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Mutual marine insurance during the Industrial Revolution era

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During the late eighteenth and early nineteenth centuries, mutual associations predominated in insuring the large fleet of ships that carried coal from Britain's northeast to London and other ports. The number of associations grew rapidly from the late 1770s, initially on the Tyne, then spreading to other ports on the east coast. They largely saw off the challenge from joint-stock companies created after the liberalisation of the marine insurance market in 1824. Low administrative and legal costs and the ability to mobilise local knowledge to minimise risks allowed the associations to offset the disadvantage of insuring vessels in the same trade facing similar adversities. This article discusses how mutual associations were organised and operated, traces their development on the Tyne and the competition they encountered there from Lloyd's of London and joint-stock insurance companies, and examines the incidence of mutual associations elsewhere in Britain.

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JEL classification: G22, N23, N73

Mutual insurance became quite a common institution in eighteenth- and early nineteenth-century Britain, being applied at various times to risks such as death, house fires, crop fires, cattle disease, and even conscription for military service.[1] Mutual organisation was particularly prominent early on in the provision of fire

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[1] On fire insurance, see Pearson 2004; on crop fires, *Newcastle Courant*, 2 May 1795 and *Hampshire Chronicle*, 25 Dec. 1801; on cattle disease, *Perthshire Courier*, 10 Sept. 1846; on conscription, *Salisbury and Winchester Journal*, 11 July 1803.

and life insurance, but towards the end of the eighteenth century was losing out to companies in which the insured held little or no equity (Clark 1999; Pearson 2004). By contrast, at that same time, the mutual insurance of the risks involved in maritime commerce arose and blossomed in certain parts of Britain, in particular in the coal-exporting ports of northeast England. In this article, we discuss the growth and spatial distribution of mutual insurance associations from the 1770s to the 1850s and try to show that they were the predominant way in which the collier fleet came to be insured, largely seeing off competition from Lloyd's of London, the London joint-stock companies and local joint-stock marine insurance companies set up after the duopoly of the London and Royal Exchange companies was ended in 1824.

Mutual marine insurance associations, sometimes called clubs or societies, barely rate a mention in work on the development of marine insurance in Britain. Most of the literature has focused on the underwriting collective that is Lloyd's of London, on the two London joint-stock insurance companies chartered in the early eighteenth century and on new joint-stock insurers created after the duopoly was ended in 1824 (Martin 1876; Street 1920; John 1958; Supple 1970; Leonard 2016, 2022). Mutuals get less than a page or nothing at all in surveys of the industry's development, much of which has been drawn from the 1810 Parliamentary insurance inquiry.[2] The most extended published discussions of the early associations can be found in Hazelwood and Semark's *P&I Clubs Law and Practice* (2010, ch. 1) from a legal point of view and, from a more economic angle, in part of an article by Pearson and Doe (2015) surveying organisational forms in British marine insurance.[3] Here, we build on these last two contributions to offer a more detailed picture of the operation and growth of mutual marine insurance associations.

One reason for the neglect of marine mutual associations might be that they did not figure very prominently in the London market. Although they could be found in many parts of Britain, they were most closely associated with the coal trade of the northeast, well away from the capital. But the size of the collier fleet, and hence its importance in the insurance market, was not trivial. In the early 1840s, the tonnage of sailing vessels registered at the five ports of Newcastle, Scarborough, Stockton, Sunderland and Whitby constituted about a fifth of that of all sailing vessels registered in the United Kingdom (United Kingdom 1844, pp. 2–3).[4] The share of the northeast

[2] Martin 1876, p. 246; Wright and Fayle 1928, pp. 241, 254–5; Raynes 1964, p. 180; Cockerell and Green 1994, p. 6. Mutuals do not figure at all in Leonard 2016 and 2022. The only article devoted to associations, comprising four pages, deals with associations in the southwest in the late nineteenth and early twentieth century (Thomson 2010). Jones (1982, pp. 487–93) has an appendix on marine insurance at Whitby, but it ignores completely the early nineteenth-century insurance associations that existed there from, at the latest, 1828 (Pigot 1828).

[3] The most detailed analysis of the mutual associations is an unpublished paper by Maciej Kotowski (2007).

