

The micro-foundations of the early London capital market: Bank of England shareholders during and after the South Sea Bubble, 1720–25¹

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SUMMARY

Using two sources, Bank of England Transfer Books and Stock Ledgers, this article explores the nature of the ‘customer base’ for Bank shares during and after the South Sea Bubble. This examination uncovers the nature of individual participation in this early capital market. The Transfer Ledgers record roughly 7,000 transfers during 1720, while the Ledger Books from 1720–25 record over 8,000 individuals holding stock. The analysis finds the customer base had breadth and depth, comprising individuals from across the social spectrum, from all over England and Europe. The market was diverse and liquid. Activity during the Bubble came from those living in and around London, with most traders participating in the market only twice at most. While the majority of participants were men, there was a sizeable female presence. Men as a group lost money from their market activity, but women made money. In the five years after the Bubble, the customer base was sustained. The analysis argues that the secondary market in financial assets cannot be dismissed as mere gambling devices, and that the basis for a mutually productive interaction between the financial sector and the real sector of the economy was already in existence and was sustained through the shock of the South Sea Bubble and its collapse.

I

Discussions of the development of English capital markets generate an interesting and unresolved tension between the disruptive and possibly irrational South Sea bubble in 1720 on the one hand, and the strength,

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durability, and sheer vitality of eighteenth-century English public finance on the other. Indeed, the role of the South Sea bubble in the long-run development of modern financial markets, and especially of the London stock market, remains an open issue, both for historians and economists. The first historian of the episode, Adam Anderson, hoped that his chronicle might 'serve for a perpetual memento to the legislators and ministers of our own nation, never to leave it in the power of any, hereafter, to hoodwink mankind into so shameful and baneful an imposition on the credulity of the people, thereby diverted from their lawful industry'.² The most recently published account of the South Sea Bubble 'claims no more than to have reaffirmed Anderson's cautionary conclusion that from time to time markets can go mad'.³ Yet, even Adam Anderson acknowledged that no lasting damage was done to the development of the British financial sector, and virtually all subsequent treatments of the South Sea episode have confirmed Anderson's implicit assessment.⁴

The absence of impact of the bubble episode, especially in relation to the subsequent development of the public capital market, raises what we consider to be two contrasting views. Was the British economy so backward in 1720 that a financial shock of the magnitude of the South Sea Bubble affected but a small sliver of the economy, as some argue?⁵ Or was it possible that the institutional framework of the British financial sector had, even by 1720, acquired the resiliency necessary to withstand such a shock and recover quickly? In this article we argue that the financial sector was resilient and so able to absorb the price movements across 1720.⁶ Our investigation, focusing on the market for Bank of England stock, provides measures of the depth and breadth of the capital market during and after 1720. We focus on Bank stock that was widely understood at the time to be the least speculative stock among the major joint-stock companies whose shares were available to investors.⁷ Our examination uncovers the nature of individual participation in this early capital market, what stock market specialists today call the 'customer base'. We are impressed with the characteristics of this early customer base, unique in Europe for its diversity and size, and with

² Anderson, *Historical and chronological deduction*, pp. 91–2.

³ Dale, *First crash*, p. 183.

⁴ At least, that is our reading of Andreades, *History*; Brewer, *Sinews of power*; Carswell, *South Sea Bubble*; Clapham, *Bank of England*; Dickson, *Financial revolution*; Harris, *Industrializing English law*; and Scott, *Constitution and finance*. Even Anderson, *Historical and chronological deduction*, omits further mention of the South Sea when he moves on to the years after 1723, when the final breakup of the Company was accomplished.

⁵ Hoppit, 'Myths'.

⁶ For a contrasting view, see *Ibid.*, who concludes 'Fundamentally, the Bubble was about high politics, high finance, and high society', p. 158. His assessment is based on the participation of investors in the South Sea Company at the time, while ours is based on an analysis of the entire range of investors in the Bank of England.

⁷ Over the previous five years of increasingly active stock market activity, the coefficient of variation of Bank of England stock was only 7.8%, compared to 19.0% for East India Company stock and 9.9% for South Sea Company stock. (Calculations from ICPSR Study 1008, COEDAILY.dat, available at: <http://webapp.icpsr.umich.edu/cocoon/ICPSR-PRA/01008.xml>).

the level of liquidity for the financial assets available. These unique features are key to understanding why London was able to emerge from the South Sea Bubble and eventually fashion itself into the stock market for the world, a role it continued to play until the outbreak of the First World War.

To make our case, we have constructed two new data sets that document who was active in Bank of England stock during 1720, the level of turnover in Bank stock, and who held stock at the end of the bubble and in the subsequent years. We find that the level of liquidity was very high. Activity in the Bank stock during the Bubble came primarily from those living in and around London, although Dutch buyers came into the market at the end of the year. The participants in London came from across the social spectrum, ranging from those who classified themselves as nobility or gentlemen, to those who were merchants, tradesmen, or servants. While the majority of those in the market were men, there was a substantial female presence. Although more men made money than lost money, because of the size of their losses, men as a group lost money from their market activity during the bubble. In contrast, we find that women made money, belying the perception then and ever since that women were the new, gullible investors in the stock market. Those men who classified themselves as merchants and gentlemen experienced the largest losses, while seamen and soldiers experienced gains, as did those in the food sector.

The aggregate holdings of stock after the Bubble were geographically more widely diffused relative to those who bought and sold during the Bubble period. In the five years following 1720, women increased their ownership from 10.8 per cent of the 1720 capital stock to 14.5 per cent of a much larger capital stock in 1725. Perhaps it was women's positive experience using the market during the price movements of the Bubble that drove their greater participation. In addition, foreigners increased their ownership of the capital stock from 7.2 per cent in 1720 to 16.4 per cent in 1725. Mean holdings of Bank shares increased for those with occupations in building trades, finance, manufacturing, military, and services, as well as for titled-men, while holdings in other occupations either fell or remained the same. A few individuals were exceptionally active, but they seemed to be performing more as dealers, intent on maintaining a certain inventory of the Bank stock to meet customers' demands, rather than riding the Bubble.⁸ Rather than becoming moribund as a rentier asset, Bank stock in this critical period for the future of the London capital market became more widely held, by an even more diverse set of customers than had held Bank stock before the South Sea Bubble. Before discussing these findings in greater detail, and to underscore the importance of these findings, we need to review the role played by the Bank of England before, during, and after the South Sea Bubble, and the historiography of the Bubble and the Bank.

⁸ By contrast, Temin and Voth, 'Riding', find convincing evidence that Richard and Benjamin Hoare did ride the Bubble, but in South Sea stock, not in Bank stock, which they also owned.

II

In the years following the Treaty of Utrecht in 1713, the English government grew increasingly concerned about the size of its outstanding debt. The monied companies—the Bank of England (1694), the New East India Company (1698), and the South Sea Company (1710)—had already shown that through a debt for equity swap they could reduce the government's debt service.⁹ By 1719, such a strategy again seemed appropriate, especially in view of the apparent success of John Law's Mississippi scheme in France. Although the proposal to undertake such a further debt for equity swap came from the directors of the South Sea Company, by the end of 1719, the directors of the Bank of England had entered into competition for this business.¹⁰ The impact of such competition was to increase the price that each company offered the government for the privilege of undertaking a swap. Ultimately, the South Sea Company offer was chosen. The bare outlines of the agreement meant that the government would receive a £7.5 million loan from the South Sea Company and that the Company would issue roughly £31 million of new capital, roughly half the shares to be exchanged with existing government-debt holders and the remainder as a new share issue. One result of this debt for equity exchange is that it brought existing holders of government debt annuities into the already flourishing private capital market for equities.

The Bubble began in February 1720 with parliamentary approval of the South Sea Company's plan to redeem outstanding government debt not already held by that company, the Bank of England, or the East India Company. The higher the market price of South Sea stock, the more attractive would be the inducement for debt holders to exchange existing government debt for South Sea Company stock, and the more attractive for the company, which would need less stock per unit of debt redeemed.¹¹ Thus, the incentives were set for the directors of the company to focus on the market value of the existing stock. Rather than place all the stock issue on the market at once, the company decided to do so in a number of stages or subscriptions. Such was the enthusiastic response by debt holders that, with each successive subscription of new stock, the price of South Sea shares rose spectacularly, and with it the share prices of other companies.¹² The transfer books of the South

⁹ See Neal, *Financial capitalism*, ch. 4 for a more complete discussion of the nature of the debt for equity swaps.

¹⁰ Dickson, *Financial revolution*, ch. 5.

¹¹ The contract between the government and the South Sea Company did not specify the price at which the debt-for-equity swap would take place.

¹² Those companies competing for investors' favour against the booming South Sea Company began at this time to take defensive measures. Their standard response was to mortgage a portion of their capital stock, reducing the number of their stock available for trade on the stock market, while at the same time providing relatively cheap credit to their stockholders. This credit could be used to purchase stock in any company or for financial settlement purposes. Starting on 10 May 1720, the Bank of England, most threatened by the probable success of the South Sea Company, mortgaged 29% of its capital stock. The East India Company and the Royal African Company followed suit. Indeed, the Royal African Company made a new equity issue that more than tripled the value of the existing capital stock.

Sea Company closed from 23 June to 22 August 1720 to allow the clerks time to catch up on recording all of the subscriptions that had been received.¹³ When the South Sea Company's transfer books reopened in August, the opening price was essentially as in mid-June. Immediately thereafter, the price of its stock began to fall, and a general scramble for liquidity ensued. The rise and fall of share prices in 1720 is called the South Sea Bubble.¹⁴

In September 1720, the South Sea Company's attempt to enlist the aid of the Bank of England in completing the debt conversion had collapsed. This occurred when it became evident that the Company's banking affiliate, the Sword Blade Company, was out of cash. A solution to the crisis was further delayed with the change of government caused by the sudden death in February 1721 of Lord Stanhope, head of the cabinet, and the reshuffling of ministers that brought Robert Walpole back to power as First Lord of the Treasury and Chancellor of the Exchequer, and thus, in effect, Prime Minister. Resolution of the South Sea affair began with the Bank treaty in 1722, whereby the Bank of England would add nearly £3.5 million to its capital stock, relieving the South Sea Company of that part of the government debt it had acquired during the tumult of the Bubble.¹⁵

The South Sea Bubble has generated considerable interest among scholars. In his revised classic on the South Sea Bubble, Carswell concluded that the repercussions of the Bubble Act of 1720, which limited chartered corporations to stay within the terms of their original charter, had serious consequences for the market, and as a result may have delayed industrialization until the end of the century. In contrast, Harris has demonstrated that joint-stock corporations continued to use the market to finance the elaborate infrastructure of eighteenth-century Britain, from roads to canals to gas and waterworks.¹⁶ Furthermore, not only did the economy recover quickly from whatever the financial disruption created by the bursting of the bubble, but the British government was able successfully to finance each subsequent war (aside from a temporary embarrassment with some fractious colonies), culminating with victory over Napoleon in 1815.¹⁷

¹³ The price quoted for South Sea Company stock during this period was, therefore, a forward price, adding a forward premium of the current market rate of interest to the expected future spot price at the end of August. The transfer books for the other companies remained open. This means that the actions of these stockholders during this period of intense reassessment of the market can be observed.

¹⁴ Hoppit, 'Myths', p. 163 notes that only in 1771 did the term 'South Sea Bubble' appear in print, in the first edition of the *Encyclopaedia Britannica*. Until then, the literature referred to the episode as the 'South Sea scheme' or 'affair'.

¹⁵ The capital of the South Sea Company was split in half: £16 million as stock in the trading company and £16 million as fixed interest stock: the so-called 'South Sea Annuities'. These were perpetual annuities with a 5% annual return, later reduced to 4% in 1727, arguably the saving financial innovation of the age, as they were redeemable at the will of the government, whenever market interest rates fell below the fixed rate. The success of these securities led eventually to the issue of the 3% Bank Annuity of 1726, and from 1727 to 1751, successive 3% perpetual annuities issued by the government but managed by the Bank. In 1751, these were all consolidated into the Three Per Cent Consol, the classic government debt instrument for the next century and a half. Neal, *Financial capitalism*, ch. 4.

¹⁶ Carswell, *South Sea Bubble*, p. 243; Harris, *Industrializing English law*.

¹⁷ Brewer, *Sinews of power*; Ferguson, *Cash nexus*.

