Desperate adventurers and men of straw: the failure of City of Glasgow Bank and its enduring impact on the UK banking system

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- City of Glasgow Bank was the largest commercial banking failure in the United Kingdom prior to the recent financial crisis and arguably shaped the future structure of the UK banking system.

Overview

'It was a calamity so unlooked for, so huge and disastrous, that it riveted men's gaze and made their hearts stand still' — Wilson (1879).

In 1878, City of Glasgow Bank (CGB) was one of the largest banks in the United Kingdom. Following a loss of confidence by providers of wholesale funding, CGB turned to other Scottish banks for liquidity assistance. But they refused after their investigations uncovered fraud and mismanagement.

Losses had been fraudulently concealed in CGB's published accounts. This partly reflected a decline in the standards of CGB's management during the 1870s, until all that was left were 'mediocrities and men of straw'. These '**men of straw**' colluded with the bank's largest creditors, whose speculative business investments saw them described at the time as '**gangs of desperate adventurers**'. The bank was deeply insolvent largely due to losses on exposures to this small group of borrowers. Several of the firm's management were sent to prison.

Following the failure of the bank, losses fell entirely on shareholders because they had unlimited liability, which required them to cover any shortfall of assets relative to liabilities. The losses incurred were very large: the value *per share* of the first call on shareholders to cover losses would have been almost two fifths of the annual earnings of a solicitor and over four times the annual earnings of a teacher. Public sympathy led to the establishment of a relief fund for the bank's shareholders.

The wider financial implications of the failure were reduced because depositors and other creditors were shielded from losses by the unlimited liability of CGB's shareholders. But the failure may have intensified existing liquidity problems in the banking system, and there were some knock-on effects to the real economy.

The failure of CGB led to significant and enduring changes to the UK banking system, including **a move away from unlimited liability banking** and a requirement that banks be externally audited. The impact of these changes and the experience of the crisis arguably contributed to **a merger wave that resulted, by 1920, in a concentrated system of large banks similar to the one we recognise today** and to banks increasing the share of their balance sheets consisting of more liquid, lower-risk assets.

There are a number of parallels between the CGB episode and current policy debates. These include: the importance of banks having sufficient loss-absorbing capacity to contain the wider costs of distress; the need to prevent banks having large and concentrated exposures; the value of effective audit and disclosure requirements; and the benefits of holding banks' senior management to account.

Studying the past can help to ensure that historical insights are incorporated into risk assessment and structural policy today. Banking and regulation have changed significantly over time but the underlying causes of crises have a habit of repeating themselves.

Click here for a short video that discusses some of the key topics from this article.

(1) The authors would like to thank Maxwell Green, Perttu Korhonen, Casey Murphy, Shahid Nazir and John Turner for their help in producing this article.

The collapse of the City of Glasgow Bank (CGB) in October 1878 was the largest commercial banking failure in the United Kingdom prior to the recent financial crisis.[1] At the time it was reported as the largest banking disaster to have occurred in the United Kingdom or overseas.[2] The repercussions of its failure went well beyond the impact on its stakeholders. It had an impact on the structure and governance of the UK banking system that endures today and it contains lessons relevant for current policy debates.

The purpose of examining this and other historical episodes is to build understanding of financial stability and crises, and to document and disseminate this knowledge to a wider audience. This will help to ensure that historical insights are incorporated into risk assessment and structural policy, helping the Bank of England (hereafter 'the Bank') to meet its financial stability objective.[3] Banking and regulation have changed significantly over time but the underlying causes of crises have a habit of repeating themselves.

The first section of the article outlines why CGB failed. The second section analyses the impact of the failure on CGB's stakeholders, including depositors and banknote holders, shareholders, directors and the wider banking system. The third section examines the move away from unlimited liability banking that followed CGB's failure and its contribution to the evolution of the UK banking system. The final section discusses some lessons policymakers can learn from CGB's failure. A short video explains some of the key topics covered in this article.[4]

The failure of City of Glasgow Bank

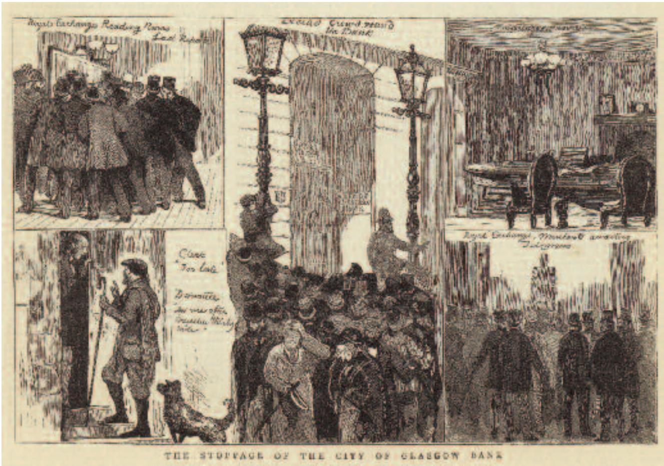
CGB was established in 1839. It was part of a wave of bank formation that saw 16 Scottish banks established between 1825 and 1840.[5] By the 1870s, CGB had grown to have the third largest branch network in the United Kingdom.[6]

As was common at the time, CGB's shareholders had unlimited liability. Shareholders in an unlimited liability company are jointly liable to cover a company's debts. This means that if the value of a company's assets falls below the value of its debts, shareholders are called to inject additional funds to cover the gap. Thus, unlike shareholders in a limited liability company, shareholders in an unlimited liability company can lose more than their initial investment.

The discovery of a capital shortfall

In June 1878, CGB's published balance sheet showed few signs of trouble and the directors reported a healthy dividend. CGB reported equity (assets minus liabilities) of around £1.5 million, equal to around 13% of assets, suggesting that it had adequate equity capital to absorb any losses that might reasonably occur.[7] In spite of its apparent health, by September 1878 rumours had started to circulate about CGB — investors in wholesale funding markets became unwilling to finance any more of the bank's debt. When CGB approached other Scottish banks for liquidity support, these banks insisted on an independent examination of its accounts as a precondition for assistance. This revealed that CGB had large exposures to a small number of weak borrowers. The Scottish banks refused support and CGB was forced to close its doors (**Figure 1**).[8]

Figure 1 A contemporary illustration of the stoppage of the City of Glasgow Bank



Source: *The Graphic*, 12 October 1878 (courtesy of Look and Learn).