[4] Note that not all vessels at these five ports were necessarily colliers, but ships active in the east coast trade were also registered at London and at ports in Scotland, the Humber and East Anglia.

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coal trade in coastal shipping was even larger, with the tonnage of ships clearing from Newcastle, Sunderland and Stockton in 1841 amounting to over a third of clearances coastwise from all UK ports (United Kingdom 1842).

The mutuals on the Tyne and elsewhere in the northeast occupy a fairly unique place in the history of mutual maritime insurance in Europe, lying somewhere between earlier mutual associations in the Netherlands and the formation of protection and indemnity clubs from the mid nineteenth century. From the early seventeenth century, in and around the city of Groningen, mutual boxes, organised through ship masters' guilds, covered masters, who often owned their vessels, against a variety of risks, including ship loss, although compensation appears to have covered a quite limited share of the potential losses (Go 2009, ch. 2). Since compensation was also paid for other causes of distress, these mutual boxes seem to have been designed to protect masters' incomes more than their vessels. Go argues that mutual insurance developed in this area in the absence of sufficient underwriting capital and that 'tight-knit communities guaranteed effective social control, keeping fraud in check' (Go 2009, p. 281). By the time the first British mutuals were founded, in the late eighteenth century, the Groningen mutual boxes, suffering from adverse selection problems, were in decline. The owners of whaling vessels at Zaan, though closer to Amsterdam than were the shippers of Groningen, also used mutual contracts from the late seventeenth century. Go and Bruijn (2018) argue that they did so because, for their specialised industry, the transaction costs of using the Amsterdam insurance market were too high and because, being in the same industry, members of these associations could better assess risks and keep the costs of contracting and enforcement low. But, as at Groningen, mutual insurance at Zaan declined in the second half of the eighteenth century, with the last contract being drawn up in 1780.

A widespread and quite ancient, though still current, form of mutual insurance, complementary to hull insurance, was the General Average, which deals with cases in which parties financially interested in a voyage sacrificed their property to save the entire voyage (Fusaro, Addobbati and Piccinno 2023). This could involve shippers' cargo being jettisoned, parts of the ship sacrificed, or, as was the case in the slave trade, the enslaved killed or injured during a mutiny. The General Average provided a framework for the parties, shippers and shipowners, to share the losses. However, unlike in the case of the British mutual associations, this risk-sharing was legally mandated rather than contractual and was confined to the parties with interests in the voyage.

The second half of the nineteenth century saw the rise of protection and indemnity clubs that were generally organised mutually. Treatises on these P&I clubs, as well as the histories of individual clubs, often view the mutual associations of the early nineteenth century as their antecedents. However, the P&I clubs insured a different risk, the liabilities that might arise from collisions or other accidents. They were mainly based in London rather than in the northeast. But there is some truth here because, as we shall see, such insurance was already being offered by mutual associations on the Tyne, including by some specialist associations, from as early as 1806.

Cockerell and Green's (1994) survey of insurance archives reveals one reason for the low amount of work on the northeastern mutual associations. For the period before 1855, no mutual marine insurance association has left an archive. Printed articles of association for a handful of mutuals on the Tyne and the Wear survive. However, there are no traces of the books they mention in which the names, owners and values of the ships to be insured were to be recorded. We suspect that the associations' hazy legal status contributed to the absence of surviving documentation. They were neither partnerships nor companies, and some contemporaries thought them illegal. They rarely arrived in court, for reasons discussed below, so their records did not get trapped in the archives of legal proceedings. Nor were they required to register their existence or notify the authorities of their activities before the late 1840s. We suspect that their records usually became the personal property of association secretaries, who had no particular reason to retain documentation of what were essentially annual arrangements. In addition to the few surviving articles of association, we draw on contemporary newspapers and trade directories to try to reconstruct the development of mutual marine insurance associations from the 1770s to the 1850s. After laying out how the associations operated, we also exploit several surviving lists of association members to show how associations operated in practice and as a local industry. We then trace the number of associations operating at Newcastle and North and South Shields over time and discuss their competitors in providing marine insurance to shippers on the Tyne. We look at the development of associations elsewhere in Britain and conclude with a discussion of why this form of marine insurance became so important where it did.

