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The anatomy of a bubble company: The London Assurance in 1720

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THE ANATOMY OF A BUBBLE COMPANY: THE LONDON ASSURANCE IN 1720

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Working Paper 22-08

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The Anatomy of a Bubble Company: The London Assurance in 1720

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Abstract

Research on the financial events of 1720 in Britain has overwhelmingly focused on the South Sea Company, but price movements were much more dramatic in the shares of the newly incorporated London Assurance (LA) Company. This paper uses unique archival material on the London Assurance to address three important debates around the 1720 bubble. First, it examines competing claims around the bubble's price dynamics, finding that the largest price movements were driven by changes in the market structure for LA shares rather than by news about fundamentals. Second, it explores how the shareholder base changed during the bubble, finding that informed insiders were more likely to exit for a profit at the peak of the bubble. Finally, an examination of LA shareholder behaviour up to 1737 suggests that the bubble caused a loss of shareholder expertise, with detrimental consequences for the Company's governance. These results demonstrate how a bubble in the shares of a newly created company can lead to an exodus of informed investors, damaging the company's long-term prospects.

JEL Codes: N23, N83, G12, G22.

Keywords: South Sea Bubble, London Assurance Company, Market Structure, Asset Pricing, Shareholder Behaviour.

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1. Introduction

Few years in British economic history have attracted more attention than 1720. The dramatic events of the South Sea Bubble resulted in a change of government, significantly reduced the public debt, and set the course of British financial development for over a century. Previous research has studied its political causes and consequences, economic effects, and regulatory consequences.[2]

The most common historical narrative of the bubble in Britain centres on the South Sea Company's debt-to-equity conversion scheme. In this narrative, the British government in December 1719 was concerned about the high level of public debt, particularly given the possibility of John Law's Mississippi scheme significantly reducing borrowing costs for France. The South Sea Company presented a solution in which outstanding debt would be traded for shares in the Company, and the government would then pay a reduced rate of interest on this debt to the Company. In order to make this trade appealing to debt holders, the South Sea directors tried to create the expectation that the Company's share price would rise, hoping that debt holders would be tempted by the promise of capital.[3] This narrative broadly views the bubble in shares of other companies as a spillover effect from the efforts made by South Sea directors to encourage speculation. The evidence for the centrality of the South Sea Company largely comes from its dominant position in news media, parliamentary discussions, and other prominent cultural sources, such as the writings of Daniel Defoe.

This narrative has been challenged by Frehen et al., who argue that the debt-to-equity conversion scheme was the less significant of two factors driving the bubble.[4] They instead emphasise the role of innovation in the insurance industry, arguing that investors were responding to the uncertain potential of what was essentially a new financial technology. This counter-hypothesis rests on four pieces of evidence. Firstly, the two British insurance firms, London Assurance (LA) and Royal Exchange Assurance (REA), experienced significantly larger price movements than any other listed company, including the South Sea Company. Secondly, the price dynamics are similar to those identified by Pástor and Veronesi as typical of a technology bubble.[5] Thirdly, a factor analysis of stock index returns identifies two factors driving stock prices, one of which is heavily weighted on the two insurance firms. Finally, a principal components analysis on the correlation matrix of London stock returns finds that the

[2] See, for example, Dickson, *The Financial Revolution,* Harris, 'The Bubble Act', Harris, 'Political Economy', Hoppit, 'The myths', 'Kleer, 'Folly of particulars', Kleer, 'Riding a wave', Paul, 'The South sea bubble'.
[3] Dickson, The Financial Revolution, Kleer, Folly of particulars', Quinn and Turner, *Boom and Bust.*
[4] Frehen, Goetzmann, and Rouwenhorst, 'New evidence'.
[5] Pástor and Veronesi, 'Technological revolutions'.

second component is dominated by the two insurance companies.[6] Notably, all four of these pieces of evidence are derived from short-term variation in the listed share prices of the two insurance firms.

In this paper we examine these hypotheses by matching unexploited data sources on LA Company shareholders to price data from *Castaing's The Course of the Exchange.*[7] We find that the dramatic rise in the price of LA shares during 1720 occurred entirely when investors were trading subscription receipts, commonly known as 'scrip', rather than the shares themselves. This affected price dynamics for four reasons. Firstly, scrip was a superior instrument of speculation, because the implicit ability to default placed a floor on losses.[8] Secondly, an individual receipt could not be split, making it impossible for the majority of investors to partially cash out. Thirdly, during the period in which the scrip was recalled and shares issued, the quantity of shares that could be traded was dramatically reduced. Finally, the process of transitioning from scrip to shares altered shareholder incentives in ways that could plausibly have affected their decision on whether to hold or sell.

While the second-largest daily fall in the Company's share price during the crash can be plausibly associated with news about fundamentals, the largest fall and the third-largest fall were both associated with the transition from scrip to shares. The considerable effects of market structure and liquidity on the LA share price suggests that the close link between the price of the two insurance firms and the overall stock market, which has been identified by Frehen et al., might not necessarily be due to the impact of insurance as a financial technology.[9]

We then investigate how the shareholder base changed during the bubble in order to determine which groups of investors, if any, were able to profit from the bubble. Temin and Voth have argued that the opportunity to 'ride' the South Sea Bubble would have prevented rational arbitrageurs from correcting excessively high prices in the summer of 1720.[10] However, Frehen et al. find that changes in the shareholder base of Stad Rotterdam, a Dutch insurance firm, did not suggest that informed investors were riding the bubble.[11]

To analyse investor behaviour we categorise investors by whether they increased, decreased, or maintained their holdings. We then run a series of logit regressions using group

[6] As is typical in principal components analysis on share prices, the first component is close to an equally weighed index.
[7] Share price data in the *The Course of the Exchange* has been digitised by Yale International Center for Finance and is available via their website. See Frehen et al., 'New evidence' for further detail.
[8] Shea, 'Financial market analysis', Temin and Voth, 'Riding'.
[9] Frehen et al., 'New evidence'.
[10] Temin and Voth, 'Riding'.
[11] Frehen et al., 'New evidence'.

membership as the dependent variable, and descriptive measures of the expected level of information as independent variables. We find that members of the original subscription list, who had been curated specifically for their insurance expertise and political connections, were significantly more likely to sell for a profit before or during the crash. The observed ownership patterns are therefore consistent with the possibility that informed investors could ride the bubble in LA shares.

Finally, we propose a new question, considering how the bubble affected the ownership, governance, and performance of the LA Company in the long run. Previous literature has noted that the joint-stock marine insurance companies underperformed relative to private firms, a failing which has been attributed to a combination of information asymmetries and corporate governance challenges.[12] We examine a third possibility: that the price dynamics of 1720 transformed the LA Company's ownership base to the detriment of its long-run performance.

In order to evaluate this possibility, we use shareholder records to trace the investment horizons of LA Company's shareholders into the middle of the century. We find that the bubble gave insiders the opportunity to cash out at a considerable profit before the company had even begun to operate, and the vast majority did so, resulting in a loss of expertise in the shareholder base. The unsuccessful speculators that joined during the bubble were then gradually replaced by passive investors, many of whom held until death. The loss of expertise when insiders left the Company in 1720, combined with the loss of market discipline associated with extreme shareholder passivity in later years, may partly explain the Company's long-term underperformance.

