	18.04
	Tradesmen[b]	1.96	2.36	2.83	4.22	3.22	2.91
	Semi-professionals[c]	1.76	2.22	2.46	2.22	3.07	2.20
	Teachers	0.92	1.28	1.02	1.32	1.25	1.45
	Bank clerks	0.65	1.40	0.96	1.18	1.20	1.00
	Other[d]	1.97	2.82	3.49	2.43	2.66	1.79
Female	Spinsters	14.94	20.57	21.75	21.75	26.90	28.12
	Widows	11.41	11.08	12.68	10.87	12.37	10.61
	Wives	0.00	0.45	6.69	0.00	1.48	9.08

Notes:
a The professional category mainly consists of solicitors, doctors, bank managers, and clergymen. However, also included in this category are accountants, auctioneers, bankers, barristers, chemists, designers, engineers, insurance agents, managers of public and private-sector organizations, and stockbrokers.
b Tradesmen include bakers, bank porters, bleachers, bookbinders, builders, butchers, caretakers, carpenters, drapers, embroiderers, gardeners, mechanics, servants, stone masons, blacksmiths, tailors, and tanners.
c This category includes bookkeepers, commercial travellers, clerks, muslin agents, land agents, and jail wardens.
d This category consists of manufacturers, army and police officers, and males with no occupation reported.
Sources: see text

V

From table 4 one can see that the occupational and social backgrounds of Ulster Bank shareholders had changed substantially by 1892. The main categories which diminished both in terms of proportions of share capital and investors were professionals, gentlemen, and merchants. In particular, the proportion of capital owned by gentlemen fell by over 7 per cent. The proportion of share capital owned by professionals and merchants would have fallen further if it were not for the large number of shares owned by individuals who had been owners in 1877.[72] The main groups that experienced an increase in the proportion of share capital were farmers and spinsters. Notably, 14.2 per cent of share capital in 1892 was owned by spinsters who had acquired bank shares post-1877, and 11.4 per cent of share capital in 1892 was owned by farmers who had acquired bank shares post-1877. By 1892, the number of spinsters investing in Ulster Bank shares had risen so much that they constituted 26.9 per cent of all investors.

As can be seen in table 4, from 1892 to 1914, there were further falls in the percentage of shares held by professionals, gentlemen, and merchants, with gentlemen again experiencing the largest decline. The spinster and farmer groups show slight increases in their percentage of bank capital between 1892 and 1914. However, the one group that dramatically

[72] Forty professionals and 45 merchants, all of whom had been shareholders in 1877, owned 11.9% of the bank's capital in 1892!

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increased its share of ownership and its share of total shareholders between 1892 and 1914 was wives. The absence of wives from the shareholders' return in 1877 is because until 1883, married women could not own real or financial property in their own right. However, the Married Women's Property Act (1882) granted married women the same the same property rights that were enjoyed by males and unmarried women.[73]

After the introduction of limited liability, one of the main changes to the social make-up of Ulster Bank shareholders was the reduced proportion of capital owned by professionals, gentlemen, and merchants. Collectively these three groups fell from the position of holding approximately 57 per cent of the bank's stock in 1877 to approximately 32 per cent by 1914. Another notable change was the rise of female investors, who moved from controlling just over 25 per cent of the bank's stock in 1877 to just over 41 per cent in 1914. In 1877, just under one-third of shareholders were female, but by 1914, females constituted nearly half of total shareholders. In addition, farmers also emerged as an important group of owners after the move to limited liability. The ascendancy of female investors and farmers would tend to suggest that less-wealthy individuals were becoming shareholders after the introduction of limited liability. The ascendancy of these types of shareholders may have occurred as a result of Ulster Bank directors lowering the minimum wealth levels necessary to become a shareholder after the demise of unlimited liability. Alternatively, the ascendancy may have occurred because of a perception that after the move to limited liability, bank shares were a less-risky investment for such individuals.

Another possibility is that the changes in shareholder constituency which we observe merely reflect changes in the wider society and economy. Although it is unlikely that such developments can account for the large change that occurred in the relatively short time between 1877 and 1892, an examination of the Province of Ulster summary tables from the *Census of Ireland* for 1881 and 1911 reveals that changes in society may not explain the changes in the Ulster Bank's shareholding constituency. For example, although the population of the province of Ulster only increased by 1,707 in this period, the number of gentlemen, professionals, and merchants increased substantially.[74] Over this period, the number of widows decreased from 79,697 to 70,983, whilst the number of spinsters increased from 122,154 to 148,286. Interestingly, from 1881 to 1911, the number of farmers in Ulster decreased from 144,277 to 117,362.