We hope this study of mutual marine insurance associations will help show how they filled a gap in the British marine insurance market, making inexpensive coverage available to ships in the northeast coal trade. Good local information on ships and their owners was a key asset. The mutuals are also an example of long-lived and successful cooperation that contributes to the literature on organisational forms in business (Hansmann 1996; Pearson and Yoneyama 2015). We also highlight features of shipping in the coal trade, such as the relative homogeneity of vessels and cargoes and the low level of concentration in northeastern shipowning, that made for their success.

I

At the creation of a mutual marine insurance association and in subsequent years, shipowners could tender one or more ships for annual coverage.[5] The ships would be inspected and valued before a decision was made, 'partly on qualities of the ship and partly on the respectability of owner', whether to accept the risk (United Kingdom 1810, p. 56). Associations usually specified a minimum value for the ship

[5] For an extended, contemporary discussion of mutual insurance associations, see Hopkins (1859, pp. 362–96).

as a requirement for membership and a maximum value for coverage in the case of total loss. In 1783, the Union Association insured up to £800 on ships worth at least £1,000 (Union 1783, p. 5). In 1787 a new association advertised for British-built ships of £1,600 value, for which 'the property entered was £1200 upon which £1000 is insured' (*Newcastle Courant*, 5 May 1787). In 1790 the Friendly Association in North Shields accepted only ships worth at least £2,000, but provided just £1,000 in coverage (*Newcastle Courant*, 27 Feb. 1790). The difference between the minimum value and the maximum amount of coverage could be large, so shipowners could and did insure their vessels with more than one association, as we will see in the next section. The associations had rules about insurance with other associations. The articles of the Equitable Association in 1797 specified that 'ships remaining part insured in other associations to be valued as there' (*Newcastle Courant*, 24 June 1797). Associations also restricted secondary coverage to no more than the difference between the stated value of the ship and the value specified for membership in the association (Unanimous 1788, p. 15). The first cargo mutual specified its liability in cases of both prior and subsequent insurance of a cargo (Tyne Cargo 1799, p. 7).

Once a ship was accepted, the shipowner became an association member and was liable for losses of any members' ships. This liability was in proportion to the member's share in the total insured amount and was limited to that share. There were two ways to collect the funds needed to cover losses (Anon. 1831). 'Capital' schemes made calls on their members as funds were required and generally offered time, rather than voyage, policies. 'Premium' schemes collected funds in advance. They only made further calls on their members if the premium income was insufficient to cover losses.[6] Premium associations could either collect an annual premium (a time policy) or charge per voyage at different rates according to destination and season of the year (*Tyne Mercury*, 28 Jan. 1817; Equitable 1840). Kotowski (2007) has argued that the provision of time policies was particularly attractive to shippers in high-frequency trades, mainly to reduce transaction costs and stamp duties. Associations also dealt with seasonal and geographical differences in risk by restricting coverage to certain destinations during some or all parts of the year (Unanimous 1788, p. 6). Members had the right to participate in the association's annual meeting in January or early February. At this meeting, committees and officers were elected and rule changes were decided upon.

Associations needed a sufficient number of members for risks to be widely spread. Early articles of association, in the 1780s, specified 20 as the minimum viable membership, but this was gradually raised to between 30 and 45. Only a few observations survive on actual membership, but they suggest that an even larger number was the norm. In 1794 the Unanimous Association had 78 members insuring 91 ships (Unanimous 1794, pp. 43–5). In 1810 the Friendly Society and the London Union

[6] Mackenzie and Ross 1834, pp. 49–50 (no premium); *Tyne Mercury*, 28 Jan. 1817 (premium).

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Society, both based in the capital, insured around 80 ships each (United Kingdom 1810, pp. 56–7). In the 1830s association secretaries testifying before the Select Committee on Shipwrecks stated that the number of ships in the Hope Association averaged 69 and in the Liberal Premium Association 99; the Coal Trade Mutual had 95 members with 120 ships (*S.C. Shipwrecks*, pp. 119–20, 141).