This paper contributes to the growing literature examining how structural factors affected price dynamics during the bubbles of 1720. Shea demonstrates that subscription receipts and shares are not of equivalent value, arguing that the failure of Dale et al. to distinguish between them resulted in a misunderstanding of the bubble.[13] Braggion et al. analyse how trading behaviour was affected by credit provision, as speculative investors self-selected into leveraged trading, which was also often accompanied by moral hazard.[14] Kleer examines how the South Sea directors managed various dimensions of liquidity and leverage in an effort to control the price.[15] By documenting the effect of these factors on the market for

[12] Aldous and Condorelli, 'An incomplete revolution', Kingston, 'Marine insurance', Pearson and Doe, 'Organizational choice'.
[13] Dale, Johnson and Tang, 'Financial markets', Shea, 'Financial market analysis', 'Understanding financial derivatives'.
[14] Braggion, Frehen and Jerphanion, 'Credit provision'.
[15] Kleer, 'Folly of particulars', 'Riding a wave'.

LA Company shares, we show that they were relevant beyond the highly politicised South Sea issue.

The paper also contributes to debates on the identities of investors during the South Sea Bubble. The current body of literature in this area primarily focuses on the experience of the South Sea Company itself, or on other established companies which played a secondary role in the bubble. Kleer and Temin and Voth analyse brokerage accounts to assess trading in South Sea securities, and Laurence analyses trading in the East India Company, Bank of England, and Royal Africa Company.[16] Carlos et al. and Carlos and Neal provide analysis of the shareholder bodies of the Royal African Company and the Bank of England respectively.[17] The LA Company, however, experienced a much more substantial share price reversal than any of these firms.[18] It is also the first newly established company to be examined in this way.

Finally, our results suggest that financial bubbles can transform the ownership base of a firm, potentially affecting the quality of its governance for decades after the crash. In particular, we identify an under-examined consequence of investors riding a bubble: the exodus of well-informed insiders from the bubble firm's shareholder base. This finding could have economic implications beyond 1720. The dot com crash of 2000, for example, has been linked to founders selling shares at a premium after lockup agreements expired.[19] However, whether the resulting loss of expertise affected the future performance of these companies has not yet been examined. We conclude by arguing that the experience of the LA Company opens a potential new avenue for research studying the effects of financial bubbles on long term firm performance.

2. The South Sea Bubble and the Foundation of the London Assurance Company

In February 1720, the South Sea Company came to an agreement with the government allowing them to redeem outstanding government debt not already held by that company, the Bank of England or the East India Company. They subsequently arranged a series of ambitious subscription issues at which government debt holders could exchange their debt for South Sea stock.[20] Fundamentals suggested that this was a poor deal for debt holders, but the South Sea Company encouraged uptake by generating the expectation that its stock price would rise,

[16] Kleer, 'Riding a wave', Laurence, 'Women investors', Temin and Voth, 'Riding'.
[17] Carlos, Maguire and Neal, 'Financial acumen', Carlos and Neal, 'The micro-foundations'.
[18] Frehen et al., 'New evidence', p.590.
[19] Ofek and Richardson, 'DotCom Mania'.
[20] Carlos and Neal, 'The micro-foundations', p.501.

allowing debt holders who executed the trade to benefit from short-term capital gains.[21] As Kleer shows, this was much more effective than anticipated, leading to substantial rises in South Sea share prices that proved detrimental to the directors' goals.[22] Their efforts also indirectly encouraged speculation in the shares of other companies, which the Bubble Act of June 1720 sought to curtail.[23]

While the South Sea Company provided a focal point for stock trading and speculation, the market was already becoming increasingly active prior to the subscriptions. In February 1720, a parliamentary committee was convened to examine the growing number of subscriptions launched by ventures seeking incorporation. This committee identified a number of serious ventures that had already solicited funds from prospective shareholders, particularly in the insurance and fisheries industries. However, many others were seen as opportunistic or fraudulent enterprises, pushed by promoters looking to take advantage of the growing market.[24] Amongst this group of ventures seeking incorporation were two marine insurance companies. The idea of a large incorporated joint stock insurance company had support amongst the business community in London at that time, and a number of petitions associated with prominent Lords and the mercantile community had appeared during the 1710s.[25]

One of the two successful petitions can be traced to September 1719, when Sir John Lambert, an established city merchant invited Stephen Ram, a goldsmith of Lombard Street, to open a subscription list for a marine insurance company. By mid-November, Ram had secured a commitment of £1.2m towards the capital of a firm in a subscription list to be put before parliament.[26] However, at the beginning of December a proposal to amalgamate Ram's venture with that of a rival, James Colebrook, was agreed to be more likely to succeed. Colebrook had secured a financial commitment of £0.8m, and the new venture united the projects with a total capital of £2m.[27] Subsequently, a new subscription book was prepared, and the list opened for subscription on 22nd December.[28] Subsequently, a petition proposing the advantages of securing a Corporate Charter was signed by each individual supporter of the Ram and Colebrook scheme and presented to the Court of St James by 8th January 1720.[29]

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[21] Dickson, *The Financial Revolution.*
[22] Kleer, 'Riding a wave'.
[23] Harris, 'The Bubble Act'.
[24] 6 Geo 1 April 22-27, p.351.
[25] Raynes, *A history*, pp.96-7.
[26] Drew, *The London Assurance*, p.7.
[27] Drew, *The London Assurance*, p.11, Scott, *The constitution*, p.399.
[28] Drew, *The London Assurance*, p.12, Scott, *The constitution*, p.400.
[29] Drew, *The London Assurance*, p.12. See also the Parliamentary inquiry of February 1720 for discussion on the Ram and Colebrook subscription. The inquiry notes that the sums received were to be lodged at the Bank of

After a number of initial difficulties, a bill of incorporation passed through the House of Commons on 31st May 1720. Having passed the House of Lords, it received Royal assent on 11th June, and the Charter was signed on the 22nd June.[30] With corporate status now validated through parliament, a general meeting of London Assurance Shareholders was held on the 28th June and a court of directors was elected. The Company was installed in premises by 19th August, although business had already commenced with the first line insured on the 6th July.[31]

This study is conducted using three unique sets of investor records associated with the subscription and launch of the London Assurance Company. The first of these is the set of subscription receipts issued after December 22nd 1719.[32] These receipts can be considered the counterfoil to the piece of paper (i.e. the scrip) issued to a subscriber by Ram and Colebrook. They state the name of the holders of scrip, alongside the quantity of shares taken up by the individual. The receipt books run between December 22nd 1719 and January 18th 1720, include a number of re-registrations to new individuals, and detail the splitting of some receipts into smaller denominations.

The second data source is a registration document compiled between 12th August 1720 and mid-September 1720.[33] The registration process began after a court of directors meeting on the 11th August when it was resolved to call in all scrip.[34] This process marked the transition from receipt trading on the secondary market to a situation in which formal transfer of ownership was conducted by the company. The document records the names of all final receipt holders who committed to registering their receipts, and the number of shares that they registered. Our understanding of how this process was communicated and eventually brought to a close is informed by a series of calls and adverts issued in The Daily Post and Daily Courant during the month of August directing individuals to submit their scrip in exchange for shares in the Company.

The third source is the series of shareholder registers that were compiled by the Company after its registration was complete. All of the individuals in the August registration document have corresponding accounts in the shareholder registers. These registers include the names, occupations, and addresses of all August receipt holders. They also record the names

England under the direction of Sir William Chapman, Sir Jacob Jacobson and Joseph Eyles for the endeavour of attaining a Charter. See 6 Geo 1 April 22 – 27, p.346.