The directors of CGB appointed a firm of chartered accountants to further investigate the bank's financial condition. After revaluing assets and liabilities, the accountants concluded that liabilities exceeded assets by £5.2 million (**Chart 1**).[9] Losses were three times greater than reported equity and were equivalent to around 0.5% of UK nominal GDP in 1878. The bank was deeply insolvent.

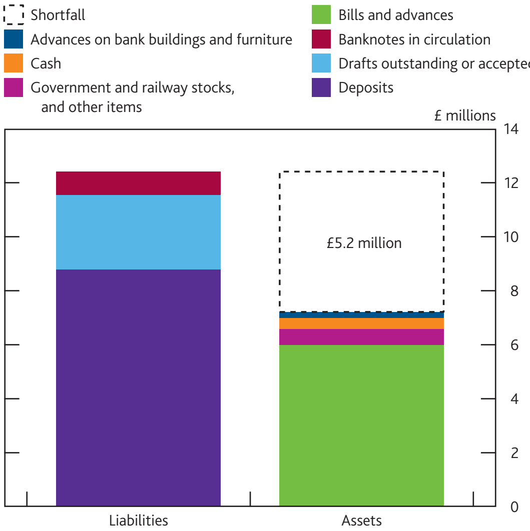
Sources of losses

CGB's capital shortfall had been covered up by fraudulent accounting. The value of its liabilities were understated, and the value of its assets were overstated to conceal losses incurred on loans and investments (**Chart 2**) — these misstatements artificially boosted CGB's reported equity.

CGB's lending was highly concentrated — four borrowers accounted for three quarters of total loans. The reputation of some of these borrowers was poor. One newspaper described them as 'gangs of desperate adventurers'.[10] They were heavily involved in overseas trade, particularly in East India

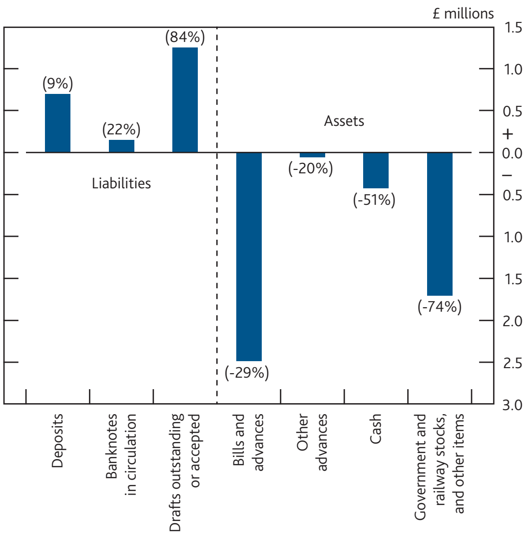
(1) See page 88 of Turner (2014).
(2) See *The Times*, 31 December 1878.
(3) The Parliamentary Committee on Banking Standards (2013) also recognised the importance of financial history in their recommendation that 'The PRA should ensure that supervisors have a good understanding of the causes of past financial crises so that lessons can be learnt from them'.
(4) www.youtube.com/watch?v=fOU0eA03S2c.
(5) See page 119 of Cameron (1995).
(6) See page 84 of Turner (2014).
(7) Further details on the loss absorbency of bank capital can be found in Farag, Harland and Nixon (2013).
(8) See pages 218–20 of Kerr (1908).
(9) See page 285 of Rosenblum (1933).
(10) See *The Times*, 31 December 1878.

Chart 1 City of Glasgow Bank's balance sheet as of 1 October 1878 according to the accountant's report



Sources: Wallace (1905) and Bank calculations.

Chart 2 Extent to which assets and liabilities were over and understated on City of Glasgow Bank's balance sheet(a)



Sources: Wallace (1905) and Bank calculations.

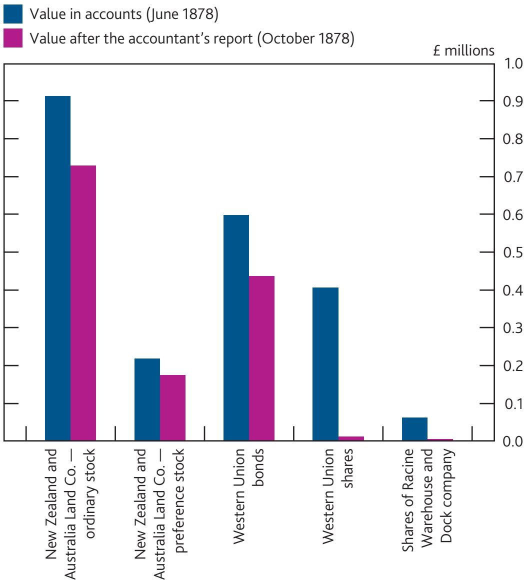
(a) The values in parentheses show the degree to which liabilities and assets were understated and overstated, respectively on 1 October 1878.

Chart 3 City of Glasgow Bank's large exposures

Sources: Wallace (1905) and Bank calculations.

(a) Value of collateral as estimated on 1 October 1878 in the accountant's report.

Chart 4 Estimates of City of Glasgow Bank's losses on selected foreign assets



Sources: Bank of England, Wallace (1905) and Bank calculations.

and Australasia. CGB's exposures to these borrowers had existed for some years. For example, CGB had been supporting one of the borrowers — James Morton & Co. — since at least the mid-1860s.[1] By 1878 these exposures were close to £6 million, or about four times CGB's reported equity capital, and there was a £4.3 million deficit between the exposures and the value of collateral held against them (**Chart 3**). The accountant's report on CGB pointed out that 'no attempt had been made to value the securities held in reference to these four assets… which are entered in the security ledger at sums which appear to have been indicated by the debtors themselves'.[2]

CGB also made losses on its direct investments in foreign assets, notably land in Australia and New Zealand, and US railways (in the form of investments in the Western Union railway company). These investments contributed around a further £1 million of losses, shown in **Chart 4** by the sum of the differences between the magenta and blue bars.[3]