In terms of the recovery from the Bubble, Carswell gives most credit to the political genius of Robert Walpole for restoring the viability of the London capital market, especially for government debt. Walpole's decision to impose amnesties and 'acts of oblivion' on the thousands of private bargains that had been made during the height of financial frenzy basically put most people back to where they had begun. However, all histories agree that a key role in the resolution of the financial crisis was played by the Bank of England and Sir Gilbert Heathcote, senior Director and former Governor of the Bank, who led the team of negotiators from the Bank who met with a delegation of South Sea Directors in the last weeks of September 1720. Walpole attended this meeting, apparently merely taking notes on behalf of the government.¹⁸ The terms of the so-called Bank contract outlined in Walpole's notes were, however, not to be realized for nearly two years.

Not all authors would give the Bank such a prominent role. Clapham, in his classic history of the Bank, notes with pleasure that 'With most of the madness and fraud of 1720 the Bank, fortunately for its good name, had little concern'.¹⁹ Clapham's assessment was a good deal more restrained than that of Andreades, who concluded that only because of its enemies did the Bank escape from duplicating the misadventures of John Law in France's Mississippi Bubble. It escaped the dangers from the failure of the South Sea Company 'only by breaking its word [the 1720 Bank Contract], and it withstood the run upon it by using methods unworthy of a great establishment'.²⁰ Dickson, however, agrees with Carswell, and argues that the Bank played a major role in the resolution of the crisis during the period from September 1720 to June 1723 when the South Sea Company's stock was finally divided in half, after ceding £3.5 million of its stock to the Bank. The 'Bank contract', finally signed between the two companies in February 1722, accomplished the victory of the Bank over the presumptions of the South Sea Company. Dickson concludes that for the rest of the century English public finance 'remained more honest, as well as more efficient, than that of any other country in Europe' and the Bank of England was the unchallenged keystone of the British financial system.²¹

Clearly, the Bank of England was important both during and after the collapse of the South Sea Bubble. Yet all discussions focusing on the directors of the Bank, or the nature of the Bank contract, ignore the market for Bank of England stock. What we explore here is not the Bank as an institution, which has been explored by others, but rather the characteristics and actions of those who made up the market for Bank stock during and after 1720.²²

¹⁸ Carswell, *South Sea Bubble*, p. 243; Harris, *Industrializing English law*, pp. 150–56.

¹⁹ Clapham, *Bank of England*, vol. 1, p. 84.

²⁰ Andreades, *History*, p. 145.

²¹ Dickson, *Financial revolution*, pp. 157–187 passim, p. 198.

²² While Dickson, *Financial revolution*, also examined the composition of holders of Bank stock in this period, he was limited to samples of the stockholders as part of the general body of holders of English government debt. Our results are derived from a complete listing of the Bank's shareholders and our interest is to see how they responded to the shock of the South Sea Bubble.

III

In 1720, Bank of England shares were one of a number of securities publicly available. An investor could have purchased shares in, for example, the Royal African Company, Million Bank, the East India Company, or the South Sea Company. In contrast to Royal African Company shares—whose price was only £2 in 1712—on a par value of £100, Bank of England share prices had remained above par from at least 1698. By January 1720, the corresponding share prices for these two companies were £20 and £150.²³ Share prices for each of the other three companies, (Million Bank, East India, and South Sea) was 126, 201, and 128 per cent of par respectively in January 1720. Scott notes that in the first five months of 1720 share prices moved unevenly: taking the price on 20 May 1720, Bank of England shares rose 36 per cent, East India Company 34 per cent, the South Sea Company 225 per cent, and the Royal African Company 300 per cent.²⁴ Relative to volatility in the years prior to 1720 and relative price changes during 1720, Bank of England shares were a stable asset.²⁵

Bank shares started 1720 at 150 per cent of par, rose to 180 at the beginning of May, 204 on 20 May, 250 in June, and fell back to 147 on the last day of the year (see figure 1). The price movements over the Bubble were driven in part by the uncertainty in January and February over which company would get to undertake the debt-for-equity swap, while in May, the Bank of England's extended loans to share holders on the collateral of their shares and the resulting mortgages removed £1.6 million book value of shares from the market.²⁶ It has also been argued that the resulting publicity and competition among the monied companies brought more individuals into active participation in the stock market.²⁷ Our investigation of the market for Bank of England shares, a relatively stable asset, will ultimately provide a benchmark against which to compare and contrast market activity in other companies.²⁸

Here we use two separate sources from the Bank of England archives: Bank of England transfer books 1720 (AC28/1545–1554) and Bank of England stock ledgers 1720–1725 (AC27/434–437) with their alphabets (AC 27/430–433). Each source gives a distinct but interrelated picture of

²³ All share prices are listed relative to a par value of £100.

²⁴ Scott, *Constitution and finance*, vol. 1, p. 413.

²⁵ Dividends were paid from the annual revenue owed by the government to the Bank as a result of its own prior debt-for-equity transactions. Only in the event of a government default would this income stream disappear. The Glorious Revolution and success in war had made this event less likely.

²⁶ These transfers are recorded in separate mortgage ledgers.

²⁷ Mortimer, *Every man*, pp. xix–xx.

²⁸ We are collecting data for these other companies. Obviously, we would really like to have information on shareholding in the South Sea Company, but these transfer books are missing. We are inferring that information from the ledgers of the South Sea Annuities created in 1723. These annuities were allotted proportionately to the South Sea shareholders as of June 1723. See, A. M. Carlos, L. Neal and K. Wandschneider, 'The origins of national debt: the financing and re-financing of the War of the Spanish Succession'. Working Paper, 2005.

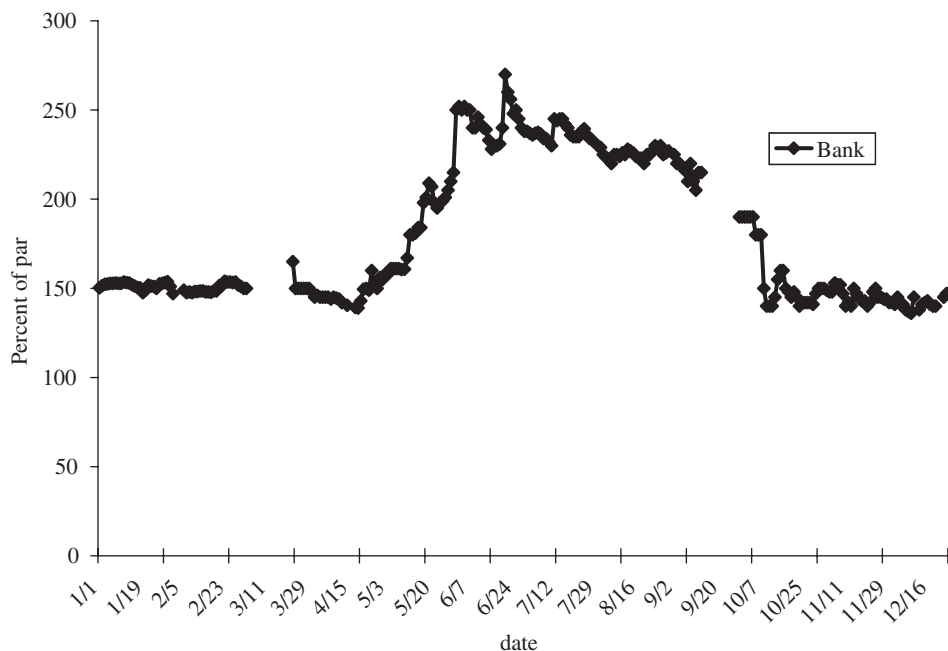


Figure 1. *Bank of England stock, 1720*

Source: Neal, *Financial capitalism*

shareholders' market activity. All joint stock companies kept careful records of those who owned shares. This was necessary not just for dividend payments, but also to know who could vote at the annual meeting and who was eligible for election to the Board of Directors.²⁹ The transfer books document all sales and purchases of Bank of England stock. By the time of the South Sea Bubble, the Bank's clerks kept four folio-sized transfer books, corresponding alphabetically by last name of shareholders to the four stock ledgers in which entries were made for every transfer of stock, regardless of amount. Each folio in a transfer book contained four pre-printed forms with blanks where the name of the seller, the name of the purchaser, the date of the transfer, and the amount transferred were entered by hand.³⁰ In many

²⁹ Eligibility to vote and to stand for the board of directors was based on the number of shares owned. A shareholder had to own £500 book value of shares to vote, £2,000 to be elected to a director, £3,000 to be elected deputy-governor, and £4,000 to be elected governor. Scott, *Constitution and finance*, vol. 3, p. 205. Given the essential legal nature of the relationship between the firm and the shareholders, the Bank had to ensure that the details were accurate. This focus on the accuracy of such information is, for example, very visible in the records of the Royal African Company.

³⁰ The date in the transfer book is the date when the transfer is recorded and not necessarily when the sale took place, but the date recorded is in effect the date of official transfer. We also have no reason to believe that much time existed between sale and transfer.

cases, we have information on occupation and address of both seller and buyer. Each completed form was then signed by the parties to the transaction, with the Bank clerk acting as witness. The edge of the folio was then embossed to show that the small transfer fee had been paid, and the folio numbers written in where the debit from the seller's account and the credit to the buyer's account had been entered in the respective stock ledgers. All 6,844 transfers of Bank stock that occurred over the year 1720 have been encoded and are analysed below.

Whereas the transfer books represent a flow over time, the alphabet and stock ledgers give stock ownership at points in time. At irregular intervals, the Bank of England started new ledger books, with corresponding alphabetic ledgers, to follow the activity of those who owned shares. The ledgers that we use were opened on 29 September 1720 and continue through to 29 September 1725.³¹ Over this period, 7,924 accounts were entered in the four stock ledgers, which contained the accounts of each stockholder, arranged alphabetically by last name, with space for five accounts on each folio. Sales of stock in par value were then entered on the left-hand folio, while purchases were entered on the right-hand side, each with the date of the transfer, the folio number of the counter-party, and the corresponding folio number in the transfer book. Marginal notes indicate life events—deaths, bankruptcies, trusts for minors, and letters of attorney—details of which can be found in the registers corresponding to the stock ledgers.

To help the clerks keep track of where each account was located whenever transfers were made, or dividends paid out, the Bank's clerks opened alphabet ledgers in which they entered details on the occupation, location, and social status of each stockholder, as well as the folio number where the account was entered in the stock ledgers. Active traders would have several folio numbers by their name in the alphabet ledger as their account would have to be continued on a new folio when the space for recording their transaction filled up in the original folio. Especially useful for our purposes were the red-ink entries indicating the folio number in the previous period's stock ledger where the stockholder's account had been, and the folio number in the next period's stock ledger where the stockholder's account was transferred. These entries helped us to identify the pattern of turnover among the stockholders as explained below. To sum up, the stock ledgers, together with the alphabet ledgers, represent the population of all individuals (and a few organizations) who ever held part of the Bank's capital stock during this particular period. They, therefore, provide a window into the structure of holdings at the end of the South Sea Bubble and in the immediate aftermath of the Bubble. But the notations used by the Bank clerks in the alphabet ledgers also tell us who owned stock during the Bubble period. Given the different perspectives provided by these three

³¹ The prior ledger had been opened in 1711, and thus covers a decade of Bank activity.

Table 1. *Transactions in Bank of England shares, 1720*

	<i>Number</i>	<i>Book value £</i>	<i>Book value per transfer</i>
January	325	382,007	1175.41
February	821	981,533	1195.53
March	289	301,632	1043.71
April	775	685,122	884.03
May	1,131	961,023	849.71
June	937	673,948	719.26
July	507	384,547	758.48
August	698	554,227	794.02
September	416	325,672	782.87
October	411	363,051	883.34
November	536	352,524	657.69
Total	6,846	5,965,286	

Source: Bank of England transfer books 1720—AC 28/1545–1554

sources, we believe they provide a compelling picture of the nature of activity in the London capital market at this time.³²

The book value of the Bank of England stock outstanding at the beginning of 1720 was £5,559,995.³³ The actual book value of transfers for 1720 exceeded £5.9 million. In essence, the capital stock of the Bank turned over completely. For just the period from 1 January 1720 to 1 November 1720, a total of 6,844 transfers of Bank stock took place. This is considerably higher than activity in 1719 or the years before that date. According to Dickson's rough count, done by multiplying the average number of entries per page by the number of pages in the transfer books, there were 2,102 transfers in 1717; 2,081 in 1718; 2,181 in 1719; and 7,352 for 1720.³⁴ Such extremely large volumes of activity were also evident in other companies. Over this same period, the book value of the East India and Royal African companies turned over one and half times. The former had a book value of £3.2 million, while the Royal African Company had a book value of £450,000.³⁵ The Bubble year, 1720, therefore, represents a period of intense activity in all the major companies trading on the market.