[30] Drew, *The London Assurance*, p.17, Scott, *The constitution*, p.402.

[31] Drew, *The London Assurance*, pp.17-22.

[32] Metropolitan Archive, London. CLC/B/192/MS08725B/001-004

[33] Metropolitan Archive, London. CLC/B/192/MS08725/003

[34] The original registration document CLC/B/192/MS 08725/004 has been badly damaged, with a number of entries not legible. Our data has therefore been extracted form CLC/B/192/MS08725/003, which is defined as a copy of that original registration document.

of subsequent shareholders and note all trading activity from 5th September 1720 into the nineteenth century.[35] Together these sources allow us to examine the evolving relationship between the market price and characteristics of the stock, how the bubble influenced short run investor behaviour, and how it affected long run ownership, governance and firm performance.

3. The Evolution of the Market for LA Company Shares

When Ram and Colebrook collected a subscription in December 1719, the company's nominal capital was set at £2,000,000. Each share in the company was denominated at £100, and subscribers were required to pay a down payment of 2 shillings and 6 pence per share, and a call of 17 shillings and 6 pence, bringing the share to 1 per cent paid up (see Scott, 1911, p. 400). In return, they received a receipt detailing how many shares they had subscribed for. The first scrip was issued to 463 individuals on / closely after December 22nd, but some was re-registered in the subsequent weeks.[36] When the registration book closed on January 18th, 444 individuals held scrip. During the period before the book closed, some scrip holders also took the opportunity to spread their subscription across multiple receipts. The receipt books suggest that the only constraint was that script had to be issued in multiples of 10, and could not be split into smaller lots than 10 shares. For example, a person who subscribed for 50 shares could request 5 separate receipts of 10 shares. After January 18th, however, it appears that no further splitting of scrip was possible. This is evidenced by the August 1720 registration document, in which registrations reflect the denominations issued in January 1720.

Table 1 displays the registration activity of early subscribers during this initial phase of scrip registration. Approximately 70% of the original 463 receipt holders held only one receipt. However, it was common for individuals to hold their subscription across 2, 3 or 4 receipts, and 26 individuals held 5 or more receipts. By 18th January, other investors had taken the opportunity to split receipts into smaller denominations; by this stage 60 individuals held 5 or more receipts. Partly as a result of receipt splitting, the proportion of receipts that represented a holding of 10 shares rose from 20% on December 22nd to 50% on January 18th, with a corresponding decrease in the number of receipts with a large denomination.

INSERT TABLE 1 HERE

[35] Metropolitan Archive, London. CLC/B/192/MS08743B/001-004

[36] Reregistations included transfers to individuals who were already script holders, but also new individuals who had been part of the first wave of subscription.

By 18th January, of the 463 original receipt holders, 13 individuals had increased their holdings, 35 had partially decreased their holdings, and a further 46 had sold out completely. Across all receipt holders, 121 or approximately 25% of registered subscribers were involved with the re-registration of scrip during this period, and this activity saw the re-registration of 18.8% of the total outstanding receipts.[37] This is notable because William Chapman, one of the LA Company's directors, went on to tell the Parliamentary Committee on 22nd February that "no transfer was made of any of the stock" in the Company.[38] As Scott suspected, this was not true.[39] A significant minority of investors not only transferred receipts before 18th January, but split receipts in an effort to ease future liquidity constraints. Although the Company stopped re-registering receipts after this date, scrip continued to be traded.[40]

The prices at which these trades occurred were listed in *Castaing's The Course of Exchange*, and are shown in Figure 1. Early 1720 saw relatively little price movement, with scrip trading for between £3 and £6 until 22nd April. Thereafter the price rose dramatically, eventually peaking at £135 on 15th August, a rise of 5,900% from its level at the end of 1719. In comparison, the South Sea Company share price rose by only 642%.[41] The LA Company's share price at this stage created a significant liquidity constraint. The minimum receipt denomination was ten shares, so without using forward contracts, a shareholder could only cash out by finding a single buyer willing to spend at least £1,350 (roughly equivalent to £285,000 today). Many investors were locked into even higher denominations.

INSERT FIGURE 1 HERE

Since the LA Company stopped re-registering receipts between January and August, our understanding of share ownership in this period comes from comparing the subscription receipts book to the registration document of August 1720. An analysis of ownership concentration amongst receipt holders in December 1719, January 1720 and September 1720

[37] This figure is likely to underestimate the true volume of stock transfer before 18th January. With the trade in scrip requiring simple legal assignment, probably a notarised signature, it is feasible that a significant number of trades had already occurred in the secondary market and were not reregistered in the receipt book.
[38] Scott, *The constitution*, pp.400-401.
[39] Scott, *The constitution*, pp.400-401.
[40] A number of news stories in the press confirm this. Firstly, an advert in the Daily Courant (8th June 1720) notes the misallocation of a Ram and Colebrook receipt in a transfer. The advert refers specifically to the receipt number and the original holder, and asks that the receipt be returned. The noted information matches the detail in the original receipt book. Secondly, when the company called in £4 of capital at the end of May, they made specific reference to bringing in receipts to aid quicker dispatch (Daily Courant, 28th May 1720).
[41] Frehen et al., 'New evidence', p.590.

is shown in Table 2. We can see that the re-registration of receipts between December and January slightly increased the concentration of ownership. This trend was reversed by August, and when the share price peaked, the average investor held less subscription stock than they had in January. However, the largest investors had further increased their holdings.

INSERT TABLE 2 HERE

The receipt holders listed in the August 1720 registration document differ significantly from those listed on the subscription receipts of January 1720: only 91 of the 444 registered receipt holders from January registered receipts on or after the 12th August 1720. This suggests that substantial trading in scrip must have occurred after the receipt reregistration window closed in January. Since the market price of this stock rose substantially in this period, this also indicates that many initial investors sold at a profit, and most likely did so before the company formation had even been completed. Notably, although each receipt gave its holder the right to buy a full share, it did not impose an obligation to do so. Scrip receipts were therefore more akin to call options than shares.[42] The number of receipts that were not registered is negligible, indicating that, in practice, almost no investors defaulted on calls. However, in the early stages of the boom, the implicit default option made scrip a superior instrument of speculation to shares.[43]

Investors between January and September were constrained by the denominations of their receipts. This had three effects. Firstly, it was impossible for the majority of investors to partially cash out. At a time when prices were rising so rapidly, it is likely that many investors would have preferred to reduce their holdings, and their doing so may have slowed the increase in prices. Instead, they could only either cash out completely or hold their receipt until the shares were issued. Secondly, those holding a single large denomination may have struggled to find a buyer at the prevailing market prices. Finally, it was impossible for investors to enter the spot market for quantities fewer than ten shares, limiting the trade to those with the means to buy relatively large amounts of stock.