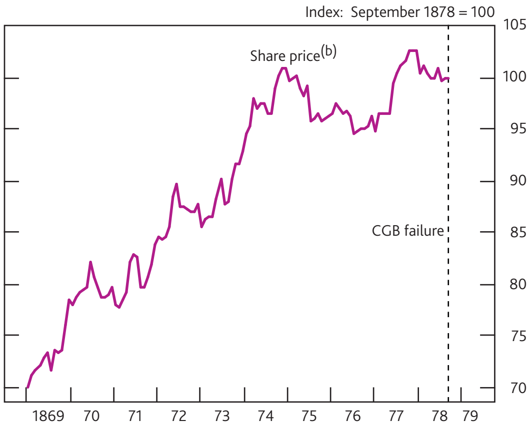
(1) See page 470 of Checkland (1975).
(2) See page 467 of Wallace (1905).
(3) Monitoring of overseas exposures was not always straightforward at the time. For example, following the failure of CGB, the manager of the New Zealand Land Company had to catch a boat back to the United Kingdom to deliver information about the company's properties following speculation in the press about the position of the firm (*The Times*, 28 October 1878).

The standards of CGB's management had declined during the 1870s, with some of the more capable board members departing. This left, according to Checkland (1975), 'only mediocrities and men of straw', which were heavily indebted to their own bank. One theory is that large concentrated exposures were allowed to build up because of the close relationship between CGB's directors and some of the borrowers. For example, James Nicol Fleming had been one of CGB's directors until he was asked to resign in 1876 due to the size of his debts to the bank.(1) The weak financial position of the bank may also have played a role by limiting its ability to absorb losses, and forcing it to continue to support failing borrowers.(2)

Immediate reaction to the failure

The collapse of CGB came as a shock. The falsification of its accounts meant that on most common measures of financial strength, the bank had appeared broadly in line with its peers. CGB's share price did not fall significantly in the run-up to its failure, shown by the magenta line in **Chart 5**, which suggests that investors did not anticipate the bank's failure. That said, Kerr (1908) claims that there had been considerable selling pressure on CGB's share price but the bank had propped up its share price by buying its own shares.(3)

Chart 5 City of Glasgow Bank's share price in the run-up to its failure(a)



Sources: International Center for Finance at Yale School of Management and Bank calculations.

(a) The share price data are from the Investor's Monthly Manual, available at http://som.yale.edu/faculty-research/our-centers-initiatives/international-center-finance/data/historical-financial-research-data/london-stock-exchange.
(b) Based on share price for last business done in each month. The share price series is normalised to equal 100 in September 1878.

Moreover, there were concerns about CGB's financial strength in some banking circles. For example, Clapham (1944) argues that CGB was held in 'ill-repute among well-informed and honest bankers for years before the final collapse' and Cameron (1995) reports how concerns about a potential crisis at CGB had been reported to the Treasurer of the Bank of Scotland as early as 1871. But the general public were largely unaware of these rumours. And as a result, the sudden failure of CGB, coupled with it being one of the largest Scottish banks, caused panic. A quote from Kerr (1908) sums up the mood: 'The announcement of the suspension of the City of Glasgow Bank… had a paralysing effect throughout the business community, and feelings of alarm and distrust arose among the general public'.

Impact on stakeholders

CGB's failure was quickly contained, for three main reasons. First, other Scottish banks continued to accept CGB banknotes and to provide services to CGB depositors. Second, depositors and creditors were shielded from losses by the unlimited liability of CGB's shareholders. And third, CGB's problems were perceived to be unique to it.

While depositors and note holders were paid in full, CGB's shareholders suffered large losses. Its directors faced trial and eventually served prison sentences. And the UK banking system and real economy is thought to have suffered some spillover effects. The rest of this section considers each of CGB's main stakeholders in turn.

Depositors and note holders

CGB had a deposit base of £8.5 million, the third largest branch network in the United Kingdom and, like a number of other Scottish banks, issued its own banknotes.(4) The Banking Act of 1845, which extended the 1844 Banking Act to Scotland, had restricted the issuance of banknotes to those banks that had established note issues before that date. This made note issuance a highly profitable activity, and acted as a barrier to entry to banking more generally, as new banks did not have access to this business line.(5) Maintaining confidence in the note issuance was therefore a priority for the other Scottish banks, and they chose to continue to accept notes issued by CGB. They did this in part because the panic that followed the earlier failure of another Scottish banknote issuer, the Western Bank of Scotland in 1857, had only abated after other banks guaranteed that Western's note holders would not suffer losses. The unlimited liability of CGB's shareholders is also likely to have given the other Scottish banks confidence that they would not be exposed to losses.

The actions of other Scottish banks also helped to limit the impact on depositors. They allowed CGB depositors (except those who were shareholders) to transfer their deposits, making some funds immediately available, which meant that

(1) See page 255 of Forbes Munro (2003).
(2) See *The Times*, 31 December 1878.
(3) However, fluctuations in CGB's share price — shown by the differences between its highest and lowest prices recorded in a calendar month — did not increase as one might expect if there had been consistent selling pressure.
(4) Some banks still issue their own banknotes. Three banks in Scotland, as well as four in Northern Ireland, are authorised to issue banknotes. Under the Banking Act 2009, those banks are required to fully back their note issuance with ring-fenced, risk-free assets. Bank of England banknotes, UK coin, or funds held in ring-fenced accounts at the Bank of England can act as backing assets. This requirement gives holders of these commercial banknotes a similar level of protection to Bank of England note holders. See Naqvi and Southgate (2013) for more details.
(5) See page 24 of French (1985).