The associations had a social and professional function as well. Annual meetings were often followed by a dinner; in 1827, for example, the members of the Mutual Marine Insurance Association 'afterwards sat down to an excellent dinner and spent the evening with great hilarity' (*Tyne Mercury*, 12 June 1827). Hodgson (1903, p. 305), in his history of South Shields, notes, with some exaggeration, no doubt, that: 'The Club dinner commenced about 2 p.m., and continued for an indefinite period. We have heard of them occasionally lasting a week according to the liquid capacity and staying powers of the guests.' Such jolly dinners may have been an incentive for members to attend; as an alternative incentive, the Leeds Mutual Marine Insurance Association found it expedient to pay 2s 6d to 'members in attendance for the entire meeting' (Leeds 1831). Associations also made donations to maritime charities, for example, to the Port of Newcastle Association for the Preservation of Life from Shipwreck and to the Port of London Seaman's Hospital (Anon. 1828; *Tyne Mercury*, 8 July 1828; *Durham Chronicle*, 19 July 1828). They occasionally rewarded persons responsible for saving ships from total loss. Among their advantages, according to one contemporary, were 'concentrating the shipping interest of the port for useful purposes; bringing the members into closer habits of communication; receiving and disseminating professional and general information, and acquiring the habits of business' (Anon. 1831, pp. 14–15).

But the principal advantage to shipowners of mutual associations seems to have been lower insurance costs. In 1827 a North Shields association vaunted the savings to its members:

> For insuring the merchandise of the society, worth upwards of £318,000 during the past year, the expence to each member has been actually only sixpence per hundred pounds premium [0.025%]. The advantage of thus mutually insuring against the dangers of the ocean, must appear evident from the fact that by the ordinary mode of insurance the cost per annum to each member would have been ten shillings premium for every hundred pounds [0.5%]. (*Tyne Mercury*, 12 June 1827)

This probably overstated considerably the alternative cost and 1827 may have been a year of exceptionally few losses, but there were repeated claims that insuring mutually was cheaper.[7] Even Henleys, a London shipping firm, insured its colliers through mutual associations for this reason (Ville 1987, p. 131).

[7] The rate quoted for the 'ordinary mode of insurance' seems to refer to a rate per voyage, rather than a rate per year. See the rates quoted per year in the next paragraph.

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We can make other rough comparisons of insurance costs based on scattered quotations for commercial rates and association results. Before the 1810 select committee on marine insurance, John George Wilson, the secretary to the London Union Society, testified that the cost of insuring ships engaged in the coal trade at Lloyd's for the entire year was nine guineas per £100 (9.4%), as against the estimated losses of five to five and a half pounds (5.0–5.5%) faced by his association in the previous year (*S.C. Marine Insurance*, p. 57). The losses encountered by the Eligible, Tyne and United associations at Newcastle averaged £7 13s 5d per £100 (7.7%) between 1803 and 1815, well below the rate at Lloyd's (*Shipping and Mercantile Gazette*, 20 August 1839). In 1838 the *Newcastle Courant* started quoting the insurance rates to many destinations offered by two local joint-stock marine insurance companies. The rate per voyage from Newcastle to London and back in 1838 and 1839 varied according to the season, but it was always well above the premiums charged by the Equitable Marine Premium Assurance Association in Sunderland in 1840. In July the Equitable was charging 10s per voyage (0.5%), as against 30s (1.5%) quoted by the joint-stock companies in the newspaper; in December 32s 6d (1.62%), as against the joint-stock rate premium of 50s (2.5%) (Equitable 1840). Of course, it is possible that members of the Equitable would have had to contribute further if losses exceeded premium income, but if the association had set its premiums correctly, on average it would have cost less to insure mutually.

Differences in coverage may affect these comparisons of costs. Tate, in his *The Practices of Marine Insurance* (1819, p. 54), stated that 'the principal difference from the general policies at Lloyd's consists, in the rate of average for which the ship is warranted free, being 5 per cent, on the gross amount; and the assured being protected against loss from his ship running another ship down, and also against receiving or doing any other damage'. The first feature concerns the minimum size of any claim and works against the mutuals since the standard Lloyd's policy specified 3 per cent. The last two features, involving damage caused by the insured's ship, anticipated the insurance of such risks by protection and indemnity clubs generally regarded as being created from the 1850s and 1860s. It is not clear here whether Tate was referring to the general practices of mutuals or to specialist mutual protecting societies, the first of which on the Tyne had been founded in 1806 (*Newcastle Journal*, 1 Apr. 1848). When a meeting was announced in early 1819 to establish another at South Shields, it was noted that 'ordinary insurances do not guard against' liabilities for 'ships running down or doing damage to each other' (*Newcastle Courant*, 27 March 1819)