These constraints could theoretically be circumvented through the use of forward contracts. In practice, however, this was rare. The forward market was plagued by counterparty risk, and buying or selling shares forward required the negotiation of complex bespoke

[42] Shea, 'Financial market analysis', 'Understanding financial derivatives'.
[43] Temin and Voth, 'Riding'.

contracts with substantial forward premia or discounts.[44] Kleer examines the forward sales agreed by South Sea Company directors at this time, finding that the prices negotiated were often well below the market rate, particularly for large lots of shares.[45] Only 2.9 per cent of director purchases in Kleer's sample were for future delivery.[46]

The transition from scrip to shares began on 11th August, when a meeting of the LA directors agreed on changes to the terms associated with LA stock. The capital base of the firm was reduced from £2.0m to £1.5m, with a new lower nominal value of £25 placed on each of the 20,000 allotted shares. It was suggested that the remaining £1m would be raised via further rounds of subscription. Furthermore, it was resolved that all receipt holders must register them and sign the book of subscription.[47] To this end, the LA Company issued a number of notices in the Daily Courant and Daily Post in the last few weeks of August to encourage investors to submit any outstanding receipts for registration so that shareholder registers could be created.[48] Once a receipt had been registered, it could no longer be traded, so the investor was locked in until the shares were issued. This eventually occurred on 5th September, but it is not clear when investors were informed of this date.

The established view of the market for LA shares during August 1720 notes that the price of the stock peaked on the 15th August, and that the subsequent demise corresponds with Treasury action against a number of companies for not keeping expressly to the limitations of their respective charters.[49] However, this period was also one of rapid structural changes to the market for LA shares.

The meeting of the 11th August, highlights the first of these significant structural changes. With receipt holders seeing the par value of their shares reduced from £100 to £25, in combination with the proposed issue of 40,000 new shares, the shareholder's capital claim had been significantly eroded.[50] This future dilution in ownership was most likely not well received. Indeed, in June the company went to significant efforts to quell a similar rumour in

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[44] Shea, 'Financial market analysis, pp.754-5, Kleer, 'Riding a wave', pp.269-71.
[45] Kleer, 'Riding a wave'.
[46] Kleer, 'Riding a wave', p.269.
[47] See the "request to register" in the forward to the original 12th August registration document. CLC/B/192/MS 08725/004
[48] *Daily Courant*, 13th August 1720. "The Governor and Company of the Corporation of the London Assurance, give notice, that daily attendance is continued until Thursday the 17th instant and no longer, at their house in Cornhill, from the hours of Ten in the morning to One, in order to take in the receipts commonly called Ram and Colebrook."
[49] Frehen et al., 'New evidence', Raynes, *A history.*
[50] See the forward to the original registration document. CLC/B/192/MS 08725/004, and Drew (1949), p.7.

circulation by saying it was "false and malicious, and spread by some ill-designing people to spoil the credit of the said stock".[51]

In addition to this, the transition from scrip to shares had the potential to affect the LA Company's share price. After the Company initiated the request to bring in receipts on 11th August, investors had three distinct trading options. Firstly, they could submit their receipts and forego the right to until after the transfer books opened. Submitting receipts also meant committing to fulfilling future capital calls. Secondly, they could sell their receipts. Since the share price peaked on August 15th, almost any sales at this point would have been for a profit. Thirdly, they could temporarily ignore the directors and hold the receipts. This allowed them to maintain liquidity for an additional period before deciding whether to sell the receipt or submit it. However, the directors were at this stage spreading ambiguity about when the final deadline was for the submission of receipts.[52] Investors might therefore have worried that holding the receipt for too long would cause them to inadvertently default on the share.

In practice, a minority of investors chose the third option. The shareholder registers indicate that by August 15th, 40 per cent of receipts had been submitted, by August 20th, 84 per cent, and by the end of August 98 per cent of receipts had been registered with the Company. The vast majority of investors thus either submitted their receipts, or sold them to other investors who immediately submitted them. The call for receipts would therefore presumably have been associated with a rush to sell, as investors sought to avoid capital calls and the illiquidity of being locked in until 5th September.[53] On August 16th, five days after general meeting, two days after investors were publicly informed of it in the Daily Courant, and the day before the first suggested cut off point for receipt registration in that advert, the LA share price fell by 7.4 per cent, signalling the beginning of the crash.[54]

INSERT FIGURE 2 HERE

[51] See Daily Courant 22 June 1720.

[52] Daily Courant, 27th August 1720.

[53] We can date the first post charter capital call to the days before the 15th September. On the 15th September reference to a call for £5 was published in the Daily Post. However, it was highly likely that shareholders knew that such a call was eminent before this, as the company had bound themselves to pay the government £300,000 over a period of 10 months for the privileged of their charter. See Drew (1949) pp.28-29.

[54] See Daily Courant (13 August 1720) for more details on the request to register receipts.

Figure 2 shows the price of LA shares alongside the dates of structural changes. In addition to the August 16th fall, two dates during the transition from scrip to shares stand out for large negative price movements. The first is a 17.4 per cent fall on 22nd August. Frehen et al. propose several fundamentals-based causes of this fall, including the Attorney General's attempts to clamp down on firms exceeding their charter, the sinking of a ship reported to be insured by the LA Company, and a burglary at the home of an LA director.[55] The second is 3rd September, when the price fell by 31.8%. This date was not associated with any specific news about the LA Company; rather, it was the last day of scrip trading, and since the 31st August deadline had passed, there was ambiguity surrounding whether the receipts would still be accepted by the Company. Shareholder registers reveal that 11 of the 23 outstanding receipts that were accepted after this deadline were submitted by company directors, suggesting that they may have strategically used this ambiguity to purchase receipts at a discount. On 5th September, the first day of share trading, the price rose by 11.2%, perhaps due to new investors entering the market for quantities lower than ten shares.

Share trading was very active during the first month of trading: calculations based on the transfer records reveal that stock turnover from 5th September to 30th September was 55 per cent. In comparison, the average monthly turnover of Bank of England stock for the whole of 1720 was 9.75 per cent per month, with no single month having a turnover in excess of 18 per cent.[56] Table 3 examines the trading behaviour of the 570 investors who registered receipts in August and September during this period. By the end of November 130 receipt holders had sold out completely, and a further 137 had decreased their holdings. 82 receipt holders had increased their holdings, and 657 new investors had bought stock and held it until our sample point on the 30th November. The price during this period continued to fall, with shares losing 81.3 per cent of their value between 5th September and 30th November.

INSERT TABLE 3 HERE

This trading activity resulted in dramatic changes in ownership patterns. Approximately half of August investors who remained at the end of November had adjusted their holdings. New holders who came into ownership between August and November held considerably fewer shares: with a mean holding of 9.76 shares amongst new investors, the majority took an

[55] Frehen et al., 'New evidence', p.594.
[56] Carlos and Neal, 'The micro-foundations'.

ownership position that had not been possible when the minimum denomination was 10 shares. These changes in holding preference resulted in a substantial increase in ownership diffusion, with 657 individuals entering the company and only 130 individuals exiting, causing the total number of shareholders to rise from 570 to 1,097. By the end of November, there were more investors than there had been receipts in circulation in the early summer. Overall, this suggests that receipts had restricted investors' ability to hold preferred quantities of stock in what was a risky and volatile market.

The results of this section suggest that LA price dynamics were significantly affected by the evolution of market structure. While much less data is available on the other major insurance corporation, the Royal Assurance, it is clear from news reports that it underwent a similar drawn-out issuance process around the same time.[57] This suggests that the close link between the price of insurance firms and the overall stock market, identified by Frehen et al., does not necessarily imply that insurance as a financial technology was a key driver of stock prices.[58] Rather, the insurance firms could have affected the rest of the market through liquidity shocks, structural changes, or learning processes associated with stock market development. The lengthy issuance process, and associated price dynamics, also appear to have affected the nature of the shareholder base. The remainder of the paper examines these changes to the shareholder base and their implications for the study of 1720.