CGB deposit holders continued to have access to the payments system.(1) They also took over much of CGB's branch network.(2)

Shareholders

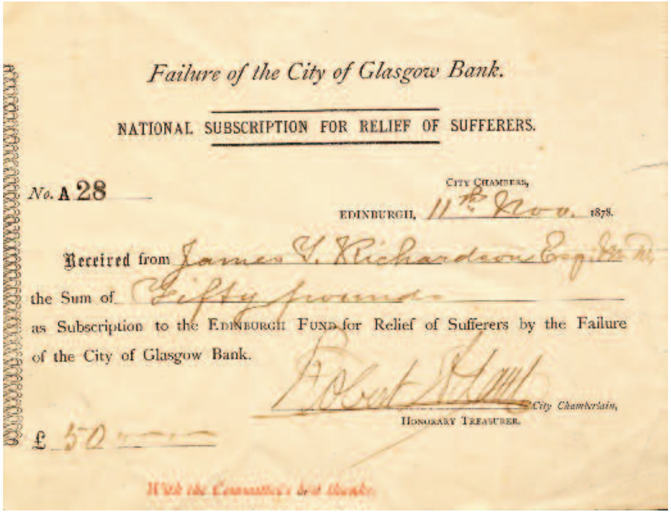
As well as wiping out the value of the capital shareholders had already invested, the failure of CGB also left shareholders with additional losses. This was because shareholders had unlimited liability, which meant they were legally liable to cover the shortfall between CGB's assets and liabilities.

Losses fell unevenly across shareholders, most of whom were members of the public. The liquidators of CGB made two calls on shareholders to cover the shortfall. The first was in November 1878 for £500 per share. But as only one third of shareholders were able to meet this call in full, a second call was made in April 1879 for a further £2,250 per share. The inability of poorer shareholders to meet their obligations meant that almost three quarters of the total shortfall was paid by the one third of shareholders who were able to meet the first call in full as well as contribute towards the second call.(3) This reflected the size of the calls. The value per share of the first call alone would have been almost two fifths of the annual earnings of a solicitor or barrister — a highly paid occupation — and over four times the annual earnings of a teacher.(4)

The scale of the losses incurred by CGB meant that the calls faced by shareholders were significantly larger than those seen in previous unlimited liability bank failures.(5) But despite this there were few reports of shareholders absconding or seeking to conceal their assets to avoid paying their debts. On the contrary, there appears to have been a strong feeling that claims should be honoured with many shareholders reported as travelling to Glasgow to personally deliver funds to the liquidators. French (1985) attributes this to the religious nature of Scotland in the 19th century.

The suffering and financial burden placed on shareholders was widely covered in the press. Coverage typically portrayed the shareholders as socially vulnerable and financially ruined investors, with small shareholdings.(6) The public were reported as viewing the failure of CGB and the impact on its shareholders as a national tragedy.(7) Public sympathy led to fund-raising events for CGB shareholders, including the establishment of a relief fund, which received £379,670 in donations by 1882(8) (**Figure 2**), and even a public recital of the works of Shakespeare.(9)

Figure 2 A donation to the relief fund for City of Glasgow Bank shareholders



Failure of the City of Glasgow Bank.

NATIONAL SUBSCRIPTION FOR RELIEF OF SUFFERERS.

No. A 28

City Chambers, Edinburgh, 11th Nov. 1878.

Received from James Y. Richardson Esq.

the Sum of Fifty pounds

as Subscription to the Edinburgh Fund for Relief of Sufferers by the Failure of the City of Glasgow Bank.

City Chamberlain, Honorary Treasurer.

£ 50

With the Committee's best thanks.

Source: © CSG CIC Glasgow Museums Collection.

Caledonian Bank

One name to appear on the list of CGB shareholders was Caledonian Bank, a small bank from the north of Scotland. It had taken £400 of CGB shares as security for an advance to a Pitlochry whisky distillery. It had eventually become the registered holder of the shares, and therefore liable as a CGB shareholder.(10) In spite of Caledonian's efforts at reassurance, its shareholders began to sell their shares. To prevent its shares being sold to less wealthy investors who would be less able to provide capital support to Caledonian, which in turn could reduce the bank's ability to meet the calls on CGB shareholders, the liquidators of CGB forced Caledonian to cease trading.

Caledonian's ultimate liability as a result of CGB's failure was only £11,000 (less than 5% of capital and reserves) and it was able to reopen in June 1879. But, in total the stoppage was estimated to have cost an additional £62,970 — the bank never fully recovered and was eventually taken over by the Bank of Scotland in 1907.(11)

Directors

The manager, secretary and a number of CGB's directors were arrested in mid-October 1878. The trial elicited great interest from the general public and was heavily reported by the press (**Figure 3**). The official record of the trial states that: 'The trial of the City [of Glasgow] Bank directors ranks, in the estimation

(1) See page 86 of Turner (2014).
(2) The bulk of CGB's branch network, and staff, were taken on by Royal Bank of Scotland (see page 141 of Cameron (1995)).
(3) See page 147 of Lee (2012).
(4) This is based on nominal annual earnings for different occupations in 1881 (see page 153 of Mitchell (1988)).
(5) See Table 5.6, page 119, of Turner (2014) for the values of calls on shareholders in previous bank failures.
(6) See page 143 of Lee (2012).
(7) See page 19 of French (1985).
(8) This would have represented just over 7% of the total shortfall at CGB. To put it into context, the amount raised was around 5% of the total expenditure on the relief of the poor in the whole of England and Wales in 1878 (see page 605 of Mitchell (1988)).
(9) See page 149 of Lee (2012).
(10) See page 12 of French (1985).
(11) See pages 166–68 of Cameron (1995) and page 12 of French (1985).

Figure 3 A contemporary illustration of the trial of the directors of City of Glasgow Bank

Source: *The Graphic*, 25 January 1879 (courtesy of Look and Learn).

of the layman, if not of the professional lawyer, as probably the most important which has taken place in Scotland'.(1)

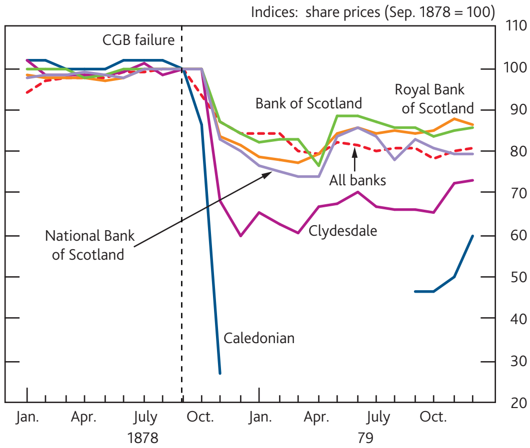
The bank's general manager and one of its directors were found guilty of falsifying CGB's balance sheets and were given 18-month prison sentences. Five other directors were found guilty of publishing balance sheets that they knew to be false and were imprisoned for eight months.(2) This was only the second imprisonment of directors of a British joint stock bank.(3)(4) Despite this, the sentences were reported by *The Economist* to be 'inadequate' and 'leaving a lot of dissatisfaction behind, with questions asked as to why the defendants did not receive the harshest penalty available under the law'.(5)