Although this analysis of the censuses may not explain the changes in shareholder constituency, it may explain why spinsters and farmers, rather than bank clerks and semi-professionals, were the two groups that expanded rapidly after the move to limited liability. The latter two categories account for a small proportion of Ulster's overall population, whereas spinsters and

[73] See Paget, 'Married Woman's Property Act' for the impact of this act upon banks.

[74] Professional males over 20 (1881 – 8,321; 1911 – 10,381); Merchants (1881 – 4,746; 1911 – 5,674); Gentlemen—defined as unoccupied men aged 20–65—(1881 – 11,817; 1911 – 18,956).

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Table 5. *Wealth of Ulster Bank shareholders, 1877–1914*

	Individuals who were owners in 1877–82	*Individuals who became owners after limitation of liability and who bequeathed wealth before 1893*	*Owners after limitation of liability and who bequeathed wealth in 1883–1914*
Mean (£)	8,281.09	3,815.63	4,791.57
Median (£)	2,326.07	1,699.44	1,588.20
Standard deviation (£)	23,945.48	6,710.44	20,186.42
% shareholders bequeathing <£500	12.89	15.38	21.16
% shareholders bequeathing £501 to £2,000	31.81	42.60	36.64
% shareholders bequeathing £2,001 to £5,000	25.21	21.30	22.08
% shareholders bequeathing £5,001 to £10,000	13.75	14.79	13.06
% shareholders bequeathing £10,001 to £50,000	14.33	5.31	6.13
% shareholders bequeathing >£50,000	2.01	0.59	0.92
Average year of probate	1888	1888	1902
Median year of probate	1885	1889	1905
N	349	169	865

Notes: The difference in the means between columns 1 and 2 and columns 1 and 3 are statistically significant, with p-values of 0.0 and 0.0164 respectively.
Sources: see text

farmers constitute a significant proportion of the overall population.[75] Consequently, as the Ulster Bank lowered the entrance qualifications for potential owners, a large proportion of its new shareholders were likely to be either spinsters or farmers.

Table 5 shows the wealth statistics of individuals who died and bequeathed wealth between 1877 and 1914. This table splits the sample into those shareholders who owned shares before the bank converted to limited liability and those who acquired shares after the limitation of liability. One potential bias is that will-making became more common over this period, even amongst the less-wealthy sectors of society.[76] Although the proportion of deceased Ulster Bank shareholders leaving wills decreased over the sample period, there was a considerable increase in the absolute number of shareholders who made bequests.[77] Therefore, in order to elim-

[75] In 1881 there were 677 bank clerks, etc. By 1911 this had increased to 964. Our semi-professional category mainly consists of clerks and commercial travellers. In 1881, there were 4,381 individuals in these two categories, and in 1911 there were 9,747.

[76] Ó Gráda, *Ireland before and after the famine*, p. 185.

[77] The percentage of deceased shareholders leaving wills was as follows: 71.62 (1877–89), 53.03 (1890–99), and 57.67 (1900–14). Notably, the percentage of deceased farmers leaving wills was as follows: 68.35 (1877–89), 62.50 (1890–99), and 66.36 (1900–14). The average number of bequests per annum was as follows: 24.46 (1877–89), 30.60 (1890–99), and 49.17 (1900–14).

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inate any bias that may exist, we compare the wealth of shareholders who held shares before liability was limited, with those who acquired shares after liability was limited and subsequently died in the period 1883–93. Notably, the average year of probate for both these samples is the same.

From table 5, we see that the average and median wealth were lower for those who became owners after liability was limited. Additionally, after the limitation of liability, there was a higher proportion of individuals bequeathing small amounts of wealth. This evidence would suggest that an increasing number of less-wealthy individuals became Ulster Bank shareholders after the move to limited liability. Unsurprisingly, there were still many wealthy shareholders owning Ulster Bank shares after the move to limited liability.