4. Did Informed Investors Ride the Bubble?

A point of contention within the literature on the bubbles of 1720 is whether they can be partly explained by informed or experienced investors riding the bubble. This is a key theoretical point. Fama contends that stock markets do not typically deviate from fundamental values because informed investors will immediately correct any obvious mispricing.[59] If, however, investor sentiment is predictable, and informed investors can make greater profits by riding a bubble than by correcting it, there is no reason to expect markets to remain efficient.[60]

If the bubble-riding hypothesis were true, one would expect to see two pieces of evidence: qualitative accounts of prior intentionality, and an economically significant fall in the number of informed investors during the crash. Temin and Voth argue that informed investors did ride the South Sea bubble, finding clear evidence of prior intentionality in the

[57] Daily Courant, 15th August 1720, 27th August 1720.
[58] Frehen et al., 'New evidence'.
[59] Fama, 'Two pillars'.
[60] Abreu and Brunnermeier, 'Bubbles and crashes', 'Synchronization risk'.

papers of Hoare's Bank.[61] Frehen et al., however, find that there was no economically significant shift in the ownership of Stad Rotterdam, a Dutch insurance firm, during the crash of 1720.[62] This suggests that the strategy used by Hoare's Bank may not have been common enough to have been a major factor driving the bubble.

A potential limitation of examining the shareholders of Stad Rotterdam is that its share price experienced a relatively small rise of 76 per cent during the 1720 boom.[63] Since LA shares rose by 5,900 per cent, they would have been a much more attractive investment for investors attempting to ride the bubble. We therefore examine whether the shareholder base of the LA for evidence of informed investors exiting during the crash.

Our key measure of whether an investor was informed is whether they were an original subscriber in the firm by January 1720. In order to ensure parliamentary approval, this initial cohort had been heavily curated to include more investors with political connections and experience in insurance.[64] Furthermore, this cohort's investment predated the growing participation in the market for shares during the spring to summer of 1720, so one might reasonably expect them to have more experience in investment. The vast majority of these original subscribers, 326 out of 417, sold all of their shares between January and August 1720, suggesting that many had already sold at a profit when the receipts were submitted to the Company. While this could suggest that many were timing their sales and exiting for a profit, it could also simply be indicative of general high turnover.

We therefore examine whether these investors were more likely to sell their shares in the period immediately after trading opened, between 5th September and 30th September 1720. This was after the bubble had peaked, but sales at this point would still constitute riding the bubble for three reasons. Firstly, although the price had fallen from its peak, it was still much higher than it had been in January. It was therefore still possible for investors to sell at a profit. Secondly, for investors that had been constrained by high denomination receipts, this may have represented the first opportunity to cash out at the market price. Finally, investors who submitted their receipts in the week after the call for receipts was issued (i.e. the majority of investors) would also have been temporarily unable to sell. 5th September also represented the first opportunity to partially cash out for fewer than 10 shares.

[61] Temin and Voth, 'Riding'.
[62] Frehen et al., 'New evidence'.
[63] Frehen et al., 'New evidence', p.593.
[64] Drew, *The London Assurance*, pp.6-7.

We begin by restricting our sample to the 570 investors who registered receipts prior to the issuance of shares. 29 of these investors are excluded as they provided no address or an illegible address, resulting in a sample of 541 investors.[65] This sub-sample is then categorised into three groups: those who reduced their holdings during the period between 6th September and September 31st, those who increased their holdings during this period, and those whose holdings stayed the same. We then run a series of logit regressions in which membership of each group is the dependent variable. The independent variables are descriptive measures of their expected level of information: whether they were an original subscriber in the firm, whether they were a director, whether they were an insurance policy holder, and the log of the distance of their stated address from Exchange Alley. Ceteris paribus, each of these variables would be expected to have a positive relationship with the investor's level of information. We also include a dummy variable for gender as a control variable, and run an additional regression in which the dependent variable is whether the investor had completely sold out by the end of September 1720. Summary stats for all variables are shown in Table 4.

INSERT TABLE 4 HERE

The results of these regressions are shown in Table 5. Those who had originally subscribed to the company by January 1720 were significantly more likely to sell in September 1720, and significantly more likely to sell all of their shares at this time. Although original subscribers were no less likely to increase their holdings at this time, they were significantly less likely to conduct no trading activity at all, indicating that these investors were both more active and better able to time their sales. No other independent variable is significant at a 5% level. The large size of the Director standard error indicates that these regressions lack the statistical power to come to a firm conclusion about the trading behaviour of directors. This may be due to the small number of directors, or due to a positive correlation between whether an investor was a director and whether they were an original subscriber.

INSERT TABLE 5 HERE

[65] For the sake of robustness, the analysis was repeated with these investors included and no distance variable. The results were very similar.

These results alone do not prove that large numbers of investors were riding the bubble, as this would require these investors to have held shares despite believing them to be overvalued. They are, however, consistent with the possibility: unlike Stad Rotterdam, the LA Company experienced a measurable loss of informed investors during the crash. The following section examines how this loss of expertise affected the LA Company's long term performance.

5. The impact of the bubble on corporate ownership and performance

The LA Company and REA were the only companies launched in the bubble to achieve significant longevity.[66] Both insurance corporations were recognised by contemporaries as a significant innovation, and expected to dominate the marine insurance sector.[67] However, the incorporated companies performed relatively poorly to private underwriters, particularly Lloyds of London.[68] There are various proposed explanations for this outcome. Bogatyreva argues that the corporations were only ever intended as speculative stock-jobbing ventures, not viable businesses.[69] Kingston finds that the private underwriters were able to outcompete the corporations due to their improved capacity in addressing information asymmetries.[70] Aldous and Condorelli attribute the underperformance of the corporations to various governance challenges, suggesting that their efforts to curb the power of directors limited their ability to compete aggressively with private underwriters.[71]

This section examines how the 1720 bubble and its bursting affected the ownership, governance, and performance of the LA Company in the long run. We argue that the bubble led to a loss of informed investors who could potentially have been useful for the running of the company. They were replaced first by unsuccessful speculators, then by extremely passive investors who failed to provide market discipline. It is argued that this adverse change to the shareholder base contributed to the LA Company's underperformance.

We first analyse the investment horizon of shareholders through attrition rates, which are derived from the subscription receipts, the shareholder registration document of August 1720, and shareholder registers from benchmark years of 1720, 1725, and 1737. Change in composition is also analysed through data on occupation and gender. Table 6 compares the attrition rate of investors in the LA Company with that of Bank of England investors after the

[66] Both survived as independent entities until the 1960s with the London Assurance became a subsidiary of Sun Alliance in 1965, Royal Exchange merged with the Guardian Assurance Company in 1968.
[67] John, 'The London Assurance Company', Supple, *The Royal Exchange*.
[68] Pearson and Doe, 'Organizational choice'.
[69] Bogatyreva, 'England 1660-1720'.
[70] Kingston, 'Marine insurance'.
[71] Aldous and Condorelli, 'An incomplete revolution'.

bubble. Of the 570 LA shareholders registered in August 1720, only 162 remained in March 1725, an attrition rate of over 70 per cent; in the same period, the attrition rate for Bank of England shareholders was 37 per cent. This suggests that the LA Company experienced higher levels of attrition during the bubble and its immediate aftermath, potentially leading to significant change in the composition of the shareholder body.