Wider banking system and real economy

Contagion to the wider Scottish banking sector was relatively limited. While the share prices of other banks did fall significantly during 1878–79 (**Chart 6**), the only bank closure as a direct consequence of CGB's failure was the aforementioned Caledonian.(6)

However, the failure of CGB had some wider effects on the Scottish economy. The losses resulting from the failure of the

Chart 6 Bank share prices around the failure of City of Glasgow Bank(a)(b)(c)



Sources: International Center for Finance at Yale School of Management and Bank calculations.

(a) The share price data are from the Investor's Monthly Manual, available at http://som.yale.edu/faculty-research/our-centers-initiatives/international-center-finance/data/historical-financial-research-data/london-stock-exchange.
(b) Based on share prices for last business done in each month. Each share price series is normalised to equal 100 in September 1878.
(c) The All banks series is based on the sum of the share prices of all banks listed within each issue of the Investor's Monthly Manual (which includes all banks listed on the London Stock Exchange, including ones from outside the United Kingdom).

bank contributed to an increase in the value of bankruptcies in Scotland in the years following CGB's failure.(7) Due to the size and international focus of CGB, effects were also felt further afield, including in London and India where the firms belonging to a number of CGB's larger creditors were forced to close.(8) And there were reports of firms with Glasgow connections finding it difficult to obtain credit due to the stigma that CGB's failure attached to the city itself.(9)

There were also some strains in the banking system elsewhere in the United Kingdom during the same period. Provincial banks in England and Wales faced depositor withdrawals and losses on loans to industrial borrowers and there were some bank failures (notably the West of England and South Wales District Bank in December 1878).(10) Some reports suggested that confidence in the sector was shaken to an extent not seen since the major banking crisis that occurred in 1825.(11)

Liquidity problems may have intensified after the failure of CGB but it appears that problems started before then. In the first half of 1878, deposits held at banks had begun to fall

(1) See page 1 of Wallace (1905).
(2) See page 85 of Turner (2014).
(3) A joint stock company is a business concern with shares that can be traded among investors.
(4) In 1858, some of the directors of the Royal British Bank were imprisoned. In addition to these custodial sentences, one banker had been hanged for forgery half a century earlier (page 310 of Clapham (1944)).
(5) © The Economist Newspaper Limited, London (February 1879).
(6) Some of the falls in other banks' share prices may have been due to CGB shareholders selling their holdings of other banks' shares in order to raise the funds they needed to meet the calls on CGB shareholders (see page 27 of French (1985)).
(7) See page 695 of Mitchell (1988).
(8) See page 254 of Forbes Munro (2003).
(9) See page 253 of Forbes Munro (2003).
(10) See page 507 of Collins (1989).
(11) *The Times*, 31 December 1878.

while the Bank of England's liabilities had started to increase.[1] Thus, difficulties in the wider banking system cannot be attributed entirely to CGB's failure. Moreover, the problems in the banking system occurred at a time when economic conditions in the United Kingdom were weak. Economic growth had been low in the years preceding CGB's failure and the economy contracted between 1878 and 1879.[2] Unemployment was increasing during the same period[3] and the number of bankruptcies increased in 1878.[4] But the economy then recovered quickly, growing strongly between 1879 and 1880.[5]

Bank of England

Perhaps reflecting CGB's poor credit quality, the Bank of England did not provide liquidity support. However, it raised Bank Rate in October 1878. It did so because, following the Bank Charter Act of 1844, the Bank was required to back its note issuance with gold. During a liquidity crisis in the banking system, demand to withdraw gold from the Bank could increase, which would put at risk the backing of the note issuance. An increase in Bank Rate would have reduced demands to withdraw gold. The increase was reversed a month later, suggesting that liquidity problems in the banking system were short-lived.

The enduring impact of the failure of CGB on the UK banking system

The failure of CGB had a profound and enduring impact on the British banking system, particularly on the nature of bank shareholders' liability.

Shareholder liability in the UK banking sector

The severe financial problems faced by CGB shareholders were widely attributed to the fact that they had an unlimited liability to cover the bank's debts. At the time of CGB's failure, there was a mixture of banks operating under unlimited liability and limited liability (whereby shareholders were not liable to cover a failed bank's debt and hence could not lose more than their equity investments). This is shown in **Table A** alongside a third category, reserve liability, which is discussed later in this section.

Table A Number of British banks operating under different liability regimes[a][b]

	1849	1869	1889
Limited liability[c]	5	47	45
Unlimited liability	141	89	2
Reserve liability	–	–	77

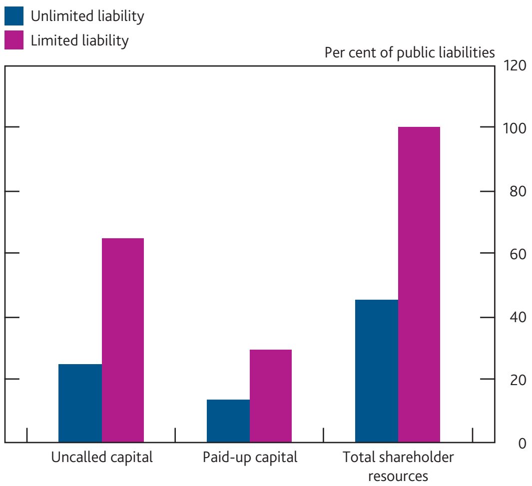
Sources: Acheson, Hickson and Turner (2010) and Bank calculations.

(a) The data are taken from Table 1, page 250, in Acheson, Hickson and Turner (2010).
(b) The sample includes banks from England, Ireland, Scotland and Wales.
(c) This category groups together banks that had limited liability under a state charter (Bank of England, Bank of Ireland, Bank of Scotland, British Linen Bank and Royal Bank of Scotland) and joint stock banks incorporated with limited liability.