Across 1720, there were 6,844 total transactions in Bank stock with an average book value per transaction of £871.30 (see table 1 and figure 2). As noted earlier, the high level of transactions and activity in February

³² Thanks to the financial support of the National Science Foundation and the professional support of the Bank of England archivists, Henry Gillett and Sara Millard, the Bank's stock ledgers and alphabet ledgers for this period have been digitally scanned and are available on CDs from the Bank to interested researchers.

³³ See Scott, *Constitution and finance*, vol. 3.

³⁴ Dickson, *Financial revolution*, app. D.

³⁵ See Carlos, Moyen, and Hill, 'Royal African Company stock', for information on the Royal African Company. The numbers for the East India Company are derived from preliminary estimates on that company. A rough estimate of stock market capitalization at the beginning of 1720 is £21 million dollars, of which half was generated by the South Sea Company, probably the company which experienced the highest level of activity.

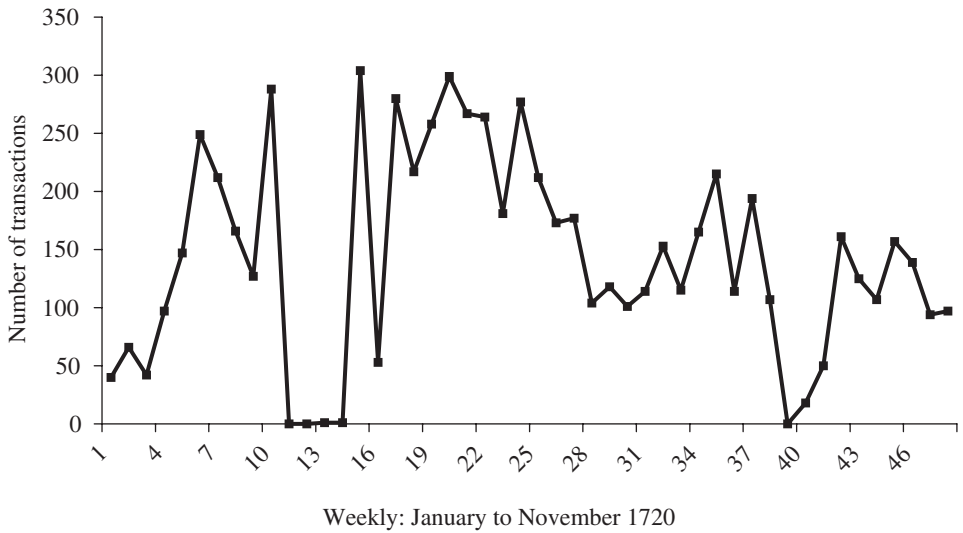


Figure 2. *Transactions in Bank of England shares, 1720*

Source: Transfer books of the Bank of England—AC 28/1545–1554

probably related to the uncertainty over which company the government would choose to undertake the debt for equity swap. The low number of transactions in March reflects the fact that the Bank closed the transfer office for two weeks in preparation for its semi-annual dividend. What is evident in table 1 is that the book value per transfer in March remained high. Overall, the average book value of transactions in the first half of the year was higher than in the second; £924 relative to £770. Of course, individuals could and did have multiple transactions. Thus, although there were 6,844 separate transactions of a sale and purchase of Bank stock recorded, there were 2,233 unique sellers of Bank of England stock and 2,304 unique buyers.³⁶ Of these unique sellers, 406 or 18 per cent of the total were women; of the buyers, 366 or 16.3 per cent of the total were women. When measured by the percentage of book value of sales and purchases, women comprised only 10 per cent and 8 per cent respectively.³⁷

³⁶ Account had to be taken of variation in spelling both of first names and surnames. We have standardized all spelling, keeping the original and the standardized form in the master list. We have used the other information in the ledgers to differentiate between people with the same name or the same person whose name has been given an alternative spelling.

³⁷ This point has been made by others. See Dickson, *Financial revolution*, or Ingrassia, *Authorship, commerce and gender*. However, when talking about women in the market, care needs to be taken over whether one is examining the total number of women shareholders, the percentage of the capital held by women, or the number of women actively trading shares. The percentages of those actively trading are smaller than the percentage of total women holding Bank shares, as noted later in the text. For a more in-depth discussion, see Carlos and Neal, 'Women investors in early capital markets'.

Table 2. *Number of transactions by block size*

<i>Block size £</i>	<i>Number of transactions</i>
0–99	106
100	492
101–199	81
200	456
201–299	75
300	217
301–399	30
400	132
401–499	28
500	2,242
501–999	218
1000	1,938
1001–1499	57
1500	130
1501–1599	24
2000	339
2001–2499	21
2500–2999	35
3000–4999	139
5000+	86
Total transactions	6,846

Source: See table 1

On a per-sale basis, a woman's average sale of Bank stock was £658, while the average purchase was £675. Women were also present in the market for the more speculative Royal African Company shares. There, however, they constituted only 4.7 per cent of sellers and 6.1 per cent of buyers, and only 3.4 per cent and 4.2 per cent respectively of the book value of sales and purchases of the senior stock. This is a consistently lower level of involvement than in the market for Bank stock.³⁸

The difference in mean transfer between men and women in Bank stock can be explained by differences in access to funds. Yet despite the inequality in the income distribution and women's lack of access to land and possibly other forms of credit, the data show that some women, and not merely titled women, did hold large portfolios of this financial asset. An examination of the distribution of transactions by book value or block size, as described in table 2 and figure 3, shows a broad access to the market in that there were both small and very large transactions. Although a single share was denominated as £100 book value, a share could be subdivided. There were 106 transactions with a book value of less than £100. There were 86 transactions of £5,000 book value or greater. The majority of the transfers occurred at

³⁸ Detailed discussion of women investors in the Royal African Company can be found in Carlos, A. M., Maguire, K., and Neal, L., 'Financial acumen, women speculators and the Royal African Company, 1720,' University of Colorado Working Paper, 2005.

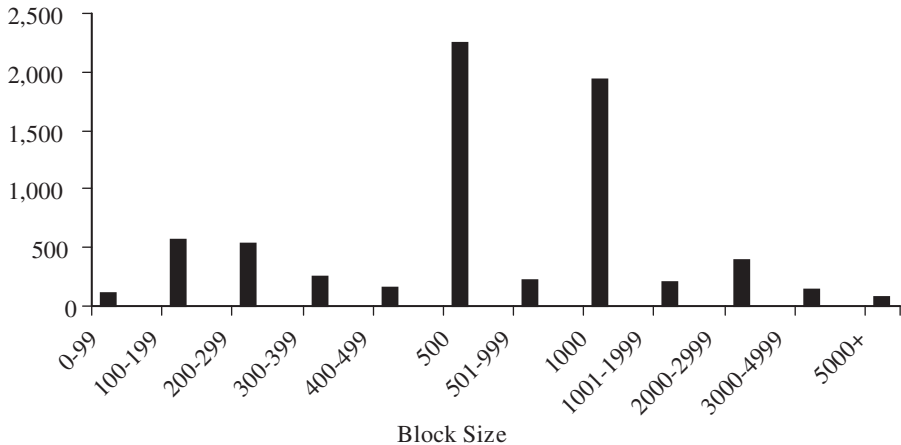


Figure 3. *Number of transfers by block size*

Source: See figure 2

the £500 or £1,000 book value amount. There were 2,242 transfers of £500 blocks and 1,938 transfers of £1,000 blocks. Ownership of £500 book value of stock or more carried with it the right to vote in Bank elections. But it must be recognized that there were 1,617 transfers, 24 per cent of the total, which took place at levels that carried no voting rights.³⁹

Discussions of the number of unique individuals and size of transfers do not tell us how individuals were using the market. Do we see individuals making many transactions, or do we have the majority of individuals in the market only once or twice, and a small number of individuals who have a very large number of transactions? Table 3 shows the breakdown of unique sellers and buyers by the number of transactions, while table 4 gives the number of unique sellers and buyers by their largest transactions. What is immediately evident from tables 3 and 4 is that 58 per cent of all sellers and purchasers of Bank of England stock came into the market only once during 1720, and 77 per cent were in the market only once or twice. Overall, market activity in Bank stock across the Bubble was driven by people who came into the market only once as either a seller or a buyer. Clearly there was a small group of individuals who were in the market multiple times.

³⁹ Voting procedures were based on ownership of stock, not on amount. A shareholder had to hold a minimum of £500 book value of stock in order to be eligible to vote. However, in the original charter, no person had more than one vote irrespective of the amount of stock owned. Dickson, *Financial revolution*, argues that the £500 size of transactions and above reflects both the fact that people wanted a vote for the Court of Directors and a demand from big institutions in London. That this block size carried voting rights is clear, but whether those rights were exercised is not. As we note later in the article, the liquidity and transparency of Bank of England stock made them valuable in their own right as insurance and collateral.

Table 3. *Number of unique sellers and buyers by number of transactions*

<i>Number of transactions</i>	<i>Unique sellers (Number)</i>	<i>Unique buyers (Number)</i>
1	1,463	1,471
2	497	478
3	214	219
4	103	113
5	67	62
6	43	33
7	29	21
8	14	16
9	19	17
10	12	10
11	10	11
12	6	10
12	8	9
14	3	6
15+	51	49
Total	2,539	2,525

Source: See table 1

Table 4. *Unique sellers and buyers by largest transaction*

<i>Book value: transaction</i>	<i>Unique sellers (Number)</i>	<i>Unique buyers (Number)</i>
1–99	24	25
100	165	199
101–199	35	27
200	162	197
201–299	37	27
300	79	97
301–399	15	9
400	51	60
401–499	19	10
500	675	659
501–999	122	103
1000	685	669
1001–1499	39	26
1500	65	59
1501–1599	13	11
2000	164	175
2001–2499	16	14
2500–2999	26	23
3000–4999	87	76
5000+	60	59
Total	2,539	2,525

Source: See table 1

There were roughly 50 individuals who had more than 15 transactions as either as seller or as a buyer. But within this group there is an even smaller group of 15 individuals who, for the main part, had more than 30 transactions on either side of the market. These 15 individuals appear to be acting as middlemen for the stock. The most active were George Caswall and Robert Westley, each of whom had over 400 entries, comprising roughly 200 plus purchases and a similar numbers of sales. Others in this group include Samuel Strode and Moses Hart, listed in the transfer ledgers as brokers; James Martin, a goldsmith; Francis Pereira and Anthony da Costa, both merchants; and Johanna Cock, a widow. Robert Westley was listed as a merchant tailor, and George Caswall as knight.⁴⁰ Together, the activity of these 15 individuals comprises roughly 38 per cent of the total market activity. While important, the market was not, however, dominated by this group, but by those with one or two transactions.

What makes 1720 an interesting year for an analysis of market activity is not just that share prices showed considerable variation across the year, but also the large number of people who were involved in the market. In a land-based communication system, information could flow only as quickly as the fastest horse or boat. Thus one might expect those closest to the centre to have more and better information.⁴¹ Or at the very least, they would have information in the timeliest manner. When we examine stock market activity by location, we find, not unexpectedly, that activity in Bank of England shares was a London phenomenon, which was also noted by Dickson. Whether we examine location of seller or of buyer, 77 per cent of all those involved were listed as having an address in London; only 17 per cent of sellers and 15 per cent of buyers lived outside London, while only 5 per cent of sellers and 7 per cent of buyers were foreign. For those who lived outside London, there is a noticeable home-counties effect.⁴² Of the 137 foreign sellers, 107 lived in the Netherlands, while another 17 lived in Switzerland. There were then a few sellers from Germany, Ireland, Portugal, France, and Belgium, and the pattern was similar for foreign buyers.

⁴⁰ For a more complete discussion of the construction of broker networks for Bank of England stock, see Carlos, A. M., Neal, L., and Wandschneider, K., 'Broker networks during the South Sea Bubble: the strength of weak ties', presented at the Business History Conference, Le Creusot, May 2004.

⁴¹ Those living outside London would be able to use the newspapers to obtain information on the London market. As Laurence has shown, someone living in Yorkshire could receive a London newspaper everyday. See Laurence, A., 'That "nasty South Sea affair": the Hastings sisters, Mrs Bonnell and the rage to speculate', unpublished ms, Open University, April 2004.