Ship losses were not the mutual associations' only costs, so the difference between Lloyd's premiums and mutuals' loss rates exaggerates the latter's advantage to some extent. However, the general administrative costs of mutual associations seem to be low. Kotowski (2007) put them at an average of 0.38 per cent for 14 clubs operating from 1818 to 1820. The accounts of associations that registered in the late 1840s and early 1850s show a similarly low level (United Kingdom 1852, pp. 15, 18, 40, 45; 1856, pp. 91, 126, 157). All associations had a secretary: some were paid, some were not. The secretary seems to have been the key person, perhaps assisted by a

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clerk or two, and there does not seem to have been a need for a network of agents or brokers. Secretaries often served for long periods and for more than one association. George Potts, described in the 1841 census as a notary public and in the 1851 census as a notary public and alderman, ran from three to five associations from the late 1820s to the mid 1850s. John Stokoe was secretary to several associations from the early 1820s to the mid 1840s. As far as it has been possible to identify secretaries' occupations, most were insurance brokers, with a smattering of notaries, merchants and shipowners.

Some associations paid fees to their directors, but these do not seem to have been exorbitant. In fact, mutuality may have facilitated the mobilisation of voluntary labour. In the Coal Trade Association, for example, the committee was composed of 'experienced mariners having ships in the association, and generally two shipbuilders or shipwrights' and 'not less than three of the committee, including one of the shipbuilders' inspected ships offered for insurance (United Kingdom 1836, p. 141).

Insofar as associations insured mainly local vessels, and we shall provide evidence that they did so in the next section, the social connections among shipowners and masters may have helped reduce losses and hence costs in several ways. Such local knowledge may have made it easier to identify ships that were defective as well as owners and masters who were less competent or honest, and in doing so the association was able to mitigate problems of adverse selection and moral hazard. Mutuality may also have made it less costly to resolve disputes. In an 1825 court case, the lawyer for the Pacific Insurance Association observed that an object of the association was 'to adjust their losses amicably, by a committee of their own; and thereby to prevent actions at law' (*Morning Herald*, 26 Nov. 1825). This case was one of the few involving marine insurance associations that we have encountered, perhaps because the rules of the associations made recourse to the courts very much a last resort. In 1856 the House of Lords affirmed a judgment that an association member, when taking out a policy, accepted that the association rules were binding. In that case, and for most associations, the rules stated that payment for loss had to be decided by a committee before any recourse to law and that if member and committee still differed, then the difference would be submitted to arbitration. Only after the decision of the arbitrator(s) could the member go to court (Sharswood 1857, p. 781; *Morning Post*, 11 July 1856).

An association with predominantly local ships may not have been an ideal risk pool. As was noted in 1820, 'The names of upwards of 100 vessels wrecked or driven on shore during the late gales, have been entered on Lloyd's books [records of ship losses]. The insurances done there [at Lloyd's] upon them are to a very trifling amount. The Clubs in the North, and other Insurance Clubs, must have suffered severely by these disasters' (*General Evening Post*, 9 Mar. 1820).[8] However, this episode seems to have left little trace. The associations on the Tyne that existed in

[8] The possibility of serious losses from storms on the east coast was noted on other occasions (*Monmouthshire Merlin*, 4 Sept. 1858).

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1819 all survived until at least 1822 (United Kingdom 1826–7, pp. 32–3). The advantages of mutuality mentioned above must have outweighed the disadvantages of a less diverse risk pool. Moreover, no evidence exists that associations reinsured their risks in this period.