The right for companies to incorporate with limited liability had been liberalised during the 19th century. It was extended to banks in 1858.[6] But established banks had been reluctant to adopt limited liability because unlimited liability enabled them to reassure depositors and note holders that they would not face losses on their claims. Individual banks might also have been reluctant to switch to limited liability unilaterally in case it put them at a disadvantage when trying to compete for deposits.[7]

Depositors valued shareholders having unlimited liability. Banks that were incorporated with limited liability tended to have higher levels of capital than unlimited liability banks (**Chart 7**) because limited liability provided less protection for depositors. But capital levels of both unlimited and limited liability banks were both much higher than capital levels of banks today.

Chart 7 English banks' capital levels in 1874[a][b][c]



Sources: Turner (2014) and Bank calculations.

(a) The bars show mean values of capital as a percentage of public liabilities. Public liabilities consist of deposits and notes in issuance.
(b) The chart is shown for a sample of 30 unlimited liability banks and 33 limited liability banks.
(c) Paid-up capital is equity capital that had been invested in the banks. Uncalled capital is equity capital that could have been called at the discretion of a bank's management. Total shareholder resources consists of paid-up capital, uncalled capital and reserves (such as retained earnings).

Criticisms of unlimited liability

A criticism of unlimited liability made in the 19th century was that the protection it gave depositors and note holders could be eroded in periods of bank distress. This reflected the view that the downside risks of holding unlimited liability shares in a failing bank were so high that only those with nothing, or

(1) See page 520 of Collins (1989).
(2) This can be seen in estimates of real GDP, on page 60 of Solomou and Weale (1991).
(3) This is the percentage unemployed in certain trade unions; see page 122 of Mitchell (1988).
(4) See page 695 of Mitchell (1988). The value of bankruptcies spiked up in England and Wales in 1878, although the same did not happen in Scotland.
(5) See page 60 of Solomou and Weale (1991).
(6) See pages 134–36 of Hunt (1936). Prior to 1858, a bank needed a state charter to operate with limited liability. There were five banks with such charters (Bank of England, Bank of Ireland, Bank of Scotland, British Linen Bank and Royal Bank of Scotland).
(7) See page 31 of Crick and Wadsworth (1936).

very little, to lose would be willing to continue to hold them, leading to wealthy shareholders offloading their shares to less wealthy investors. These less wealthy investors would be less able to meet any capital calls made on shareholders. George Rae, a prominent writer about banking during the period, described how 'Men of wealth and position would gradually sell out' with unlimited liability reduced to 'a husk without its kernel'.(1) There were fears that CGB's failure would strengthen this process of unravelling in future episodes of bank distress.

There is, however, no strong evidence for this unravelling process having taken place, either before or following the failure of CGB. Acheson and Turner (2008) show that the proportion of shareholders of major Scottish banks — including CGB — that were low wealth, based on their occupation, was low before the failure of CGB and did not increase immediately after its failure.(2)

This may have been due to some banks having arrangements in place to stop transfers of shares to less wealthy investors. All share transfers had to be approved by directors of banks, who themselves typically held large shareholdings and as a result had strong incentives to prevent shares passing to the less wealthy. And wealthy shareholders' incentives to sell their holdings of bank shares — including when problems started to appear at a bank — might have been weakened by the fact that they could remain liable for a bank's debts. A shareholder in Scotland was liable for debts incurred during the time they were a shareholder if the current shareholders were unable to cover the losses, whereas in England and Ireland a shareholder remained liable for three years after they had sold their shares.

The move to reserve liability

The magnitude of CGB shareholders' losses caused banks operating with unlimited liability to seek to change their liability regimes. But the reluctance to switch to limited liability remained.

The Companies Act 1879 introduced a different liability concept, reserve liability. Under reserve liability a shareholder would be liable to meet a bank's debt in the event of bankruptcy only up to some fixed multiple of his or her investment in shares. Reserve liability, together with uncalled capital (additional capital that a bank's management could request from shareholders while it was still operating as a viable business) meant that debt holders' claims were still partially protected. But reserve liability implied that the amount an individual shareholder could lose was capped and not as dependent on other shareholders' wealth.

The number of banks operating under reserve liability grew rapidly after 1879 and the number of unlimited liability banks declined (**Table A**). In 1885, under reserve liability, the amount of capital that could be called from a UK bank's shareholders was on average close to two times their paid-up capital, and over three times their paid-up capital if uncalled capital is also taken into account.(3) This meant that, on average, a shareholder could face losses of around £3 for every £1 of equity they had invested.

Greater concentration

The end of unlimited liability also contributed to other significant structural changes to the British banking system. Unlimited liability tended to limit the size of banks. Investors would be reluctant to become shareholders in a large bank since the larger balance sheet of such a bank could expose them to greater losses. In addition, the mechanisms to prevent shares transferring to less wealthy shareholders, such as directors vetting all share transfers, would become more costly or impractical in a large bank with a large shareholder base.

These protective mechanisms tended to result in shareholders being located near to a bank's headquarters. Local shareholders were easier for directors to vet and were in a better position to monitor the bank. But this limited the set of potential investors a bank could attract if it wished to expand. CGB fitted this pattern, with the vast majority of shareholders based in Scotland, including over 400 in Glasgow and around 300 in Edinburgh (**Figure 4**). By contrast, there were only around 20 London-based shareholders.

Limiting liability removed these barriers to the emergence of larger banks, contributing to a wave of bank mergers in the late 19th and early 20th century. Accompanying that wave was a reduction in both reserve liability and uncalled capital (see the box on pages 32–33).

External audits of banks

The fraud at CGB led other banks to move to reassure shareholders of the strength of their balance sheets by voluntarily adopting external audits.(4) This subsequently became a requirement of all banks under The Companies Act 1879.

More conservative balance sheet composition

The failure of CGB, and the move away from unlimited liability, may also have made banks more conservative when choosing the composition of their balance sheets in the following decades and into the early part of the 20th century. The share of English and Welsh banks' assets consisting of liquid, low-risk assets jumped up in 1879 and then continued

(1) See Letter 34, pages 248–49 of Rae (1885).
(2) See Table 1 on page 241 of Acheson and Turner (2008).
(3) See Table 5.9 on page 127 of Turner (2014).
(4) See page 479 of Checkland (1975) and pages 41–42 of Walker (1998). See also Sowerbutts, Zimmerman and Zer (2013) for a discussion about how bank disclosures have changed in more recent times.