⁴² Roughly 50% of those living outside London lived in the home counties. While a number of these areas would eventually be incorporated into the Greater London region, in 1720, they lay outside London. We use an A-Z for 1747 to determine what lay within the city limits, which gives a slight overestimate for London residence relative to the home counties, as one would expect London to have expanded from 1720 to 1747. It is, of course, possible that some of those who had London addresses also had houses in other parts of the county. Those classified as nobility would be one such group. As will be seen, those classified as nobility make up only a small percentage of those in the market. It was often the case that for this group, no address was given. We take only the address listed in the stock transfer book.

The transfer books also provide information on socio-occupational categories.⁴³ The level of detail is such that we know if a shareholder was a cheesemonger, plumber, salter, tanner, notary, barber, major, gentleman, duke, duchess, wife, widow, or spinster. To deal with this level of detail, we aggregated up occupations and social groups into an intermediate and then final classification structure. The socio-occupational classifications are given in appendix A. We have 14 final classifications, of which 10 are occupation based, two are based on social status, and the remaining two list those for whom the occupation is 'unknown', or, 'other', those for whom the individual is a minor or the stock was held in trust. The most aggregated classification is 'commerce'. Here we have those who gave an occupation as a trader or dealer in products, those involved in the sale or preparation of food, anyone who could be considered a shopkeeper, and those who gave their occupation as merchant. Manufacturing is both an intermediate and final classification. As an intermediate category it includes all those who were listed as makers of a product, such as brick-maker, cabinet-maker, cooper, and razor-maker. And as a final classification, it now includes everyone involved in the textile industry; silkman, weaver, tailor, spinner, and dyer. 'Services' covers the full range of shopkeepers from apothecaries to warehousemen, and artisans from barbers to wire-workers. 'Professional' includes church (curate, rector, vicar) and professional (alderman, attorney at law, burgo master, scholar, surgeon).⁴⁴ Those in the financial sector, somewhat formally defined, such as banker, goldsmith, scrivener, or broker, comprised only 3 per cent of total participants.

For socially defined groups, we have created two intermediate classifications. For men, we have gentlemen and nobility. The gentleman category includes all of those listed as gentleman or esquire. The nobility classification includes all social designations from 'honourable' up the peerage, as well as those listed as Lord Bishop or Lord Chief Justice.⁴⁵ These two intermediate groups are then aggregated as titled-men. Because marital status for women dominates any occupation, women were listed either as spinster, widow,

⁴³ For much of the early modern period, we have quite restricted information on what people did. We have Gregory King's table for 1688 and Joseph Massie's table for the 1750s. The Marriage Duties Act of 1694 taxed people by economic and marital status and so provides us with census-like local returns, especially for London, see Lindert, P., 'Lucrens Angliae: the distribution of English private wealth since 1670', and 'Appendices' Working Papers 18 & 19, Agricultural History Center, UC-Davis (February 1985), p. 687. Lindert, working with burial registers between 1660 and 1815, was able to unearth occupational reporting for at least 70% of the decedents, for periods of nine or more years, for about 404 parishes. These data provide us with a reference point against which to compare the socio-occupational status of Bank of England stockholders.

⁴⁴ Ultimately, the inclusion of an occupation in one group relative to another is somewhat arbitrary. Wherever possible we have tried to follow the breakdown used by Lindert, 'Lucrens Angliae', in his work on social tables. In the transfer books, an individual who had more than one transaction could have more than one occupation. In the majority of these cases, which were not many, one occupation was just more specific, such as woolen draper and merchant. In the ledger books, each person had only one occupation listed.

⁴⁵ Lord Bishop could have equally been placed in the church category. While entering him in nobility increases the size of that classification, the bias reinforces the very small size of this group in the market.

wife, or nobility. So we grouped women into 'women-commoner' and 'women-nobility', and then up into a single group 'titled-women'. What is evident from the data is the very small number of shareholders who were in the nobility. In the case of women, only 34 women or 5.5 per cent of sellers and 21 women or 4.0 per cent of buyers were in the nobility. For men, 35 per cent were listed as gentleman or esquire, and only a further 4 per cent were nobility.⁴⁶ The implication of this is that the majority of those involved in the market in 1720 did not come from the top end of the social order. Table 5 gives the number of unique individuals by occupation and then by number of transactions for both the selling and buying side of the market. Market activity was spread over all sectors. These distributions reinforce the fact that individuals from all sectors had access to the market.

Share price for Bank of England stock began the year at £150, rising to £180 in May, to £250 in June, and back to £147 on the last day of 1720. However, as is evident in figure 1, neither the price rise nor the decline was uniform. There were declines in the price during the upswing and rallies during the downswing. This is important because the extent of gains or losses from market activity depended on when an individual was in the market. We divide individual market participation into three distinct categories: individuals who only purchased stock, individuals who only sold stock, and individuals who both bought and sold. For an individual who only purchased stock, that person could have had either a single purchase or multiple purchases. Similarly, a person who only sold, could have sold either once or multiple times. Those individuals who both bought and sold were either net sellers, net buyers, or sold and purchased an equal book-value amount of stock. There were, in total, 3,827 unique individuals who participated in the market either as buyers or sellers only, or on both sides of the market; 3,233 men and 594 women.⁴⁷

We determine the within-year (1720) financial position for each individual and then aggregate over all individuals who bought or sold Bank stock during 1720.⁴⁸ In essence, we are looking to find the speculative gains or losses of those who were in the market. Each investor was assigned the market price for the stock on the date of transfer. For those who only purchased, we took their within-year position relative to the price on 31 December 1720. For those who only sold, we acted as if the stock had

⁴⁶ Using titles to provide identification gives us a lower bound estimate. But it is likely to be reasonably reliable.

⁴⁷ In this exercise, we did not include the top 15 most active participants in the market. These 15 appear to have been brokers in the stock. Their net positions are laid out in Carlos, Neal, and Wandschneider, 'Broker networks'. What we are interested in here are those individuals who were making portfolio decisions concerning their position in Bank stock.

⁴⁸ There are, of course, alternative ways of estimating gains and losses. In this article we take people's paper position only for 1720. We have good data on prices and for who was in the market, and we do not incorporate the role of dividends. In essence, we are looking at the speculative gains of those who were in the market. Obviously, one could also take the actual date of purchase and sale for each of the 3,827 unique individuals. Because some individuals held shares for quite lengthy periods of time, we would also have to incorporate the income-earning capacity of shares.

Table 5. *Unique sellers by total number of transactions and profession (final classification)*

<i>Transactions</i>	<i>Agriculture</i>	<i>Building trades</i>	<i>Commerce</i>	<i>Financial</i>	<i>Manufacturing</i>	<i>Maritime</i>	<i>Military</i>	<i>Professions</i>	<i>Servants</i>	<i>Services</i>	<i>Titled-men</i>	<i>Titled-women</i>	<i>Total</i>
1	7	11	371	36	68	13	42	42	6	63	472	271	1402
2	1	2	125	12	17	2	13	19	1	19	181	90	482
3	0	1	69	8	13	0	4	3	0	4	86	20	208
4	0	0	39	4	6	0	4	2	0	1	37	8	101
5	0	0	26	6	2	0	0	2	0	1	20	6	63
6	0	0	13	5	1	0	3	1	0	2	14	3	42
7	0	0	14	3	1	0	4	0	0	0	7	0	29
8	0	0	7	2	0	0	0	0	0	0	5	0	14
9	0	0	7	1	0	0	1	1	0	1	8	0	19
10	0	0	3	1	0	0	0	0	0	0	6	1	11
11	0	0	5	3	0	0	0	0	0	0	2	0	10
12	0	0	2	2	0	0	0	0	0	0	1	0	5
13	0	0	5	1	0	0	0	0	0	0	2	0	8
14	0	0	2	1	0	0	0	0	0	0	0	0	3
15+	0	0	26	9	1	0	0	0	0	1	12	1	50
Total	8	14	714	94	109	15	71	70	7	92	853	400	2447

Unique buyers by total number of transactions and profession (final classification)

<i>Transactions</i>	<i>Agriculture</i>	<i>Building trades</i>	<i>Commerce</i>	<i>Financial</i>	<i>Manufacturing</i>	<i>Maritime</i>	<i>Military</i>	<i>Professions</i>	<i>Servants</i>	<i>Services</i>	<i>Titled-men</i>	<i>Titled-women</i>	<i>Total</i>
1	5	7	381	40	64	6	41	40	5	58	500	255	1402
2	1	3	159	13	20	0	14	11	1	19	158	72	471
3	0	0	60	9	10	0	5	4	0	9	94	21	212
4	0	0	51	3	7	0	1	4	0	1	33	8	108
5	0	1	26	6	1	0	1	0	0	0	26	1	62
6	0	0	13	4	0	0	3	0	0	0	11	2	33
7	0	0	10	2	0	0	1	0	0	0	7	0	20
8	0	0	10	0	0	0	1	0	0	1	6	0	18
9	0	0	5	1	1	0	0	0	0	0	7	0	14
10	0	0	2	1	0	0	1	0	0	0	3	0	7
11	0	0	6	2	1	0	1	1	0	3	2	0	16
12	0	0	4	0	0	0	0	0	0	1	3	0	8
13	0	0	7	0	0	0	1	1	0	0	1	0	10
14	0	0	1	2	0	0	0	0	0	0	3	0	6
15+	0	0	26	7	0	0	0	0	0	0	17	1	51
Total	6	11	761	90	104	6	70	61	6	92	871	360	2438

Source: See table 1

been purchased on 1 January 1720. For net buyers and sellers, we priced all transactions on the date of transfer and then determined the net position relative to the end or beginning of the year. For those who bought and sold the same book value amount, we priced all transactions on the day of

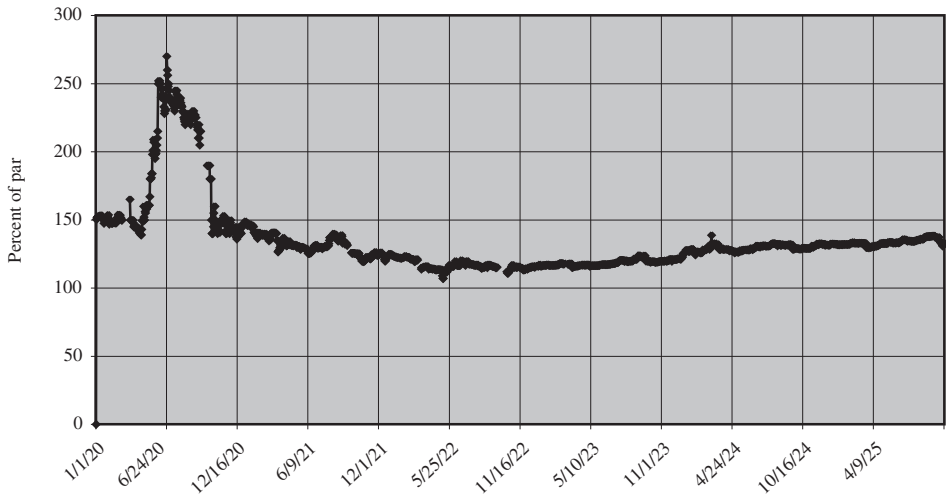


Figure 4. *Bank stock, 1720–25*

transfer and then estimated their net gain or loss on the transactions. Measured over all market participants, we find a net negative position of £7 per person. However, this was not uniformly distributed. There were gainers and losers. In aggregate, the men who participated in the market lost money and the women made money. Men lost on average £14 per person while women gained roughly £25 per person.⁴⁹

Table 6 shows the distribution of gains and losses within each of the seven possibilities for customer transactions and by gender. What is immediately evident is that there were gainers and losers in each category and for both men and women. As might be expected, those who only purchased or those who were net purchasers had higher losses than those who sold during the Bubble. But even here investors could and did make money. These were people who purchased at a point where the market price was lower than the price on December 31. Indeed, relative to 31 December 1720, prices declined until 1722 and then rose gradually, ending in 1725 at 140, as described in figure 4. What is also apparent is that women generally tended both to have smaller losses and smaller gains than men. In the case of multiple purchases, women had bigger gains per head and bigger losses per head than the men in the same category.⁵⁰ For women, there is no difference

⁴⁹ This finding is in line with recent research on gender and markets. See Barber and Odean, 'Boys will be boys'.

⁵⁰ We are in the process of exploring the timing of transactions by investors within each category. In particular, we want to examine how investors responded to changes in the market price in the preceding few days or weeks.