One potential drawback with this approach is that over time the wealth levels of deceased shareholders may become less representative of average shareholder wealth. If the bank was operating a policy of admitting less-wealthy individuals into membership, then it might be expected that young individuals just beginning to save money might enter the membership, resulting in changes to the age distribution of the bank's shareholders. However, counteracting the effect of younger people entering into membership, one would also expect older males or older unoccupied females with modest incomes to enter membership. Although we have no data on the age distribution of shareholders, we noted above that farmers were one of the categories of shareholders that increased most after the limitation of liability. According to the *Census of Ireland* for 1881 and 1911, 64.9 and 69.2 per cent of farmers in Ulster respectively were aged over 45.

After moving to limited liability, the Ulster Bank had reserve liability, which meant that a shareholder was liable for up to another £10 for every share they owned. For every shareholder who bequeathed wealth in the sample period, the number of shares they owned the year they died was obtained from the bank's annual shareholder registers. This permits one to examine whether or not an individual shareholder had adequate wealth to cover their potential liability in the event of reserve liability being called upon. Notably, in the sample period, no shareholder bequeathed less wealth than their potential maximum liability.[78] In the period 1884–1914, the ratio of bequeathed wealth (nominal) to potential liability had a mean of 17.34 and a median of 5.48, and only in 18.8 per cent of cases was it less than 2.[79] Therefore, although the bank directors did permit lower-wealth individuals to become shareholders, it appears from the evidence that they were successful in excluding individuals with inadequate wealth to cover any calls upon reserve liability.

[78] There were 85 individuals whose bequeathed wealth was less than the market value of their shares. Because of this anomaly, these individuals were omitted from this analysis.

[79] The standard deviation is 46.1. Over the 31-year period, there was no deterioration in this ratio. The median ratio is as follows: 4.30 (1884–88), 5.86 (1889–93), 5.69 (1894–98), 5.19 (1899–1901), 5.81 (1904–8), and 5.49 (1909–14).

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Evidence was presented above suggesting that the proportion of the bank's capital owned by farmers, spinsters, and wives increased after the move to limited liability. Notably, when wealth is categorized by occupational group, spinsters, wives, and farmers have very low median (and average) wealth compared to gentlemen, merchants, and professionals.[80] Furthermore, there is a large difference in the groupings with respect to the percentage of shareholders who bequeathed less than £1,000, with 76.9 per cent of wives, 46.1 per cent of spinsters, and 38.6 per cent of farmers bequeathing less than £1,000, whereas only 22 per cent of merchants, professionals, and gentlemen bequeathed less than £1,000.

It is possible that the reduction in shareholder quality that has been discovered was a trend that began before 1877. However, evidence gathered from share transfer journals suggests that this is not the case,[81] adding weight to our argument that the reduction in shareholder quality occurred as a consequence of liability being limited.

VI

This section examines the geographical distribution of shareholders in order to assess what impact the introduction of limited liability may have had upon the ability of the bank to attract investors from a wider area. Table 6 shows the geographical dispersion of shareholders for each of the three sample years. In 1877, the bank's heartland of Belfast, Antrim, and Down contained 57.3 per cent of the bank's owners, holding 63.3 per cent of the bank's capital. By 1914, only 41.3 per cent of shareholders, owning 45.1 per cent of the bank's capital, lived in Belfast, Down, and Antrim. In terms of share capital, shareholders in the other seven Ulster counties held 33.6 per cent in 1914, compared to 21.0 per cent in 1877. As is also apparent from table 6, there was an increase in the proportion of share capital owned by shareholders from overseas and other Irish counties over the period.

From table 7 we see that despite the doubling of branches and agencies in the non-Ulster counties, the proportion of shareholders from these counties did not witness a concomitant increase. It is also notable that even though the number of branches in Belfast increased from one to five, the proportion of shareholders from Belfast fell. Notably, the increased proportion of shareholders and capital from counties Donegal, Londonderry, Monaghan, and Tyrone occurred without an increase in branches. However, the substantial increase in the proportion of shareholders and capital from Cavan may be attributable to the opening of several new branches and agencies. From the evidence it appears that the opening of new branches may account for some of the changes to the regional ownership of shares.

[80] The median of the different groupings is as follows: wives (£442), spinsters (£1,152), farmers (£1,449), professionals (£2,034), gentlemen (£3,499), merchants (£3,694).
[81] See Hickson and Turner, 'Bagehot hypothesis'.