II

The preceding discussion of how the mutual insurance clubs worked has been scraped together from various articles of association and other scattered sources of information. We can, however, look in much greater detail at how a few clubs operated in the late 1820s and 1830s. The surviving articles of the Coal Trade Association include lists of the ships it insured. These lists, for 1828 and 1839, show the names of the ships and their owners, where the owners resided, and figures for the capacity of the ships in keels, their value and the sums for which they were insured (Coal Trade 1828, 1839). Similar lists survive for the Equitable, Sun and Unanimous clubs in 1839. This information refers to only a few mutual associations but shows considerable variation in how they operated. The evidence on the four associations in 1839 gives an idea of the options open to shipowners for insuring their vessels.

The four associations for which we have lists in 1839 were essentially local institutions (Table 1), as was the Coal Trade in 1828. Over 90 per cent of owners resided on the Tyne, and some of the few who resided elsewhere were clearly part-owners with Tyne residents. In each list, the numbers of ships and owners were always less than the number of observations. Where ships had multiple owners, sometimes two or more took out insurance on their shares in the ship (the sum never exceeding its value). Other owners insured two or more ships in the same association, with the largest number being eight.

The associations operated in different ways. When founded in 1832, the Equitable accepted only ships under eight years old (*Newcastle Courant*, 18 Feb. 1832). In 1839 it was distinctive in accepting only vessels that had been built in the previous ten years, with the result that the average age of the ships insured by the Equitable was far lower than in the other associations. (The few ships with earlier construction dates in *Lloyd's Registers* were shown as having been rebuilt in the 1830s.[9]) The Equitable's ships were also, on average, larger, perhaps because they were recently built. By contrast, the average age of ships insured in the Coal Trade was about that of all sailing vessels registered on the Tyne (Solar *et al.* 2023). The Sun and, especially, the Unanimous were willing to accept many older vessels. The Equitable was thus bringing together what it must have believed were better risks. It may have been able to do so because it had been founded recently; however, this may not have been a viable long-term strategy if members excluded after a fixed term found it difficult to secure coverage elsewhere.

[9] *Lloyd's Register*, an annual publication providing information on ships susceptible of needing insurance, should not be confused with Lloyd's of London, the collective of underwriters.

Table 1. *Some mutual marine insurance associations on the Tyne in 1839*

Association Years in operation	Coal Trade 1811–65	Sun 1835–63	Equitable 1832–70	Unanimous 1782–1858
Observations	142	158	91	76
Ships	133	153	85	76
Owners	127	105	66	47
Owner residence				
Tyne (%)	93	92	96	98
Ship age (years)				
Mean	22.1	24.3	4.7	29.1
Median	19	22	4	25
Max	76	78	28	82
Ship value (£)				
Mean	1,685	1,620	2,601	1,936
Min	600	800	1,000	1,400
Max	3,000	2,800	5,000	3,000
Insured (£)				
Mean	895	560	928	1,300
Min	200	200	100	1,300
Max	1,300	800	1,200	1,300
Coverage (%)				
Mean	57	36	38	70
Min	11	9	5	43
Max	100	80	100	93
Full (no)	15	0	1	0

Note: The ship ages for the Coal Trade, Sun and Unanimous Associations and the owner residences for the Unanimous are based on samples matched to Fordyce's lists and *Lloyd's Registers*.

Sources: Coal Trade 1839; Sun 1839; Equitable 1839; Unanimous 1839.

That said, its members already had to seek coverage elsewhere since, on average, insurance with the Equitable covered only 38 per cent of a member ship's value.

By contrast, the Sun, founded even more recently than the Equitable, in 1835, took in members with ships of all ages and had the smallest ships, on average. It also had the lowest upper limit on insurance available, at £800, and provided the least coverage, on average. Only 13 per cent of its member ships secured insurance for more than half their value. The Sun, with the largest number of members of the four associations, thus seems to have been providing coverage supplementary to other associations.

The Unanimous, with the oldest portfolio of ships, had a different distinctive feature. It accepted only ships with a value of more than £1,400 and all members secured exactly the same amount of insurance, the relatively high value of £1,300,

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equal to the upper limit at the Coal Trade and above those at the Sun and the Equitable. The result was that, though coverage was never complete, it was, on average, by far the highest of the four associations. The Unanimous seems to have been selecting owners who were willing to risk a significant sum. It was also unusual in that none of its ships were insured by two or more owners.