INSERT TABLE 6 HERE

Table 7 examines the investment horizons of LA investors at various time periods during and after the bubble. 1720 saw substantial trading volume and turnover, but attrition gradually fell during subsequent years. Investors in the 1737 sample point demonstrate that long term buy-and-hold investment was now commonplace: the average holding period had grown to over 20 years, and of the 585 shareholders registered in 1737, 323 held their shares until death. The average size of holding had increased to a level similar to that of August 1720. In other words, the ownership diffusion and reduction in average holdings seen in the months that followed August 1720 had been gradually reversed, and the investment horizon significantly extended.

INSERT TABLE 7 HERE

Can the high level of attrition and change in investor behaviour be explained through analysis of shareholder occupation and gender? Table 8 examines the relationships between occupation, gender and investment horizons in August 1720. Investors with a financial occupation had the shortest mean holding duration of 2.59 years. Those from middle class occupations and women had the longest, with 6.37 years and 6.51 years respectively. These findings are consistent with extant literature suggesting that those in finance were likely to proactively trade regularly, and women were more likely to hold their investments.

Business and rentier occupations made up the majority of the August 1720 shareholder body, accounting for 422 of 567 individuals. Whilst both groups had a mean average duration of 5.93 years, rentiers had a lower median average of 1.85 compared to 2.05 for the business cohort. Attrition was slightly higher amongst the business cohort when looking at the proportion who held for over 60 months. It is plausible that amongst both groups there was a significant number who acted as short-term speculative investors responding to the bubble.

However, the higher median average amongst the business group indicates a preference to hold beyond the bubble period, indicating differences in the cohort that require further analysis.

INSERT TABLE 8 HERE

The broadly defined business cohort in the occupational data can be more tightly specified through analysis of five cohorts that were particularly important to the functioning of the company: directors, large shareholders, insurance line holders, MPs, and original subscribers. As shown in Table 9, directors and insurance line holders had the longest holding patterns, with 74 per cent of the original directors holding for over 5 years, and 52 per cent of line holders holding for the same period. The ten largest shareholders all held throughout the bubble period, only beginning to exit after August 1721, with 50 per cent still holding after 5 years. Original subscribers and MPs had higher attrition rates with under 40 per cent remaining for 5 years.

The finding indicate a bifurcation amongst the business cohort. First, a core group of investors, including the directors, and those with an interest in marine insurance such as merchants, for whom the company provided a consumption good, remained committed investors to ensure access to the good. This behaviour is similar to that displayed by many Scottish bank shareholders in the mid nineteenth century who acquired stock to gain privileged access to bank finance.[72] A second group, amongst the original subscribers and MPs, can be characterised as risk-seeking investors. They were informed with a knowledge of the company and markets, but used this to proactively time the bubble.

INSERT TABLE 9 HERE

In order to determine which characteristics most affected the investment horizon for shareholders, we run OLS regressions using a sample of all investors who held shares at any time between September 1720 and July 1722, where the dependent variable is the log of the period held in years. The independent variables are whether the investor was an original subscriber in January 1720, whether they acquired before or during August 1720, whether they acquired between September and October in 1720, whether they were a director, whether they were an insurance holder, whether they were male, and the log of the distance of their stated

[72] Acheson and Turner, 'Investor behaviour'.

address from Exchange Alley. Summary statistics of these variables are shown in Table 10. Of the 1,869 investors in the sample, 273 provided no address or an illegible address. We therefore run a specification of the regression in which the address variable is excluded.

INSERT TABLE 10 HERE

The results are shown in Table 11. The findings support those noted above. Investors who lived further from the London Stock Exchange held for significantly longer periods, presumably because it made speculative investment strategies less convenient. Insurance line holders and directors, who were directly involved with the business of the Company, were also more likely to hold shares for longer. Similarly, women had longer than average investment horizons. Finally, the results show that investors who had acquired their shares as receipts prior to September 1720, but not sold during the crash, held for longer on average. This suggests that the small minority of initial subscribers who were not motivated to sell during the bubble were either very passive or deeply committed to the Company.

INSERT TABLE 11 HERE

These findings show that the composition of the shareholder body changed significantly from subscription through to launch, and changed again in the aftermath of the bubble. The original subscribers of 1719 had signed up to the Ram and Colebrook subscription, suggesting a long-standing interest in forming a large insurance corporation. Furthermore as a body of individuals, they had been curated to ensure that the LA incorporation bill passed through Parliament. The enormous rise in the LA Company's share price presented these investors with an opportunity for substantial short-term profits. More than 80 per cent of these investors had fully sold out before the Company formally issued shares, and many more sold shares in September 1720. As a result, some of the most knowledgeable shareholders were replaced by investors who bought shares near the peak of a bubble. At best, these new investors can be considered unsuccessful speculators, and they could justifiably be thought of as highly uninformed. The bubble thus directly led to a loss of shareholder expertise, supporting claims that the corporation had an informational disadvantage relative to underwriters.[73]

[73] Kingston, 'Marine insurance'.

The diffusion that led to the influx of speculative investors who joined in 1720, and subsequent attrition in the immediate aftermath of the bubble, saw informed investors gradually replaced by passive investors, particularly members of the rentier classes and women who held shares primarily for their dividend income. The informed investors who remained from the original subscription were similarly more likely to behave passively. The tendency of these investors to hold their shares regardless of the Company's performance led to a loss of market discipline, as they were not selling in response to perceived poor performance. As a result, there was little pressure from shareholders to encourage the directors to compete with private underwriters, and the Company continued to underperform. This builds on the arguments that corporate ownership and governance mechanisms limited the capacity of the LA to aggressively compete with private underwriters.[74]

6. Conclusion

This paper uses several sources of new data on the LA Company to address two debates in the historiography of the South Sea bubble. Firstly, it outlines how the trade of scrip functioned outside of the South Sea Company, and how this affected liquidity and share prices. While prices did respond to news about fundamentals, they responded more sharply to capital calls, changes in liquidity, and the transition from scrip to shares. The close relationship between the prices of the two insurance firms and the overall market thus does not necessarily imply that the bubble was driven by the impact of insurance as a financial technology.

Secondly, we find that investors who were involved in the LA Company from an early stage, who were typically better informed, were more likely to exit during the crash, usually for a considerable profit. This contrasts with the findings of Frehen et al. that informed investors did not successfully speculate in Stad Rotterdam shares, and is consistent with the argument of Temin and Voth that investors were able to ride the 1720 bubbles.[75]

Finally, the paper considers an important new question, analysing the long-run impact of the bubble on corporate ownership and performance. Due to the bubble, the Company's ownership became dominated first by unsuccessful speculators, then by passive rentiers. The resulting lack of expertise supports claims of an informational disadvantage relative to private underwriters, whilst the loss of market discipline supports the view of Aldous and Condorelli

[74] Aldous and Condorelli, 'An incomplete revolution'.
[75] Frehen et al., 'New evidence', Temin and Voth, 'Riding'.

that the LA Company underperformed private underwriters because of ownership and governance issues.[76]

These results illustrate the importance of understanding the structure of early stock markets when investigating the causes of price movements. The assumption of a continuously liquid market, which underpins much modern financial theory, does not necessarily hold, and this has consequences for how prices are generated. As 1720 demonstrates, these price movements can then have significant economic and political consequences. In the case of the LA Company, they also had consequences for its shareholder base, which may have affected its performance for several decades into the future.