Table 6. Value of gains and losses by gender, and by frequency and type of market activity

	Men						Women					
	Gains			Losses			Gains			Losses		
	£	Number	gain/cap	£	Number	loss/cap	£	Number	gain/cap	£	Number	loss/cap
Single purchase	3,502	160	22	-144,062	514	-280	530	34	16	-34,210	122	-280
Multiple purchases	5,433	39	139	-166,031	206	-806	3,317	8	415	-36,392	35	-1,040
Single sale	159,302	727	219	-7,212	201	-36	33,450	137	244	-1,211	47	-26
Multiple sales	150,028	182	824	-7,543	86	-88	22,902	41	559	-1,217	20	-61
Net purchases	74,653	111	673	-346,494	234	-1,481	4,188	14	299	-8,830	20	-441
Buy = sell	119,515	265	451	-45,380	212	-214	15,235	52	293	-1,926	18	-107
Net sales	207,462	186	1,115	-48,145	110	-438	21,222	32	663	-2,005	14	-143
Total	719,896	1,670	431	-764,867	1,563	-489	100,845	318	317	-85,791	276	-311

Source: See table 1

in the conduct of widows or spinsters across the bubble. Some widows gain and some lose, and similarly for spinsters.⁵¹

Gains and losses for men can be examined by occupational classification shown in table 7. Here we use our intermediate classification. In terms of aggregate gainers and losers, more people gained than lost. There were 13 groups that had net gains and only six groups with net losses. It is the large losses generated by 'gentlemen' and 'merchants' that drives the overall net loss position for men. When we look at the absolute number of individuals in each category who had a capital gain relative to those with a capital loss, the pattern is quite different as shown in table 8. In 10 of the groups, more men lost money than gained through their transactions. Although 605 gentlemen had positive gains from the market, 549 experienced a loss, and their losses were very large. For merchants, there were fewer merchants experiencing gains relative to those who lost.⁵² In the food sector, 205 individuals had an aggregate gain similar to the aggregate loss of 63 men. We have, therefore, to be careful in our understanding of market experience. Is it the size of the gain or loss, or the number of people with a positive or negative experience that will determine a perception of the market as a risky environment?

As a result of the increased trading in Bank of England stock that occurred during the Bubble, by the time the semi-annual dividend was due in October 1720, the then-existing ledger books, which had been opened in 1711, were filled up.⁵³ As a result, a new set of ledgers was begun on 29 September 1720. These ledger books were themselves closed in September 1725. The alphabets to the stock ledgers record the full name of the shareholder, his or her address, occupation, and social or marital status. The stock ledgers then record the book value of stock held, the folio number where the account had been kept in the previous set of ledgers (which cover the period from 1711 to September 1720), and where the account was placed in the current set of ledgers. And, if the stockholder persisted in holding the stock after the end of September 1725 when this set of ledgers was full, the clerks noted the new folio number where the stockholder's transactions were recorded. Thus, in addition to the social status, occupation, gender, and address, the ledgers provide a measure of persistence of shareholding across time.⁵⁴ In comparison to the transfer books, which showed who was active in the market in 1720, these ledgers show the aggregate pattern of holdings by all shareholders, and thus allow us to

⁵¹ For a complete discussion of women in the market, see Carlos and Neal, 'Women investors'.

⁵² In order not to bias the results, we have not included the 15 people most involved in purchases and sales of Bank stock. Therefore, these data do not reflect the gains and/or losses of Sir George Caswall, Robert Westley, James Martin, Francis Pereira, Abraham Craiesteyn, Samuel Strode, Solomon Pereira, Thomas Houghton, Gerard Bolwerk, Moses Hart, Robert Tohill, Anthony da Costa, Johanna Cock, and Philip Vanenderen.

⁵³ In fact, the influx of new stockholders before the dividend date had been so large that, to accommodate them, a supplementary ledger had been opened, and then an extra supplementary ledger.

⁵⁴ The alphabet ledgers also record miscellaneous information with respect to death, bankruptcies, probates, trusts, guardianships, and powers of attorney in order to help clerks determine what legal restrictions applied to the disposal of certain stockholdings.

Table 7. Value of gains and losses by occupation, and by frequency and type of market activity (intermediate classification)

Occupational classification	Single purchase		Multiple purchases		Single sale		Multiple sales		Purchase = sales		Net buyer		Net seller		Total (£)
	Gains (£)	Losses (£)	Gains (£)	Losses (£)	Gains (£)	Losses (£)	Gains (£)	Losses (£)	Gains (£)	Losses (£)	Gains (£)	Losses (£)	Gains (£)	Losses (£)	
	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	(£)	
Agriculture	10	-348	16	-14	509	-10	200	-66	154	-60	252	-394	126	-237	569
Building trades		-337	70	-93	541	-53			250	-5	164	-1,643			-52
Church	41	-188	13	-6,150	5,058	-56	1,356	-10	6,816		43	-728			4,780
Dealer	7	-853			2,442	-114					989				2,746
Deceased					9,266	-13	234	-26							20,646
Financial	51	-2,765	12	-3,199	2,251	-249	255	-19	1,254	2,733	3,612	-35,452	1,819	-666	-30,364
Food	55	-1,273		-2,320	4,845	-203	1,119	-8	508	-991	636	-2,705	53,130	-13,462	39,332
Gentleman	1,425	-66,964	2,566	-51,521	56,592	-3,448	64,847	-3,043	41,024	-14,715	22,072	-120,980	3,843	-279	-68,582
Manufacturing	94	-2,692		-4,457	1,056	-41	1,972	-34	1,500	-565	1,009	-157	509		-1,806
Maritime	16				1,942		533		210	-90			64,396	-15,631	51,376
Merchant	591	-30,511	2,061	-63,338	29,774	-877	52,518	-2,132	17,274	-17,067	31,592	-139,694	27,424	-812	-93,196
Military	421	-6,731	61	-4,122	5,400	-226	5,774	-517	15,200	-354	2,267	-10,341	7,919	-1,862	12,889
Nobility	113	-6,807	275	-11,643	7,019	-871	7,458	-1,170	14,375	-5,791	6,573	-12,163	2,838	-95	112
Professions	155	-4,726	100	-2,213	3,901	-178	3,554	-221	2,634	-198	2,540	-3,650			1,698
Servants	15	-1,389		-99	2,347	-1				-48			3,995	-3,827	993
Services	188	-4,039	24	-9,441	8,509	-278	1,367	-102	3,506	-1,364		-3,797	8,122	-2,247	448
Shopkeeper	124	-8,339	22	-6,093	11,488	-206	4,285	-98	8,793	-6,114	2,022	-3,414	5,209	-483	7,197
Textile	32	-2,002	26	-803	2,295	-182	607		1,293	-656	747	-5,159	78		-3,724
Unknown	164	-4,101	188	-525	4,069	-206	3,950	-96	4,726	-97	136	-6,218	7,980		9,970
Total	3,502	-144,063	5,433	-166,031	159,304	-7,212	150,028	-7,543	119,515	-45,380	74,653	-346,494	207,462	-48,145	-44,969

Table 8. Number of gainers and losers by occupation, and by frequency and type of market activity
(intermediate classification)

Occupational Classification	Single purchase		Multiple purchases		Single sale		Multiple sales		Purchase = sales		Net buyer		Net seller	
	Winners	Losers	Winners	Losers	Winners	Losers	Winners	Losers	Winners	Losers	Winners	Losers	Winners	Losers
Agriculture	1	2	1	1	4	1	1	1	1	1	1	1	1	1
Building trades	4	4	1	1	3	1	1	1	3	1	1	2	1	
Church	2	3	1	1	10	1	3	3	1	1	1	1	1	
Dealer	1	5	3	3	5	2	1	1	2	2	3	2	1	
Deceased			7	7	1	1	1	1			13	16		
Financial	3	10	2	8	7	4	2	2	11	9	3	13	7	
Food	4	10	6	6	13	7	3	1	3	7	3	6	35	
Gentleman	61	208	8	71	319	88	73	34	98	63	41	82	5	
Manufacturing	7	13	5	5	10	1	7	1	6	9	4	2	1	
Maritime	1		8	8		1	1	2	2	2	47	47	31	
Merchant	32	111	13	59	71	32	49	21	49	51	32	69	10	
Military	6	15	3	8	18	8	6	4	9	6	3	9	7	
Nobility	6	20	3	7	16	11	11	7	10	8	5	11	5	
Professions	6	16	1	5	11	9	5	3	5	4	3	2	1	
Servants	1	4	1	1	4	1	1	1	3	1	3	9	6	
Services	7	22	1	9	156	6	4	4	19	13	1	1	18	
Shopkeeper	8	38	2	13	35	14	11	5	30	24	7	19	10	
Textile	4	11	1	3	14	4	2	8	7	8	2	8	1	
Unknown	10	22	2	6	16	10	3	2	10	3	2	7	2	
Total	160	514	39	206	727	201	182	86	265	212	111	234	186	

Source: See table 1

understand who was holding Bank shares after the Bubble relative to those who were trading Bank stock in the market during the Bubble.

The four ledgers generate a set of 7,924 individuals who owned shares in the Bank of England sometime between September 1720 and September 1725.⁵⁵ Over this five-year period, 6,284 of the shareholders were men and 1,640 (nearly 21 per cent) were women. If we look only at those who held shares at the end of September 1720, we have 3,163 shareholders, of whom 640 or 20 per cent were women. So while men made up from 85 per cent to 90 per cent of transfer activity during the Bubble period (depending on definition of activity), they comprised only 80 per cent of total ownership of Bank stock at the end of 1720. These results are the same as those found by Dickson.⁵⁶ Of course, people held shares for different reasons. Some may have been involved in the market for speculative gains, while others held shares for long-term income/dividend flows. Despite their speculative gains, women appear somewhat more conservative overall than men in terms of their activity in the market, and also over more risky assets such as the Royal African Company stock.

Altogether, while there were close to 8,000 differently named shareholders, these might not represent separate households. Sons and daughters, widows and spinsters, nieces and nephews holding individual accounts may or may not have lived in a single household, or even when living apart may or may not have been independent investors. Given these records, we will not be able to resolve totally the level of independence of individual shareholders. But can we ask how many unique surnames there were? On the one hand, the number of unique surnames is biased because we have no way to capture households related through the marriage of daughters. On the other hand, forcing all 63 Smiths to be related creates a bias in the opposite direction. As with all relatively common names, we would not expect these people all to be related. In total, we have 3,906 unique last names and 6,960 unique first and last name combinations.⁵⁷ The surnames themselves show the presence of some of the well-known groupings within the mercantile community. The most

⁵⁵ The original entries are, of course, handwritten, so we transcribed this information into a basic spreadsheet form. The ledgers include a number of duplicate entries, so we actually started with almost 9,000 holders. Variation in spelling because of entry by different clerks or because of the lack of uniformity of spelling in the period had to be taken into account. Although variation in spelling is not an issue when one is looking at just one company, because the ultimate goal is to be able to compare ownership across many different financial instruments, we had to make adjustments in the basic spelling of names to make them computer compatible. Thus the many variations of Eleanor, Matthew, or even Anne, as well as Smith, Smyth, and Smythe were standardized. The original spellings are maintained in the master file.

⁵⁶ Dickson, *Financial revolution*, tabs., 36, 38, 40, 43.

⁵⁷ Of the other common last names, there were 45 Clarkes, 18 Brownes, 22 Edwards, 30 Halls, and 21 Taylors. The use of first name, address, and occupation allows us to differentiate between many of these people. This sample of shareholders in the market is considerably larger than that used by de Krey, *Fractured society*, or Gauci, *Politics of trade*, both of whom endeavoured to construct a sample to investigate 'middling' London. See *ibid.*, p. 19. The sample used here examines a fuller range of participation in the market.

evident are the Sephardic Jewish community: Henriques, Pereira, Correa, Nunes, Peixoto, Medina, Mocatta, and da Costa; and the major Huguenot families: Des Bouverie, Houblon, and Lethieullier.⁵⁸ The other distinctive group is of the obviously Dutch names: van de Wall, van Beek, and van Groenendyk, for example.