Figure 4 Location of City of Glasgow Bank shareholders[(a)]

Sources: University of Glasgow Scottish Business Archive and Bank calculations.

(a) This map shows location data for around 97% of CGB's 1,819 shareholders. Around 0.5% of shareholders were based overseas, location data for the remaining 2.5% was unavailable.

on an upward trend until the end of the 19th century.[(1)] By the end of the century, the liquid assets share was a little over 40%, whereas it had been just under 30% in 1878. The share of bank assets consisting of loans to industry correspondingly fell during this period.

These trends suggest that banks became more conservative by reducing their exposure to liquidity risk (by holding larger buffers of liquid assets) and to credit risk (by lending less to riskier corporate borrowers). But any impact that the failure of CGB had on banks' risk appetite was clearly not as permanent as the other effects described above.

Policy lessons

The Bank pursues its objective to maintain financial stability through a number of different roles. The Prudential Regulation Authority (PRA), as part of the Bank, is responsible for the microprudential regulation of deposit-takers, insurers and major investment firms. Through the setting of standards and supervision, the PRA aims to promote the safety and soundness of the firms it regulates, and — in the case of insurers — contribute to the protection of policyholders. The Bank also has a statutory objective to protect and enhance the stability of the financial system of the United Kingdom. The Financial Policy Committee (FPC) contributes to meeting this objective by taking actions to remove or reduce systemic risks.

While the banking system looked quite different in 1878 from today, it is nonetheless possible to draw a number of lessons from the failure of CGB for both the safety and soundness of individual firms and the resilience of the system as a whole.

Safety and soundness of individual firms

First, banks can run into difficulties when they make significant investments outside of their core fields of expertise. In CGB's case this was true for investments overseas, which they could not adequately assess or monitor. A more recent example is the investments made in the years running up to the recent financial crisis by a number of firms in asset-backed securities that were subsequently found to be of lower quality than the firms had anticipated.

Second, large exposures to individual borrowers can undermine the resilience of banks. A large proportion of CGB's losses can be traced back to its loans to a small number of counterparties. Today, policymakers recognise the risks posed by large exposures and impose regulations to limit the values of banks' exposures to single counterparties. The Basel Committee on Banking Supervision has recently published a set of standards for large exposures regulation.[(2)]

Third, problems can occur at banks if audit and disclosure requirements are ineffective. The fraud at CGB led to legislation requiring external auditing of banks. Following the recent crisis, there have also been efforts to improve banks' disclosures and their external audits. These include recommendations made by the Enhanced Disclosure Task Force[(3)] — an industry body initiated by the Financial Stability Board — and proposals from the PRA to improve further the relationship between external auditors and supervisors of PRA-authorised firms, such as written reporting to the PRA by the auditors of the largest UK deposit-takers as part of the statutory audit cycle.[(4)]

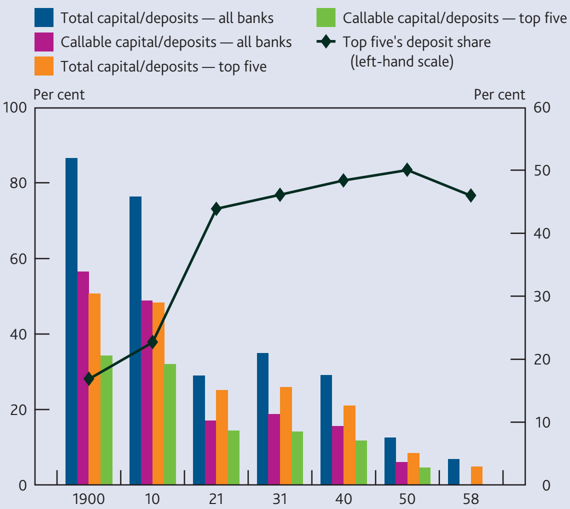
Fourth, bank resilience is supported by senior management being accountable for their behaviour. Members of CGB's senior management and board faced trial for their behaviour, which may have deterred similar behaviour at other banks. The benefits of holding individuals to account are recognised by policymakers today. Following recommendations from the Parliamentary Commission on Banking Standards in this area, the PRA and Financial Conduct Authority (FCA) have recently proposed measures to ensure individuals working at UK banks, building societies, credit unions and PRA-designated investment firms are held to account for their behaviour.[(5)]

(1) Evidence for the changes in the composition of banks' balance sheets can be found in Table A.6 from pages 269–71 of Collins and Baker (2003).
(2) See Basel Committee on Banking Supervision (2014).
(3) See Enhanced Disclosure Task Force (2012).
(4) See Bank of England (2015).
(5) See PRA and FCA (2014).

Amalgamation in the British banking system

Between 1879 and 1920, the UK banking system became significantly more concentrated, driven by a series of mergers. The largest five banks increased their share of deposits from just below 40% in 1910 to over 70% in 1921 (**Chart A**). Today, the largest six banks in the United Kingdom hold around 75% of sterling household deposits.

Chart A Concentration and capital ratios in the British banking system 1900–58[(a)(b)(c)]



Source: Turner (2014).

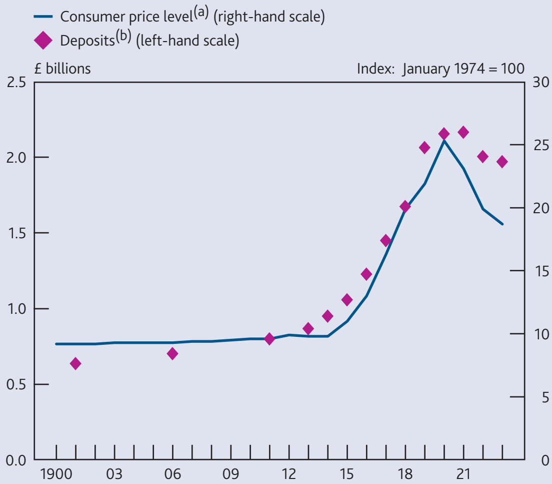
(a) Total capital consists of paid-up capital, shareholder reserves, reserve liability, and uncalled capital. Callable capital consists of reserve liability and uncalled capital.
(b) Mean capital ratios are shown.
(c) The years for which data are shown match those shown in Table 5.10 in Turner (2014).