[76] Aldous and Condorelli, 'An incomplete revolution'.

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Tables and Figures

Table 1: Receipts issued per investor and denomination of issued receipts, Dec 1719 & Jan 1720

												Total Investors	**Total Receipts**
No. of receipts held	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11+**		
Initial Subscribers	329	72	20	16	11	3	7	0	0	3	2	463	
End of Receipt Reregistration	298	51	22	13	18	10	7	4	2	5	14	444	
Receipt Size	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**150**		
Initial Subscribers	157	339	133	24	97	7	6	4	2	3	1		773
End of Receipt Reregistration	528	333	113	21	61	5	3	1	1	0	0		1066

Source: See text

Table 2: Ownership Concentration amongst Receipt Holders

	Dec 1719		Jan 1720		Sep 1720	
	N	Average holding (% of total shares)	N	Average holding (% of total shares)	N	Average holding (% of total shares)
Average Holdings						
All	463	0.216	444	0.224	570	0.18
Male	461		442		535	0.18
Female	2		2		35	0.12
Existing Shareholders			417	0.21	91	0.31
New Shareholders			27	0.50	479	0.15
Total Holdings						
Directors	19	9.78	19	9.85	27	11.66
Top 5		6.12		7.19		9.64
Top 10		10.58		11.96		14.38
MPs	8	1.96	9	2.56	18	7.77
No of Shares	19940		19900		19822	

Source: See text

Notes: The discrepancy in number of shares between December and January is driven by a number of illegible receipts. The further reduction in August is most likely a result of a number of receipts being lost by investors between January and August. Our analysis includes 212 shares that were issues in September to individuals who had previously registered receipts. Our total sum of capital differs by 40 shares from Scott's assessment of the capital (Sep/Dec 1720), but less than 10 shares in difference from the capital base outlined in the September 1720 shareholder register.

Table 3: Trading Activity Between September 5th and November 30th 1720

		November	August	Original Subscribers	Directors
	N	Average Holding (shares)	Average Holding (shares)	N	N
Receipt holders who sold out	130	-	21.69	22	-
Remaining Receipt holders	440	30.85	37.33	69	27
Increased holding	82	48.71	27.93	17	9
Constant	221	-	26.29	22	8
Decreased holding	137	28.54	61.31	30	10
New Holders	657	9.76	-		

Source: See text

Notes: An additional 145 investors acquired and then sold stock between the 5th September and the end of November sample point

Table 4: London Assurance Company Shareholders Summary Statistics

Dependent Variables	Obs	Mean	Std. Dev.	Min	Max
Reduced Holdings	541	0.43	0.50	0	1
Increased Holdings	541	0.12	0.33	0	1
Constant Holdings	541	0.45	0.50	0	1
Sold Out Entirely	541	0.19	0.39	0	1
Independent Variables					
Original Subscriber	541	0.17	0.37	0	1
Director	541	0.05	0.21	0	1
Insurance Holder	541	0.10	0.30	0	1
Log Distance from Exchange Alley	541	0.20	2.17	-9.26	8.65
Male	541	0.94	0.24	0	1

Source: See text

Table 5: Determinants of Trading Behaviour during the Bubble in LA Shares

	Decreased holdings in September	Increased holdings in September	No trades in September	Sold out completely in September
Original Subscriber	0.772**	0.071	-0.877**	0.700*
	(0.256)	(0.367)	(0.28)	(0.296)
Director	0.836	-0.704	-0.593	-1.857
	(0.509)	(0.717)	(0.575)	(1.077)
Insurance Holder	-0.229	0.798	-0.235	-0.609
	(0.346)	(0.423)	(0.359)	(0.487)
Log Distance from Exchange Alley	-0.015	-0.097	0.063	-0.034
	(0.041)	(0.055)	(0.042)	(0.049)
Male	0.729	-0.106	-0.597	0.469
	(0.419)	(0.559)	(0.376)	(0.55)
Intercept	-1.120**	-1.936***	0.515	-1.938***
	(0.408)	(0.537)	(0.157)	(0.535)

Source: See text

*Notes: Logit regression. Robust standard errors in parentheses. *, **, *** indicate significance at 5%, 1%, and 0.1% levels respectively.*

Table 6: Medium term attrition of shareholders, 1720-1725

London Assurance Company			Bank of England		
	Number	% Remaining		Number	% Remaining
Shareholders 12 August	570		September 1720	3198	
Shareholders March 1725	162	28	September 1725	2022	63

Source: See text

Notes: March 1725 is chosen as the point of comparison for the LA Company because of the complicating effects of a subsequent stock issue.

Table 7: Investment Horizons of Shareholders 1720-1722, and 1737

		Bubble Period (ALL)				1737		
		All	Aug 1720	Sep-Oct 1720	Nov 1720 - Aug 1722	All	Sold whilst alive	Held to death
All	Yrs (Av)	4.02	5.75	3.07	3.46	20.91	13.38	27.03
	Yrs (Med)	1.48	1.91	1.42	1.08	17.42	10.64	23.28
	N	1860	567	666	627	585	262	323
Men	Yrs (Av)	3.92	5.71	2.89	3.36	21.96	13.21	-
	Yrs (Med)	1.41	1.9	1.35	1.04	18.66	11.35	-
	N	1722	532	622	568	431	183	-
Women	Yrs (Av)	5.28	6.37	5.65	4.36	17.98	13.76	-
	Yrs (Med)	1.92	1.95	1.92	1.78	14.34	9.2	-
	N	138	35	44	59	154	79	-

Source: See text

Table 8: Investment Horizons of August 1720 Receipt Holders by Occupation and Gender

	Number	Median holding duration	Mean holding duration	Holding for +12 months		Holding for +60 months	
				N	%	N	%
Businessmen	207	2.05	5.93	131	62.98	52	25.00
Finance Industry	28	1.06	2.59	15	53.57	5	17.86
Middle Class	19	4.47	6.37	12	63.16	5	26.32
Military	21	1.58	5.61	13	61.9	6	28.57
Rentier	215	1.85	5.93	141	65.28	60	27.78
Women	34	2.02	6.51	28	80	8	22.86
Male unknown	43	1.95	5.28	31	72.09	12	27.91
All Shareholders	567	1.91	5.75	371	65.09	148	25.96

Source: See text

Notes: Three shareholders have been removed from our analysis of the 570 receipt holders because we were unable to establish an exit date due to clerical errors in the construction of the register. Businessmen include those involved in manufacturing and the mercantile community. Finance industry includes those individuals who define themselves by an occupation that could be grouped in the financial sector. Rentiers include Gentlemen, Esquires and Nobility. Middle class investors are a grouping of primarily legally trained, medical professional, or other white collar occupations.