Those shareholders who were active in the market during 1720 came, as we have seen, from London, with less than 20 per cent living outside of London or England. Examination of the stock of shareholders shows a much wider geographical distribution of shareholding. The level of detail in the alphabet ledgers is greater than was given in the transfer ledgers. Often the clerks would note the street address, most especially for those with addresses in London. Thus, following Earle, we are able to divide many of those who lived in London into those who had a street address within the City of London proper (the square mile), and those who lived in other parts of the city. In addition, we have those who resided in England but outside of London, and those who resided outside of England.⁵⁹

The breakdown of shareholder by residence is given in table 9. Of the total, 12 per cent of shareholders had an address outside of England, and roughly 20 per cent lived outside of London. There were 5 per cent of shareholders for whom we had no address. The remaining 64 per cent lived in the London area. Of these, at least 24 per cent lived in the City of London proper. For those who lived outside London, shareholders can be found in almost every county. There is, as might be expected, a noticeable home-county effect, with 45 per cent of shareholders living in Essex, Kent, Middlesex, and Surrey. The home-county effect, however, is smaller than for those active during the Bubble. For those who lived outside of England, 77 per cent or 725 lived in the Netherlands. The next largest group lived in Switzerland, with 95 shareholders. Belgium, Germany, and Ireland had 34, 23, and 26 shareholders respectively, with a few shareholders living in Denmark, Italy, Jamaica, Poland, and Sweden. The share of Dutch shareholders active in the market is very much in line with the percentage of shares held. The Swiss, on the other hand, held 10 per cent of foreign shares but represented 12 per cent of foreign selling activity.

In addition to documenting the geographical breakdown of share ownership, table 9 also provides information on shareholder residence over time. Using the alphabet ledgers in conjunction with the stock ledgers, we were able to generate some information on the duration of holding by individual shareholders. The data allow us to separate the population of shareholders down into four groups:

⁵⁸ Many of these same names could be found in the business of the Bank in bills and gold. See Clapham, *Bank of England*, pp. 127, 136, 137, vol. 1; Earle, *City full of people*.

⁵⁹ While we have considerable information for many shareholders, there were some cases where the clerk just wrote London, and 423 cases for which no information was given. Many of those for whom no address was listed are in the nobility, and would have had multiple residences. We do not include anyone for whom we have no address.

Table 9. *Residence of stockholders*

<i>(raw numbers)</i>					
<i>Location</i>	<i>All obs</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Foreign	940	133	63	582	162
Outside London	1542	269	229	631	413
London outside City	3120	709	553	980	878
City of London	1900	560	258	698	384
Unknown	422	62	73	102	185
Total	7924	1733	1176	2993	2022
<i>(percentages)</i>					
<i>Location</i>	<i>All obs</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Foreign	11.86%	1.68%	0.80%	7.34%	2.04%
Outside London	19.46%	3.39%	2.89%	7.96%	5.21%
London outside City	39.37%	8.95%	6.98%	12.37%	11.08%
City of London	23.98%	7.07%	3.26%	8.81%	4.85%
Unknown	5.33%	0.78%	0.92%	1.29%	2.33%
Total	100.00%	21.87%	14.84%	37.77%	25.52%
<i>(column percentages)</i>					
<i>Location</i>	<i>All obs</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Foreign	11.86%	7.67%	5.36%	19.45%	8.01%
Outside London	19.46%	15.52%	19.47%	21.08%	20.43%
London outside City	39.37%	40.91%	47.02%	32.74%	43.42%
City of London	23.98%	32.31%	21.94%	23.32%	18.99%
Unknown	5.33%	3.58%	6.21%	3.41%	9.15%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:

All obs = All shareholders

A = Bought or sold only in five years of the ledgers (October 1720 to September 1725)

B = Held during the Bubble but sold out by September 1725

C = Bought shares after September 1720 and continued to hold after September 1725

D = Held shares prior to the opening of the ledgers (September 1720) and continued to hold after their close (September 1725)

Source: Source: Bank of England—Alphabet ledgers AC 27/430–433, stock ledgers AC/6439–6450, and text

- (A) those who bought and sold only in the five years of these ledgers (October 1720 to September 1725), in other words after the Bubble;
- (B) those who owned shares during the bubble (or prior to October 1720) but sold out before September 1725;
- (C) those who bought shares after September 1720 and continued to hold them after September 1725; and
- (D) those who held shares prior to the opening of the new ledgers and continued after they closed.

Although this breakdown gives us a measure of duration, these are not absolute measures because we do not pinpoint the exact date on which the shareholder bought and sold. What these data do show is that 2,022 or 25 per cent of the shareholders held shares from before September 1720

until after September 1725. In total, 40 per cent (B + D) of these shareholders owned shares during the Bubble period, and 60 per cent of the shareholders bought their shares after the end of the South Sea Bubble. There is, however, differential movement in and out of Bank of England shares by location of shareholder (shown in panel C). What we see is a disproportionately higher *relative* entry of foreign shareholders after the South Sea Bubble. By 1725, Dutch shareholders owned 16.4 per cent of the capital stock.⁶⁰

As noted earlier, the capital stock of the Bank increased by £3.5 million in 1723. This brought the capitalized value of the Bank from £5.5 to roughly £9 million.⁶¹ From the ledgers, we have ascertained who purchased this new subscription. In total, 1,661 individuals purchased this new offering. Half of these subscribers (818) were first-time subscribers of Bank of England shares. Indeed, for 650 (or 74 per cent) of these 818 first-time subscribers, this purchase represented their only purchase of Bank stock during the life of these ledgers. The other 843 purchasers already held Bank stock. But for this group, only 49 per cent continued to hold shares after the close of the ledgers. The first-time buyers also tended to be predominantly male. Whereas in the whole population women comprised somewhat over 20 per cent of all shareholders, they accounted for 15 per cent of first-time buyers. Only 4 per cent of these new shareholders were foreign. These shares were bought predominantly by those resident in England. Of those who lived outside London, there is an even stronger home-county bias among these first-time buyers, with 63 per cent having addresses in Essex, Kent, Middlesex, and Surrey relative to 55 per cent of continuing buyers.

The mean purchase for this new issue was £1,989, but the variance was very large. The modal and median purchase was the same as for the transfers, £500 and £1000 book value of stock. There were six individuals who had purchases of more than £30,000 book value of shares. The single largest purchaser of this issue was James Martin, a goldsmith. He bought £96,200 book value of shares. He was followed by Thomas, the Earl of Pembroke, who purchased £65,000. William Wilson, a woollen draper by occupation bought £40,000; Robert Westley, a merchant tailor, £34,700; and Barent Gompertz, a merchant, £34,000. Charles Selwyn, esquire, purchased £31,500.⁶² At the lower end were 12 purchases of £100 book value amounts, with another 46 individuals purchasing either £200 or £250. The occupations among this group of small purchasers look remarkably similar to the purchasers of large amounts: goldsmith, broker, gentleman, tailor, vintner, and surgeon.

⁶⁰ Dickson, *Financial revolution*, pp. 311–12 and Clapham, *Bank of England*, vol. 1, p. 282, imply that the Dutch were the predominant shareholding group. Dutch shareholders are an important group, but they hold roughly the same percentage, for example, as do women.

⁶¹ The increase in capital stock was part of the solution to the South Sea debacle. This issue matched an amount of government debts taken over from the South Sea Company.

⁶² Two of the six largest purchasers were also in the top 15 major brokers of Bank stock during the Bubble—James Martin and Robert Westley.

From the transfer books, we noted that roughly 70 per cent of all transfers were undertaken by those with occupations in commerce (dealers, food merchants, and shopkeepers) and titled-men. From the stock ledgers, we have a measure of the occupational dispersion of shareholding for all shareholders during these five years after the Bubble, shown in table 10 for both intermediate and final occupational classifications. The relative size of aggregate shareholding by those in commerce was only 24.2 per cent of the total, while titled-men held 33 per cent of the stock. The holdings by titled-men are the same as the percentage of market activity during the Bubble. Men in commerce, on the other hand, owned 24.2 per cent of shares after the Bubble, but comprised 38.6 per cent of all buyer transactions and 37 per cent of all seller transactions. In contrast, women owned 20.56 per cent of shares, but had been involved in less than 10 per cent of transactions. Clapham notes that the peerage was better represented in 1721 relative to 1701, yet from the Bank of England records we know that nobility made up only 4 per cent by this time. These data reinforce the role of commerce-based occupations in the market for Bank of England shares during the Bubble period. What needs to be investigated is whether this conduct carried over to transactions in the shares of other companies. The commerce, financial and manufacturing sectors were predominantly London-based; shareholders who had an occupation in commerce lived to a greater extent than any other group within the City of London proper (40.45 per cent) and outside of England (38 per cent). The titled-men group are distributed more equally across all areas: 18.4 per cent in the City; 38 per cent in London outside of the City; 45 per cent in England outside of London; and 30 per cent outside of England. Women shareholders were quite equally distributed across all regions. Location would, of course, increase ease of access to the market.

There is a depth and breadth to the holding of Bank of England stock, both in terms of geographical distribution of holdings and also in terms of the occupational structure of the shareholdings. Shares were held across England and beyond, and by individuals down the social and occupational ladder. Servants and shopkeepers, as well as lords and duchesses, owned shares. Of course, one would expect there to be differences by wealth or income. Unfortunately, good measures of individual levels of wealth do not exist. From the work of Lindert, we know that London merchants and shopkeepers had wealth levels greater than found in other parts of the country. This, perhaps, helps explain the broad distribution of share ownership in London. What we are able to accomplish using the share ledgers is an examination of average holdings of Bank of England shares by occupational class for September 1720, when these ledgers were opened, relative to September 1725, when they closed. It was also during this period that the capital stock of the Bank increased by £3.5 million. A useful statistic to keep in mind before we examine the distribution of shareholdings in detail below is that the summary Gini coefficient for the distribution of

Table 10. *Dispersion of shareholding by occupational classification (intermediate and final)*

<i>Raw numbers</i>	<i>Intermediate:</i>				<i>Final:</i>				
	<i>All obs</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Agriculture	35	5	8	8	14	—	—	—	14
Building trades	47	9	8	18	12	—	8	18	12
Dealer/trader	63	23	11	17	12	—	—	—	—
Food	152	36	32	52	32	—	—	—	—
Merchant	1266	318	163	510	275	—	—	—	—
Shopkeeper	438	105	73	141	119	482	279	720	437
Financial	165	66	24	38	37	66	24	38	37
Manufacturing	170	45	19	59	47	—	—	—	—
Textile	190	45	31	56	58	90	50	115	105
Maritime	55	11	11	19	14	11	11	19	14
Military	176	43	27	70	36	43	27	70	36
Other	33	1	3	8	21	1	3	8	20
Church	64	8	7	22	27	—	—	—	—
Professions	161	26	31	55	49	34	38	77	76
Servants	29	3	7	7	12	3	7	7	12
Services	318	58	41	144	75	58	41	144	75
Gentlemen	2358	549	320	917	572	—	—	—	—
Nobility-men	272	42	57	95	78	—	—	—	—
Women	1507	268	220	644	375	591	377	1012	650
Nobility-women	65	12	10	26	17	—	—	—	—
Unknown	360	60	73	87	140	50	67	688	422
Total	7924	1733	1176	2993	2022	1733	1176	2993	2022

Agriculture	0.44%	0.06%	0.10%	0.10%	0.18%	0.44%	0.06%	0.10%	0.10%	0.18%
Building trades	0.59%	0.11%	0.10%	0.23%	0.15%	0.59%	0.11%	0.10%	0.23%	0.15%
Dealer/trader	0.80%	0.29%	0.14%	0.21%	0.15%	—	—	—	—	—
Food	1.92%	0.45%	0.40%	0.66%	0.40%	—	—	—	—	—
Merchant	15.98%	4.01%	2.06%	6.44%	3.47%	—	—	—	—	—
Shopkeeper	5.53%	1.33%	0.92%	1.78%	1.50%	24.20%	6.08%	3.52%	9.09%	5.51%
Financial	2.08%	0.83%	0.30%	0.48%	0.47%	2.08%	0.83%	0.30%	0.48%	0.47%
Manufacturing	2.15%	0.57%	0.24%	0.74%	0.59%	—	—	—	—	—
Textile	2.40%	0.57%	0.39%	0.71%	0.73%	4.54%	1.14%	0.63%	1.45%	1.33%
Maritime	0.69%	0.14%	0.14%	0.24%	0.18%	0.69%	0.14%	0.14%	0.24%	0.18%
Military	2.22%	0.54%	0.34%	0.88%	0.45%	2.22%	0.54%	0.34%	0.88%	0.45%
Other	0.42%	0.01%	0.04%	0.10%	0.27%	0.40%	0.01%	0.04%	0.10%	0.25%
Church	0.81%	0.10%	0.09%	0.28%	0.34%	—	—	—	—	—
Professions	2.03%	0.33%	0.39%	0.69%	0.62%	2.84%	0.43%	0.48%	0.97%	0.96%
Servants	0.37%	0.04%	0.09%	0.09%	0.15%	0.37%	0.04%	0.09%	0.09%	0.15%
Services	4.01%	0.73%	0.52%	1.82%	0.95%	4.01%	0.73%	0.52%	1.82%	0.95%
Gentlemen	29.76%	6.93%	4.04%	11.57%	7.22%	—	—	—	—	—
Nobility-men	3.43%	0.53%	0.72%	1.20%	0.98%	33.19%	7.46%	4.76%	12.77%	8.20%
Women	19.02%	3.38%	2.78%	8.13%	4.73%	—	—	—	—	—
Nobility-women	0.82%	0.15%	0.13%	0.33%	0.21%	20.65%	3.66%	2.98%	8.68%	5.33%
Unknown	4.54%	0.76%	0.92%	1.10%	1.77%	3.76%	0.63%	0.85%	0.87%	1.41%
Total	100.00%	21.87%	14.84%	37.77%	25.52%	100.00%	21.87%	14.84%	37.77%	25.52%