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Table 6. *The geographical dispersion of Ulster Bank shareholders in 1877, 1892, and 1914*

	% of total shareholders			*% of share capital*		
	1877	*1892*	*1914*	*1877*	*1892*	*1914*
Cities						
Belfast	20.15	13.59	13.07	30.67	22.31	18.34
Dublin	4.16	3.93	4.45	5.79	4.76	4.94
Province of Ulster						
Down	20.36	18.68	16.30	17.73	16.46	15.95
Antrim[a]	16.76	14.82	11.90	14.85	15.10	10.77
Tyrone	11.15	10.45	11.90	6.64	6.78	9.19
Armagh	7.48	8.15	7.13	9.39	8.95	7.01
Londonderry	3.95	5.90	6.70	2.53	4.41	6.21
Fermanagh	1.39	2.30	1.71	1.06	1.45	1.39
Monaghan	0.83	2.53	3.02	0.50	2.34	3.03
Cavan	0.69	3.63	5.26	0.42	2.97	4.12
Donegal	0.55	1.94	2.75	0.42	1.39	2.65
Other Irish counties[b]	8.93	10.48	11.05	6.49	8.28	10.06
Overseas[c]	3.53	3.42	4.69	3.51	4.18	6.63

Notes:
a The figures for County Antrim exclude Belfast.
b The figures for the other Irish counties exclude the city of Dublin.
c The majority of overseas shareholders are from England and Scotland.
Sources: see text

Table 7. *The geographical distribution of Ulster Bank branches and agencies in 1877, 1892, and 1914*

	Branches			*Agencies*		
	1877	*1892*	*1914*	*1877*	*1892*	*1914*
Cities						
Belfast	1	1	5	0	0	0
Dublin	2	4	4	0	0	1
Province of Ulster						
Antrim[a]	5	5	5	3	3	3
Armagh	3	3	3	2	2	1
Cavan	5	5	7	7	6	9
Donegal	4	4	5	5	6	4
Down	3	3	5	3	3	2
Fermanagh	2	2	2	3	3	4
Londonderry	3	3	4	2	1	2
Monaghan	3	3	3	1	1	1
Tyrone	7	7	7	10	9	9
Other Irish counties[b]	14	19	28	24	24	44

Notes:
a The figures for County Antrim exclude Belfast.
b The figures for the other Irish counties exclude the city of Dublin.
Sources: PRONI, Ulster Banking Company's Yearly Reports, D/3499/AE/1,3,6.

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Table 8. *Shareholder wealth by place of residence, 1883–1914*

	No. of shareholders with bequeathed wealth	*Median wealth (£)*	*Shareholders bequeathing <£1000 (%)*
Dublin	42	2,994.3	16.7
Monaghan	32	2,381.9	25.0
Londonderry	40	2,222.9	35.0
Donegal	17	2,139.9	29.4
Belfast	120	2,125.6	32.5
Armagh	58	1,808.2	32.8
Down	189	1,511.0	36.0
Non-Ulster counties	112	1,481.9	40.2
Antrim	108	1,342.9	41.7
Fermanagh	18	1,326.7	38.9
Tyrone	92	1,086.3	45.7
Cavan	34	474.1	58.8

Note: Unsurprisingly, we were unable to obtain very many probate records for shareholders who were resident outside Ireland.
Source: see text.

The above evidence does suggest that some geographical dispersion of share ownership took place following the move to limited liability. Assuming that directors had less information on individuals living outside of the bank's heartland of Belfast and its environs, one explanation for this finding is that directors gathered significantly less information on prospective shareholders than they did when the bank had unlimited liability. A complementary explanation is that the bank's capital increases required a wider spectrum of shareholders, which was only possible by targeting investors outside its traditional heartland. Notably, all the counties from which much of the new investment came were rural districts, and, as noted above, many of the new shareholders in the Ulster Bank in this era were farmers.[82] Furthermore, as can be seen in table 8, the shareholders from Tyrone, Cavan, and the non-Ulster counties typically were less wealthy, and a relatively large proportion of the shareholders in those counties bequeathed less than £1,000.

VI

One of the perceived benefits of limited liability is that it facilitates efficient portfolio diversification. An indirect way of trying to assess the impact of limited liability on portfolio diversification is to measure the proportion of wealth that individuals had invested in Ulster Bank shares, and observe whether this changed over time. Using the market price of Ulster Bank shares obtained from the relevant issues of the *Investors' Monthly Manual*, we were able to calculate what proportion of their bequeathed wealth an individual shareholder had invested in Ulster Bank shares. Table 9 compares

[82] Percentage of shareholders in 1914 who were farmers: Tyrone (28.6%), Cavan (24.4%), Monaghan (21.7%), Non-Ulster counties (16.3%), Londonderry (16.2%), and Donegal (14.5%).