Table 9. Holding patterns of key investor cohorts, August 1720

Investor Cohort	N	% Subscriber at 18th Jan	Avg. Holding Aug 1720	Duration of ownership (%)	
				12+ months	60+ months
ALL	570	0.16	34.78	0.65	0.26
18th Jan holders	91	ALL	61.54	0.69	0.38
Directors	27	0.78	85.63	1.00	0.74
Insurance line Holders	58	0.52	57.45	0.86	0.52
Largest shareholders	10	0.50	285.00	1.00	0.50
MPs	18	0.11	85.56	0.89	0.38

Source: See text

Table 10: London Assurance Company Shareholders Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Log Distance from Exchange Alley	1,596	0.11	2.62	-9.26	8.65
Original Subscriber	1,869	0.05	0.22	0	1
Held Shares at Company Formation	1,869	0.3	0.46	0	1
Acquired in Sept-Oct 1720	1,869	0.36	0.48	0	1
Acquired from Nov 1720 Onwards	1,869	0.34	0.47	0	1
Male	1,869	0.93	0.26	0	1
Director	1,869	0.01	0.12	0	1
Insurance Holder	1,869	0.05	0.21	0	1

Source: See text

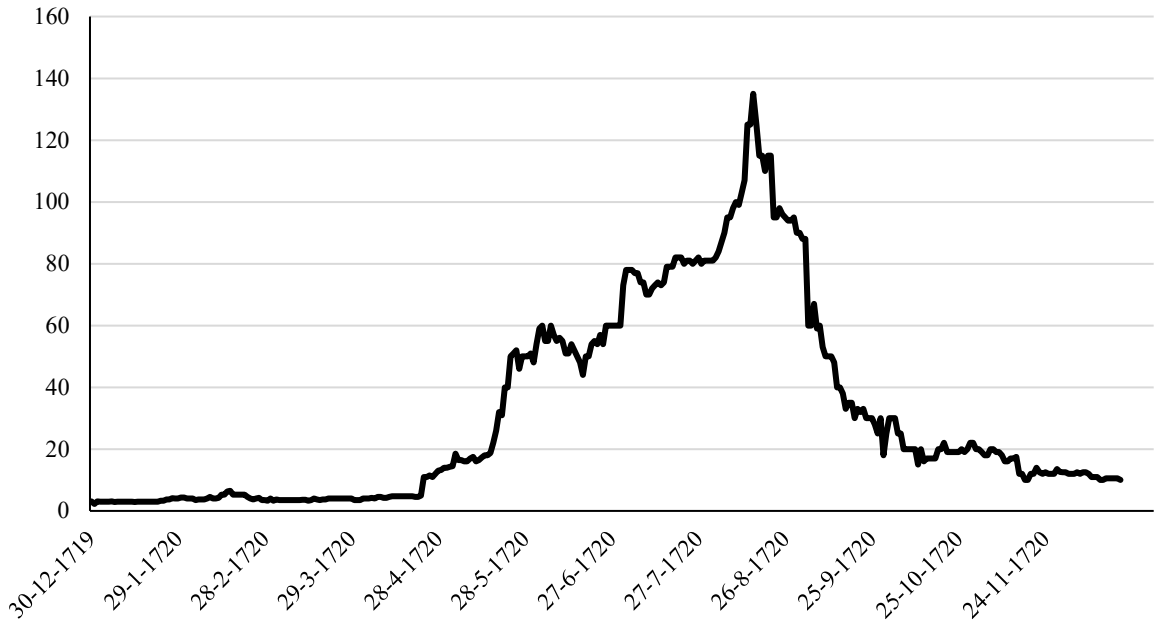
Table 11: Factors Influencing the Period of Time for which London Assurance Shares were Held

	Specification	
	1	2
Log Distance from London Stock Exchange (km)	0.136***	
	-0.019	
Original Subscriber	0.390	0.460
	0.25	0.25
Acquired before or during August 1720	0.411***	0.524***
	0.12	0.11
Acquired in September or October 1720	-0.171	-0.060
	0.12	0.11
Female	0.608***	0.793***
	0.17	0.15
Director	1.667***	1.709***
	0.27	0.28
Insurance Holder	0.800***	0.772***
	0.21	0.20
Constant	-0.182*	-0.271**
	0.09	0.08
R-squared	0.087	0.053
No. of Observations	1,596	1,869

Source: See text

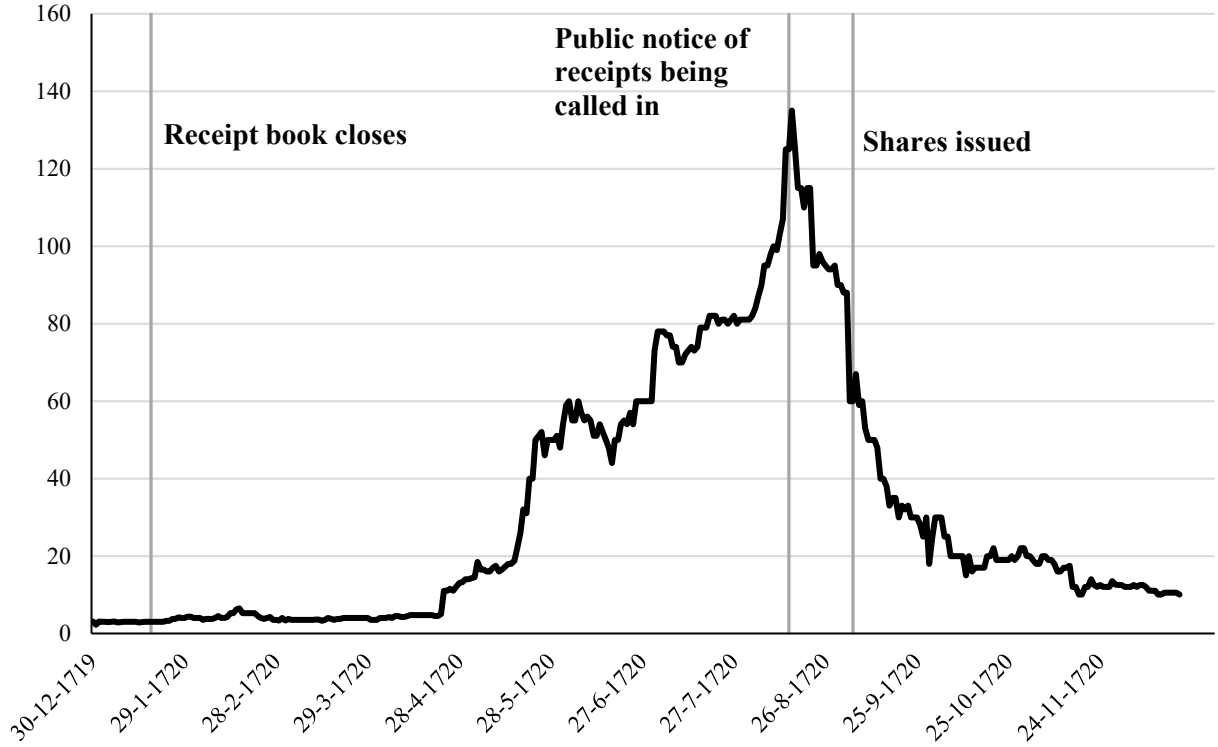
*Notes: The dependent variable is the log of the period in years for which shares were held. Specification 2 excludes the log distance variable. Robust standard errors in parentheses. *, **, *** indicate significance at 5%, 1%, and 0.1% levels respectively.*

Figure 1: Price of London Assurance Shares (£), Dec 1719- Dec 1720



Source: Frehen et al., 'New evidence'.

Figure 2: Price of London Assurance Shares (£) and Structural Changes, Dec 1719- Dec 1720



Source: Frehen et al., 'New evidence'.