Several factors were behind this development. First, there was a perception that the needs of industry were better served by larger banks.[(1)] Within the banking industry, some drew comparisons with the banking systems in other economies — in particular, with Germany — where larger banks were perceived as more likely to be able to support larger industrial companies in the aftermath of the First World War than smaller British banks were.[(2)] Second, larger banks operating over bigger geographical areas might have been better able to direct surplus bank deposits in certain regions of the country towards regions where the demand for loans exceeded deposits.[(3)] And third, the move away from unlimited liability meant that shareholders had less reason to fear the potentially larger losses these banks could incur.

Accompanying amalgamations in the banking system were decreases in banks' ratios of capital relative to deposits (**Chart A**). Upon merging, banks tended to reduce the values of reserve liability and uncalled capital. Paid-in (or called) capital ratios fell, too. Lower levels of capital might also have facilitated bank mergers if, for a given level of dividends, a smaller capital base increased a bank's share price, better enabling it to purchase other banks.[(4)]

Larger banks may have been perceived as safer (perhaps because they were considered more diversified), enabling them to operate with lower capital ratios than smaller banks. Throughout this period, the largest five banks had lower ratios of total capital and callable capital (reserve and uncalled capital) to deposits than smaller banks (**Chart A**). But other factors also contributed to the decline in capital ratios. The decline in bank capital relative to deposits was particularly strong in the 1910s, with one explanation being that high inflation during and immediately following the First World War pushed up the value of bank deposits while banks did not adjust their capital levels at the same pace (**Chart B**).

Chart B Inflation and bank deposits 1900–23



Sources: ONS and Sykes (1926).

(a) Available at www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=CDKO&dataset=mm23&table-id=3.6. The index is calculated on an annual basis before June 1947 and on a monthly basis from then onwards. It is normalised to equal 100 in January 1974.
(b) Deposits (including notes issuance) of joint stock banks and private banks in England shown on page 108 of Sykes (1926).

The decline in reserve liability and uncalled capital might have reflected larger banks tending to have greater numbers of shareholders.[(5)] This may have increased the cost of vetting share transfers and administrating the process of making calls on shareholders to inject additional capital. Larger banks might also have deemed calling additional capital from shareholders during a crisis impractical, in case the call aggravated rather than lessened the crisis. This was a view held by some Bank of England staff by the 1930s.[(6)] Reserve liability and uncalled capital finally disappeared in the British banking system in the 1950s.

This merger wave came to an end after the government set up the Treasury Committee on Bank Amalgamations in 1918. The

(1) See page 40 of Crick and Wadsworth (1936).
(2) See pages 75–76 of Sykes (1926).
(3) See page 221 of Sykes (1926).
(4) See page 102 of Sykes (1926).
(5) For example, the mean number of shareholders for a bank in the top five increased from around 17,102 in 1910 to around 53,305 in 1921 (see Table 3.4, page 45 of Turner (2014)).
(6) See page 132 of Turner (2014).

Committee considered that any of the benefits associated with bank mergers had probably been exhausted, since any further mergers would probably be between banks already operating in the same regions (and hence the scope to improve the distribution of surplus bank deposits to lending opportunities discussed above would be far smaller). The Committee raised concerns about the falls in bank capital that had occurred around mergers, and the risk that mergers were reducing competition or could even lead to a monopoly bank that would undermine the Bank of England's position. It proposed that future amalgamations in the banking sector should require government approval.(1) To avoid this level of government intervention, the big five banks accepted that the Treasury and the Bank of England would control any future mergers — no mergers involving these banks were permitted until the 1960s.(2)

(1) The full report of the Treasury Committee on Bank Amalgamations is reproduced on pages 218–27 of Sykes (1926).
(2) See page 46 of Turner (2014).

Resilience of the system

Fifth, the risk that an individual bank failure triggers a systemic crisis can be reduced by having mechanisms in place to enable the system to cope with such a failure. Other Scottish banks were willing to continue to accept CGB notes and provide services to CGB depositors because they knew that all of the losses would fall on CGB's shareholders due to their unlimited liability. This support reduced the risks of a wider run on Scottish banks and a breakdown of the payments system. Today, policymakers are putting in place resolution regimes to ensure the provision of core banking activities and services, such as payments, are not disrupted by bank failures(1) and are proposing to require global systemically important banks (G-SIBs) to have sufficient capacity to absorb losses and recapitalise without recourse to taxpayer funds.(2)

Sixth, bank failures can have long-lasting effects on the behaviour of surviving banks. Following CGB's failure, banks shifted towards holding a greater share of liquid assets. This shift persisted for at least a couple of decades and may have reduced the supply of credit to the real economy. This is consistent with recoveries from financial crises taking longer than recoveries from recessions without financial crises (Jordà, Schularick and Taylor (2013)).

Seventh, bank failures and financial crises can affect the long-term structure of the banking system. The failure of CGB hastened the demise of unlimited liability banking. This arguably contributed to a wave of mergers in the UK banking sector in subsequent decades that led to far higher levels of concentration. The structure of the banking system may morph again following the recent crisis and regulatory reforms introduced since the crisis. Some structural change could be beneficial for financial stability, as well as for competition.(3) But policymakers should remain alert to changes that have unintended and undesirable consequences.

The CGB episode highlights the lessons that policymakers can learn from previous incidents of financial instability. At both the UK and international level, authorities have taken steps since the crisis to mitigate some of the problems that have reoccurred over time. However, the reform agenda is ongoing and policymakers will need to remain vigilant to risks as they arise.

(1) See Gracie, Chennells and Menary (2014).
(2) See Financial Stability Board (2014).
(3) The PRA has a secondary objective to facilitate effective competition. When making general policies the PRA will, while advancing its primary objectives, so far as reasonably possible, facilitate effective competition in relevant markets (see www.bankofengland.co.uk/publications/Pages/other/pra/supervisoryapproach.aspx).

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