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Table 9. *Ratio of the market value of deceased shareholders' Ulster Bank shares over their bequeathed wealth (%), 1877–1914*

	Individuals who were owners in 1877–82	*Individuals who became owners after limitation of liability and who bequeathed wealth before 1893*	*Owners after limitation of liability and who bequeathed wealth in 1883–1914*
Mean	26.583	25.931	26.081
Median	18.668	17.160	17.597
Standard deviation	23.919	23.859	24.056
First quartile	7.975	7.616	7.291
Third quartile	38.341	36.470	37.402
Skewness	1.081	1.069	1.097
Kurtosis	0.244	0.148	0.222
N	322	161	808

Notes: Excluded from these figures are 84 shareholders who had a ratio which exceeded one. The difference in the means between columns 1 and 2 and columns 1 and 3 are statistically insignificant with p-values of 0.704 and 0.7566 respectively.
Source: see text.

this ratio for individuals who were owners before and after the limitation of liability. As we can see, the average ratio of the market value of shares to bequeathed wealth did not change after liability was limited. Notably, the distribution of the ratios is remarkably similar.

The evidence in table 9 suggests that investors had a substantial proportion of their wealth tied up in Ulster Bank shares before the limitation of liability, and that this did not change subsequently. Although this evidence suggests that the portfolio-diversification benefits of limited liability may be overstated, another explanation is that there may have been a lack of alternative investments. This may have been the case for Ireland in this period as the Irish stock market was dominated by the securities of banks and railways.[83] However, it may have been relatively easy for Irish investors in this period to invest in the London market.

VIII

To ascertain how the control of the bank changed after the move to limited liability, shareholding information and bequeathed wealth was gathered for those men who were directors and members of the shareholders' committee in the three sample years. We were able to obtain the bequeathed wealth of nine of the 11 directors and committee members in 1877, and eight in each of the two other sample years.

[83] Although many new types of firms came to the market (Thomas, *Stock exchanges*, pp. 135–60), in terms of issues and market capitalization, banks and railways dominated the market (Hickson and Turner, 'Rise and decline').

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Table 10. *Wealth and ownership characteristics of the Ulster Bank's directors and members of the shareholders' committee 1877, 1892, and 1914*

	1877	*1892*	*1914*
Part A: Ownership			
Directors			
William Allen	2,650	—	—
James Carr	1,200	1,712	1,500
Francis Lepper	840	1,518	—
Henry McCance	2,019	1,526	—
James Blackwood	—	550	600
Stanley Ferguson	—	—	500
David Hoy	—	—	500
Total shares of shareholders' committee	7,107	5,984	4,330
Total shareholding of directors and committee	13,816	11,290	6,530
Percentage of share capital	11.51	6.27	3.27
Average shareholding	1,255.95	1,026.27	593.64
Part B: Wealth (£)			
Directors			
William Allen	53,170	—	—
James Carr	70,024	70,024	70,024
Francis Lepper	229,165	229,165	—
Henry McCance	54,559	54,559	—
James Blackwood	—	49,237	49,237
Stanley Ferguson	—	—	4,234
David Hoy	—	—	1,029
Total wealth of committee members who left wills	203,520	182,779	124,445
Mean wealth of directors and committee	67,715	73,095	27,663
Median wealth of directors and committee	53,170	54,625	12,431

Notes: There were four directors and seven committee members in each of the three years. The wealth figures are all in 1877 pounds.
Source: see text

From table 10 one can see that there was a significant decrease in the number of shares held by directors and committee members between 1877 and 1914. Once the increase in share capital in the period is considered, this fall translates into a very substantial decline in control from 11.51 per cent to 3.51 per cent. Given that after the move from unlimited liability, a shareholder's liability was now correlated with the number of shares they owned, it is maybe not surprising that directors and committee members held fewer shares.

It is also notable from table 10 that by 1914, directors and committee members were less wealthy than those of the previous generation. When a bank has unlimited liability, it is optimal that the wealthiest shareholders should also be the directors and committee members, as they have the best incentives to prevent low-wealth individuals from entering the bank.[84] However, once a bank becomes limited, liability is no longer joint and several,

[84] Hickson and Turner, 'Bagehot hypothesis'.