Source: See table 9 and text

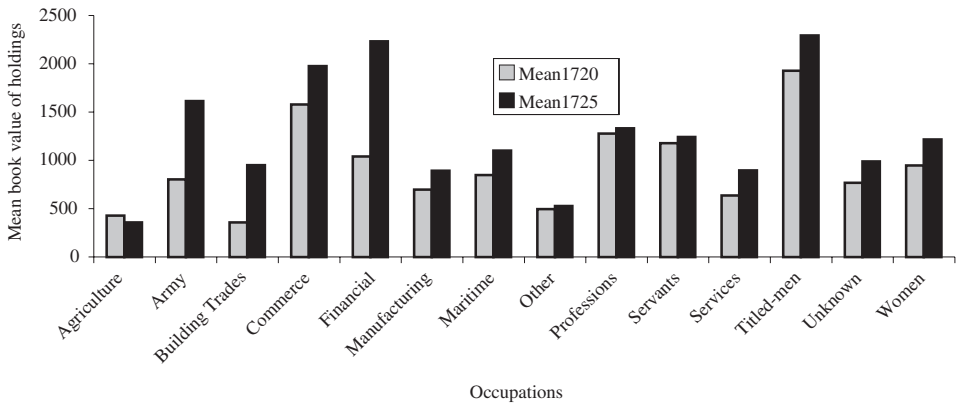


Figure 5. *Mean book value of shareholding by occupation: 1720 and 1725*

Source: Stock ledgers of the Bank of England—1720–1725 AC 27/6439–6450

shareholdings across all shareholders in 1720 was 0.626, and, at 0.638, had scarcely changed by 1725. While indicating a much higher degree of inequality than Lindert (1983) found for income distribution in England in the years 1688 and 1759, these Gini coefficients indicate that shareholding in Bank stock was likely more equally distributed than other forms of wealth in the English economy of the time.⁶³

The average shareholding had increased from £1,781 in 1720 to £1,820 in 1725. In table 11 and figure 5, we give measures of the book value of share holding by occupational classification for these two dates.⁶⁴ Table 11 gives the mean and the median holding, the minimum and maximum holdings by occupational class, the numbers in each occupational group, the standard deviation, and a Z test. While the minimum holding cannot be zero or negative, the maximum that any one person could hold was bounded only by personal wealth or access to credit. Reflecting the data presented earlier, commerce and titled-men both have individual shareholders with extremely large book value holdings of bank stock.

For commerce, the minimum book value holding was £5, while the maximum was £109,605. The maximum was held by Francis Pereira, a member of the Sephardic Jewish community, whose occupation is given as a merchant. Francis Pereira was also one of the top 15 most active shareholders during the bubble period, when he made 82 separate purchases of Bank stock and had 42 separate sales. His net position from that activity was a book value acquisition of over £33,000 across the Bubble year 1720. His positive balance in Bank stock increased in the next five years to

⁶³ Lindert, 'Lucrens Angliae', p. 98, found Gini coefficients of 0.468 among 13 classes of households and single individuals, rising to 0.487 in 1759 among the same 13 classes.

⁶⁴ Here we include only those shareholders who held a positive amount of stock on each of these two dates.

Table 11. Book value of shareholding by occupation, September 1720 and September 1725

Occupation (final)	September 1720					September 1725					Z test		
	Mean	Median	Max	Min	Number	Std. dev.	Mean	Median	Max	Min		Number	Std. dev.
Agriculture	425	290	1750	50	22	412	357	300	1110	100	22	252	0.66
Building trades	357	200	1450	50	20	380	950	400	10000	50	30	1872	1.68
Commerce	1577	600	47151	5	717	3420	1974	1000	46052	5	1157	3646	2.38
Financial	1040	500	6500	6	60	1258	2231	1000	17375	25	75	3034	3.08
Manufacturing	696	500	4100	4	155	758	891	500	8050	12	220	1080	2.05
Maritime	827	504	6550	85	26	1258	1064	900	5200	100	35	1198	0.82
Military	800	500	4375	50	54	750	1613	1000	17000	100	94	2426	2.98
Other	494	250	3050	100	19	699	527	350	3050	50	22	879	0.16
Professions	1276	600	18755	33	114	2318	1330	700	25755	33	153	2539	0.18
Servants	1175	300	10000	50	19	2313	1241	300	10000	100	19	2361	0.09
Services	635	420	4184	50	116	748	894	500	21000	15	219	1693	1.94
Titled-men	1927	800	118840	4	1020	4743	2292	1000	77357	2	1665	4028	2.04
Unknown	765	408	9000	50	161	1155	986	500	10000	50	171	1288	1.65
Titled-women	947	500	12730	10	620	1437	1215	500	36484	16	1057	2082	3.11

Source: See table 9

Note: Measures only those who had positive shareholdings on these two dates

£114,840. Pereira purchased £24,000 in the 1723 stock offer, but resold £18,768. The next three largest shareholders in this occupational group were Anthony da Costa, Solomon de Moses Pereira, and Abraham Craiesteyn, each of whom is listed as a merchant living in London and were also in the top 15 measured by activity across 1720. However, they held merely one-third the book value of Francis Pereira at £47,151, £42,052, and £39,450 respectively in September 1720. By 1725, Solomon de Moses Pereira and Abraham Craiesteyn increased their holdings to £46,000, while Anthony da Costa reduced the book value of his holdings to £36,878 by that same date. Given the very extreme position held by Francis Pereira, the figures given in table 11 do not include his holdings; rather they reflect the holdings for all the other shareholders in this group. The mean holding in commerce is £1,577, but rises to £1,729 if we include Pereira. The minimum amount of bank stock held in this group was £5 held by Benjamin Poole, a merchant, who had the same book value of holdings in September 1725. The median holding is considerably less than the mean at £600.

The titled-men category again reflects the large holdings by some members of this group.⁶⁵ The two largest shareholders listed were Sir Peter Delmé and John, Duke of Marlborough. Peter Delmé had a book value of holdings of £118,840 at the end of 1720. Indeed, he again was one of the top 15 most active in terms of transactions during the Bubble. If we were not to include his holdings in the titled-men group, the mean book value of holdings falls only from £1,927 to £1,884. John, Duke of Marlborough, had a book value of holdings of £74,805 by the end 1720. The records show that his holdings had increased to £83,355 by 1725. However, the Duke of Marlborough died in 1722. Depending on the disposition of his holdings, this could increase the holdings of his wife Sarah, who already held £36,000 book value of stock in her own right, to £119,355. We did not include the holdings of the Duke of Marlborough in the 1725 calculations in table 11. All of the remaining 1,019 shareholders in this group had individual holdings of less than £30,000 book value. Indeed, the median holding was £800, while the smallest amount was held by Sir Joseph Hodges, with a book value of £4. The median holding increased from £800 to £1000 over these five years.

Over the five years from the end of 1720, the mean holdings in all groups but agriculture increased. What is evident, however, is that the increases were not evenly distributed. In some occupational categories, the mean changed by very little, including maritime, other, professions, and servants. In building trades, financial, manufacturing, military, services, and women, the mean holding increased. Indeed, the mean holding

⁶⁵ We did not include John Hanger, John Rudge, Thomas Scawen, and Gerard Conyers, each of whom were listed as holding £200,000 plus book value of stock. This reflects stock mortgaged to the Bank by individual shareholders and not personal holdings.

tripled for building trades, doubled for military, nearly doubled for financial, and merely increased by £200 for the service category. Without a lot more information on the individual portfolio histories, we can only make some very general inferences about these changes. The increases, however, are significant at either the 5 or 10 per cent level. Interestingly, maritime and professions as well as military, services, and women all experienced positive gains as a result of activity during the Bubble period, but it is only in the latter three that we see significant increases in mean holdings. By 1725, the figure for mean holdings for women was greater than for building trades, manufacturing, maritime, other, services, and unknown. Building trades and manufacturing had net losses as a result of market activity, even though the losses in the building trades group came to less than £3 per head. Manufacturing also experienced net losses, but the number of people who actually gained was greater than of those who lost.

IV

While we cannot determine the specific motives of each investor, or even the motives for each occupation, location, gender, or social class of investor, we see clearly that, whatever the motives of the Bank's shareholders in 1720, they probably did not change all that much over the five years following of the collapse of the bubble. All our measures of diversity and distribution of stock holdings look more similar than not for 1720 (when a new set of ledgers was opened), for 1723 (when the capital stock was increased by half), and for 1725 (when our ledgers were closed). In this article, we have substantiated that a large, diverse, and, most importantly, stable customer base for the capital stock of the Bank of England had emerged before the South Sea Bubble, and was sustained throughout the Bubble year of 1720, as well as through the adjustments to the South Sea Company and the Bank of England that occurred over the following five years. We have shown who was in the market, their activity level in the market, and their gains and losses from this activity. Given the nature of the data set, we cannot explore why any one person used the market. In line with our examination of women shareholders, and on brokers, further work will explore the activities of various sub-groups of shareholders, such as the Jewish and Dutch expatriate communities, as well as by members of the liveried companies in the City. The basis for a mutually productive interaction between the financial sector and the real sector of the economy was already in existence and was sustained through the shock of the South Sea Bubble and its collapse.

This finding is important. Over the last decade, the relationship between growth and financial development, both theoretically and empirically, in a large number of countries and in different periods of history has been studied extensively with scholars finding a positive connection, usually with

finance tending to lead growth.⁶⁶ The growing body of empirical research shows consistently that countries with either large, privately owned banks or liquid stock exchanges tend to grow faster.⁶⁷ It is now clear that secondary markets in financial assets cannot be dismissed as mere gambling facilities that divert individuals from potentially more constructive activities in the economy, as is argued by some today and certainly was argued by many in 1720 London. The enduring and positive aspects of stock markets are that they provide liquidity for financial assets, and liquidity is the mechanism by which original lenders can re-sell their claims on borrowers to other savers. Knowing that they can acquire this liquidity whenever they require it, the original lenders are more willing to lend in the first place. Their replacements are also more willing to invest as well, having witnessed market operation in the past. As a result of trading activities within financial markets, households and businesses gain better insurance against shocks and better risk diversification. In addition, tradable financial assets can be used as collateral for a wide variety of additional investments in other areas.⁶⁸ Stock markets therefore provide insurance through liquidity and affect the ways individuals and families can allocate their resources and manage risk over time, increasing welfare and the prospects for economic growth.

For secondary markets to play these beneficial roles effectively, however, there has to be a large number of individuals in the market with a variety of savings objectives or time horizons. Capital markets create opportunities for investors by providing a potential income stream through the payments of dividends and through the capital gains that may come from rising values in the market. If everyone in the stock market simply wants to receive regular dividends indefinitely, or if everyone wants to cash out at the same time, there will be very little liquidity in the stock market. Lack of liquidity means that prices of the seldom-traded assets will swing wildly, increasing the risks for both borrowers and lenders and impeding expansion of firms and industries. In much of the recent literature, the proxy for financial market development is the volume of stock traded relative to market capitalization. A high turnover ratio could imply a large and diverse customer base, but, as critics of stock markets have always noted, high turnover can be created by specialist traders simply churning a few securities among themselves.⁶⁹ As Zingales notes, such proxies could do with improvement.⁷⁰ What one would like is a direct measure of the size, variety, and trading activity of the customer base.