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implying that wealthy individuals have dramatically reduced incentives to participate in management.

Notably, three of the four directors in 1877 had no practical banking experience prior to becoming managers. For example, William Allen, an original shareholder of the bank, was a barrister who was appointed director in 1860.[85] Francis Lepper, a graduate of Trinity College Dublin, was appointed a director in 1869, succeeding his deceased uncle.[86] Henry McCance was a linen merchant who was appointed a director in 1868.[87] Only James Carr, who was elected to the board in 1873, had any practical banking experience, entering the bank in 1846 as a learner and becoming general manager in 1868.[88] Indeed, the only previous director to have had practical banking experience was Carr's brother-in-law, Thomas Ringland. On the other hand, all the new directors after the move to limited liability were men with practical banking experience. For example, James Blackwood had entered the bank as a learner in 1853, and was appointed chief accountant in 1862 and secretary in 1870, before becoming a director in 1884.[89] Stanley Ferguson became the Ulster Bank solicitor in 1894, and he was elected as a director in 1908.[90] David Hoy entered as a learner in 1865, became a branch manager in 1876, was appointed an inspector of branches in 1885, and became chief inspector of branches and secretary in 1901, before being appointed a director in 1910.[91] Consequently, the board in 1914 consisted of four men with considerable experience in practical banking. Indeed, it was said of Blackwood that 'his experience in banking practice made him a very valuable member of the board', and Hoy was noted for his 'outstanding knowledge of practical banking'.[92]

From the evidence, it appears that after the move to limited liability, the main qualification for a director was not how wealthy they were, but their experience of practical banking. However, there may also have been an increase in agency costs arising from the limitation of liability. First, under unlimited shareholder liability, directors and committee members were liable to the extent of their entire personal wealth, whereas when liability was limited they were only liable for up to £10 for every share owned. As directors and committee members stood to lose substantially less personal wealth in the event of bank failure (see table 10), their incentives to act in the interests of other shareholders may have been weakened. Second, the reduction in the number of shares held by directors and committee members increased the separation of ownership from control.

[85] Knox, *Decades*, p. 58.
[86] Ibid., p. 78.
[87] Ibid., p. 77.
[88] Ibid., p. 98.
[89] Ibid., p. 118.
[90] Ibid., pp. 139–40.
[91] Ibid., p. 141.
[92] Ibid., pp. 118, 141.

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IX

This article finds that after the Ulster Bank moved to limited liability, share ownership became more diffused and the shareholding constituency broadened to include less wealthy members of society. However, the evidence also suggests that the influx of less-wealthy individuals did not diminish the value of the bank's reserve liability, as the bequeathed wealth of every individual in our sample exceeded their maximum liability in the event of bankruptcy.

Overall, the evidence would tend to suggest that limited liability enabled this bank to raise more capital by broadening its shareholder base. Additionally, it is likely that the Ulster Bank's low share price contributed to a greater broadening than that experienced by its main rivals. One interesting result that emerges from this article is that Ulster Bank shares as a proportion of shareholder wealth did not decline after the move to limited liability, suggesting that Ulster Bank shareholders did not take advantage of the supposed portfolio-diversification benefits of limited liability.

Following the limitation of the Ulster Bank's liability, there was a change in the incentive structure of its management. First, the bank's governors owned fewer shares, both relatively and absolutely. Second, members of the board and shareholders' committee stood to lose substantially less personal wealth in the event of a bank failure. One possible concern is that after the introduction of limited liability, there may have been a weakening of the alignment between the incentives of shareholders and those of bank governors. On the other hand, a more professional and experienced board of directors arose, as wealth was no longer a major consideration for board membership.

Although this article has only examined one company, the evidence suggests that the introduction of limited liability had costs as well as benefits. Although the Ulster Bank was able to raise more capital by permitting a wider spectrum of individuals to become shareholders, the introduction of limited liability may have weakened the corporate governance of the bank. Consequently, it may be that limited liability 'little deserves the panegyrics so often bestowed upon it',[93] but further research is required to throw more light upon this important issue.

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[93] Shannon, 'Limited companies', p. 307.

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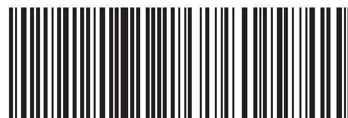

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