⁶⁶ For a survey of the finance-growth nexus, see Levine, 'Financial development and economic growth'. The evidence is compelling, both historically: Rousseau, 'Financial systems'; Rousseau and Sylla, 'Emerging financial markets'; Neal, *Financial capitalism*; and, in recent decades, comparatively: Levine, 'More on finance'; Rajan and Zingales 'Financial dependence'.

⁶⁷ Levine, 'More on finance', p. 31.

⁶⁸ See, in particular, Gelderblom and Jonker, 'Finance of the Dutch East India trade'.

⁶⁹ See Levine and Zervov, 'Stock markets' and Zingales, 'Commentary', for discussion of measurement issues. See de la Vega, *Confusion*; Defoe, *Anatomy*; Mortimer, *Every man*; and innumerable works since for discussion of the market historically.

⁷⁰ Zingales, 'Commentary'.

That is precisely what we have created for the benchmark security available to investors in the London capital market at the beginning of the rise of financial capitalism. Despite what might appear as the disruptions caused by the financial activity that accompanied the blowing-up and bursting of the South Sea Bubble, the thousands of stakeholders in the joint stock of the Bank of England maintained an active and ultimately beneficial secondary market in the Bank's equity capital. Nearly 8,000 individuals came to realize the benefits of this stock market. Indeed, despite the cries of complaints among the new subscribers into the South Sea Company when their new-found paper wealth vanished with the collapse of share prices back to January 1720 levels, investors in the alternative outlets such as the Bank of England stock did well.⁷¹ Well enough, in fact, to draw to the Bank's stock new investors seeking the security of dividend income and a measure of financial independence, new investors seeking higher rates of return than were available elsewhere, and investors who desired the liquidity associated with these assets. Their commitment to the new vehicles for savings provided by England's financial revolution provided the foundation of a solid 'customer base' upon which Walpole could build his new and enduring structure of English public finance.

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⁷¹ Hoppit, 'Myths', notes that as most of the payments due on the successive subscriptions were cancelled by Parliament in 1721 and subscribers were credited with full shares, the actual monetary losses were much reduced.

APPENDIX A. *Classification of occupations and social categories*

<i>Occupation/Social</i>	<i>Occupation/Social</i>	<i>Intermediate</i>	<i>Final</i>
Farmer		Agriculture	Agriculture
Gardener			
Husbandman			
Stablekeeper			
Yeoman			
Captain		Military	Military
Colonel			
Commander			
Dasher			
General			
Gunner			
Major			
Soldier			
Vice admiral			
Rear admiral			
Bricklayer		Building trades	Building trades
Carpenter			
Mason			
Plaster			
Plumber			
Shipcarpenter			
Shipwright			
Tarman			
Tinplate worker			
Turner			
Wiredrawer			
Cheesemonger		Dealer	Commerce
Drysalter			
Feltmonger			
Fishmonger			
Ironmonger			
Woodmonger			
Woolmonger			
Baconman		Food	Commerce
Baker			
Brasier			
Brewer			
Butcher			
Confectioner			
Cook			
Gingerbread baker			
Girdler			
Malster			
Poulterer			
Salter			
Sugar baker			
Sugar refiner			
Victualler			
Vintner			

APPENDIX A. *Continued*

<i>Occupation/Social</i>	<i>Occupation/Social</i>	<i>Intermediate</i>	<i>Final</i>
Blackwellhallfactor		Merchant	Commerce
Coal merchant			
Cornfactor			
Factor			
Hop merchant			
Mealfactor			
Merchant			
Orange merchant			
Timber merchant			
Turkey merchant			
Wharfinger			
Bookseller	Meatman	Shopkeeper	Commerce
Chandler	Mercer		
Colorman	Printseller		
Draper	Shopkeeper		
Grocer	Stationer		
Haberdasher	Tallow chandler		
Hairseller	Tobacconist		
Hosier	Toyman		
Inn keeper	Toyseller		
Leather seller	Wax chandler		
Linendrapery	Woolendrapery		
Mealman	Yarnseller		
Banker		Financial	Financial
Broker			
Goldsmith			
Scrivener			
Blacksmith	Lorimer	Manufacturing	Manufacturing
Blockmaker	Mask maker		
Brickmaker	Needlemaker		
Buckett maker	Periwigmaker		
Button maker	Pictureframemaker		
Cabinetmaker	Potter		
Chairmaker	Razor maker		
Clockmaker	Refiner		
Coachmaker	Ropemaker		
Collarmaker	Sadler		
Combmaker	Silversmith		
Cooper	Soapmaker		
Cordwainer	Spectaclemaker		
Cutler	Staymaker		
Distiller	Watchmaker		
Instrument maker	Whipmaker		
Ivoryturner	Wigmaker		
Leatherdresser	Wine cooper		
Clothier	Silk weaver	Textile	Manufacturing
Clothworker	Silkman		
Crewellman	Silkthrower		
Currier	Skinner		
Dyer	Spinner		
Embroiderer	Stockiner		
Frameworker	Tailor		
Glover	Tanner		
Hatmaker	Threadman		
Leatherseller	Weaver		
Milliner	Wool stapler		
Shoemaker	Woolcomber		

APPENDIX A. *Continued*

<i>Occupation/Social</i>	<i>Occupation/Social</i>	<i>Intermediate</i>	<i>Final</i>
Bargemaster		Maritime	Maritime
Lighterman			
Mariner			
Master			
Seaman			
Guardian		Other	Other
In holder			
In trust			
Minor			
Archdeacon		Church	Professions
Bishop			
Curate			
DD			
Rector			
Vicar			
Accountant general	Judge	Professions	Professions
Agent solicitor	Master of arts		
Alderman	Mayor		
Attorney at law	Minister		
Bachelor of arts	Notary		
Burger of	Notary public		
Burgo master	President of ? general		
Chamberlin	Receiver of customs		
Chuchwarden	Scholar		
Commissary	School master		
Doctor	Secretary		
Doctor in physick	Sergeant		
Doctor of law	Sergeant at law		
Free lord	Solicitor		
French minister	Surgeon		
	Tide surveyor		
Cottager		Servants	Servants
Fellow			
Lackey			
Servant			
Apothecary	Glazier	Services	Services
Barber	Jeweller		
Barbersurgeon	Joyner		
Button seller	Laceman		
Calender	Lapedary		
Caneseller	Limner		
Carman	Miller		
Carver	Oilman		
Chapman	Packer		
Chaser	Painter		
Clerk	Pewterer		
Coachman	Salesman		
Coffeeman	Topseller		
Collector	Undertaker		
Councillor	Upholder		
Druggist	Upholsterer		
Engraver	Warehouseman		
Farrier	Waterman		
Gilder	Wireworker		
Esquire		Gentlemen	Titled-men
Gentleman			

APPENDIX A. *Continued*

<i>Occupation/Social</i>	<i>Occupation/Social</i>	<i>Intermediate</i>	<i>Final</i>
Baron		Nobility-men	Titled-men
Baronet			
Count			
Duke			
Earl			
Honorable			
Knight			
Lord			
Lord bishop			
Lord chief justice			
Lord viscount			
Marquis			
Noble			
Viscompte			
Sister		Commoner-women	Titled-women
Spinster			
Widow			
Wife			
Baroness		Nobility-women	Titled-women
Countess			
Dutchess			
Honorable lady			
Lady			Unknown

Footnote references

- Anderson, A., *An historical and chronological deduction of the origin of commerce*, 4 vols. (1801; reprinted New York, 1967).
- Andreades, A. M., *History of the Bank of England* (1909).
- Bank of England, Alphabet ledgers, 1720–25, AC 27/430–433.
- Bank of England, Stock ledgers, 1720–1725, AC 27/6439–6450
- Bank of England, Transfer books 1720, AC 28/1545–1554.
- Barber, B. M. and Odean, T., ‘Boys will be boys: gender, overconfidence, and common stock investment’, *Quarterly Journal of Economics*, 116, 1 (2001), pp. 261–92.
- Brewer, J., *The sinews of power: war, money and the English state, 1688–1783* (1989).
- Carlos, A. M., Moyen, N., and Hill, J., ‘Royal African Company stock prices during the South Sea Bubble’, *Explorations in Economic History*, 39, 1 (2002), pp. 61–87.
- Carlos, A. M. and Neal, L., ‘Women investors in early capital markets, 1720–1725’, *Financial History Review*, 11, 2 (2004), pp. 197–224.
- Carswell, J., *The South Sea Bubble* (revised edn. 1993).
- Chancellor, E., *Devil take the hindmost: a history of financial speculation* (New York, 1999).
- Clapham, J., *The Bank of England: a history*, 2 vols. (Cambridge, 1966).
- Dale, R., *The first crash: lessons from the South Sea Bubble* (Princeton, 2004).
- Defoe, D., *Anatomy of Exchange-Alley, or, a system of stock-jobbing* (1719).
- Dickson, P. G. M., *The financial revolution in England: a study in the development of public credit, 1688–1756* (1967).
- Earle, P., *A city full of people: men and women of London, 1650–1750* (1994).
- Ferguson, N., *The cash nexus: money and power in the modern world* (New York, 2001).
- Gauci, P., *The politics of trade: the overseas merchant in state and society, 1660–1720*, (Oxford, 2001).
- Gelderblom, O. and Jonker, J., ‘The finance of the Dutch East India trade and the rise of the Amsterdam capital market, 1595–1612’, *Journal of Economic History*, 64 (2004), pp. 641–72.
- Harris, R., *Industrializing English law: entrepreneurship and business organization, 1720–1844*, (Cambridge, 2000).

- Hoppit, J., 'The myths of the South Sea Bubble', *Transactions of the Royal Historical Society*, 12 (2002), pp. 141–65.
- Hyde, R., *The A to Z of Georgian London* (Lympne Castle, Kent, 1981).
- Ingrassia, C., *Authorship, commerce, and gender in early eighteenth-century England: a culture of paper credit* (Cambridge, 1998).
- de Krey, G. S., *A fractured society: the politics of London* (Oxford, 1985).
- Laurence, A., 'That "nasty South Sea affair": the Hastings sisters, Mrs Bonnell and the rage to speculate', unpublished manuscript, Open University, April 2004.
- Levine, R., 'Financial development and economic growth: views and agenda', *Journal of Economic Literature*, 35 (1997), pp. 688–726.
- Levine, R., 'More on finance and growth: more finance, more growth?', *Federal Reserve Bank of St. Louis Review*, 85, 4 (2003), pp. 31–46.
- Levine, R. and Zervox, S., 'Stock markets, banks, and economic growth', *American Economic Review*, 88 (1998), pp. 537–58.
- Lindert, P., 'Reinterpreting England's social tables, 1688–1913', *Explorations in Economic History*, 20 (1983), pp. 94–109.
- Lindert, P., 'Unequal English wealth since 1670', *Journal of Political Economy*, 94 (1986), pp. 1127–62.
- Lindert, P., 'English occupations, 1670–1811', *Journal of Economic History*, 40 (1980), pp. 685–712.
- Mortimer, T., *Every man his own broker, or a guide to the Stock Exchange* (11th edn. 1801).
- Neal, L., *The rise of financial capitalism: international capital markets in the Age of Reason* (Cambridge, 1990).
- Neal, L., 'How it all began: the monetary and financial architecture of Europe during the first global capital markets: 1648–1815', *Financial History Review*, October (2000), pp. 117–40.
- Rajan, R. G. and Zingales, L., 'Financial dependence and growth', *American Economic Review*, 88 (1998), pp. 559–86.
- Rousseau, P., 'Financial systems, economic growth and globalization', *Historical perspectives on financial development and economic growth*, Federal Reserve Bank of St. Louis, 84, 4 (2003), pp. 81–105.
- Rousseau, P. and Sylla, R., 'Emerging financial markets and early U.S. growth', *Explorations in Economic History*, 14, 1 pp. 1–26.
- Scott, W. R., *The constitution and finance of English, Scottish and Irish joint-stock companies to 1720*, 3 vols (New York, 1951).
- Temin, P. and Voth, H.-J., 'Riding the South Sea Bubble', *American Economic Review*, 95, 5 (2004), pp. 1654–68.
- de la Vega, J., *Confusion de confusiones*, translated by H. Kellenbenz (Amsterdam, 1688; reprinted Boston, Mass., 1957).
- Zingales, L., 'Commentary', *Historical perspectives on financial development and economic growth*, Federal Reserve Bank of St. Louis, 84, 4 (2003), pp. 47–52.