The Coal Trade, with the second largest membership, was unusual in that, at least for ships valued at less than its upper limit of £1,300, it was willing to provide complete coverage. Its average level of coverage was also relatively high, at 57 per cent, so, like the Unanimous, it may have served as a first port of call for its members. In 1828, the Coal Trade's upper limit had been higher, at £1,500, and over a quarter of its ships were fully covered.

We can learn more about the Coal Trade by comparing its members in 1828 and 1839. Of the 103 ships listed in 1828, 41 were still there in 1839. A loss rate of 5 per cent, similar to those suggested above and consistent with an average ship life on the Tyne of about 20 years, would imply that only 62 ships should have survived to 1839. A persistence rate of about two-thirds suggests considerable continuity of membership. Looking at it from another angle, the owners of almost half of the ships listed in 1828, 37 distinct individuals, were either still present in 1839 or were succeeded by individuals who were relatives. Owners thus seem to have been quite loyal to the Coal Trade Association, so they and their ships were likely to have been well known to others in the association. Loyalty did not prevent vessels being revalued between 1828 and 1839. Most of those present in both lists saw their value fall and for some of the few for which the value increased, the evidence from *Lloyd's Registers* shows that they had been lengthened or rebuilt.

Since, in general, associations did not provide full coverage, shipowners might become members of more than one association. The four lists for 1839 offer the opportunity to examine multiple memberships. It turns out that 91 of the 350 ships were insured by two different associations and three were by three different associations. As a result, 53 of these 94 ships acquired full coverage and total coverage for all 94 averaged 89 per cent. As shown in Table 2, owners in the Sun and Coal Trade were the most likely to find additional coverage elsewhere, with half or more of the ships in these two associations covered in another association. The most common combination, by far, was between the Sun and the Coal Trade. Although owners in the Equitable and Unanimous are shown here as being less likely to obtain additional coverage elsewhere, it must be remembered that we have information on only four of the 18 or so associations insuring hulls on the Tyne in 1839. It seems quite likely that most owners in these four associations, and probably in most others, could have found full coverage for their ships.

The evidence from these lists of members suggests that the supply of marine insurance on the Tyne in the 1830s was profoundly local, yet quite diverse in the associations' characteristics. Few associations offered full coverage to shipowners. All four studied here had upper limits on coverage, the highest being £1,300, well below £1,874, the average value of all ships insured by these associations. Shipowners

Table 2. *Multiple association memberships in 1839*

	Coal Trade	Sun	Equitable	Unanimous
Ships	133	153	91	76
Joint with:				
Coal Trade		63	12	11
Sun	63		4	10
Equitable	12	4		1
Unanimous	11	10	1	
Total	86	77	17	22
Share (%)	65	50	19	29

Note: These figures include ships that were in three different associations, which were counted as two joint memberships.
Sources: See Table 1.

could and did obtain full coverage by joining more than one association, which also allowed them to spread their risk of mutual contributions in the case that an association faced a particularly large number of losses or that an association failed, though we have found no evidence of any failure.

III

The development of the mutual insurance industry on the Tyne can be roughly traced by reconstructing the population of associations. From the 1820s onward, lists of associations in trade directories and other sources have been quite frequent. The dating of associations can be further refined by resorting to newspaper reports of prospectuses and annual meetings as well as business advertisements. Before the 1820s, newspapers became the major source, supplemented by occasional information from later sources about the founding dates of certain associations. Most associations' initial and terminal dates are subject to some uncertainty. However, they are probably accurate to a margin of two years or so. Several associations are only observed once and may either have been very short-lived or never got past the issuance of a prospectus or a call for business.

The resulting series for the numbers of insurance associations on the Tyne, broken down by the sort of risk they covered, are shown in Figure 1. Hull associations, those insuring against loss of the ship, predominate and are the only type observed before 1799. Shipowners in the coal trade needed insurance on their ships much more than on their cargoes. The average amount of coal carried on a voyage to London was about 300 tons from the late eighteenth to the mid nineteenth century (Solar *et al.* 2023). At Newcastle prices it would have been worth about £110 in the 1780s and £170 in the 1830s; at London prices (minus taxes), £240 and £320 (Hausman 1987, p. 592). The initial cost of a 200-ton ship fitted out, the average

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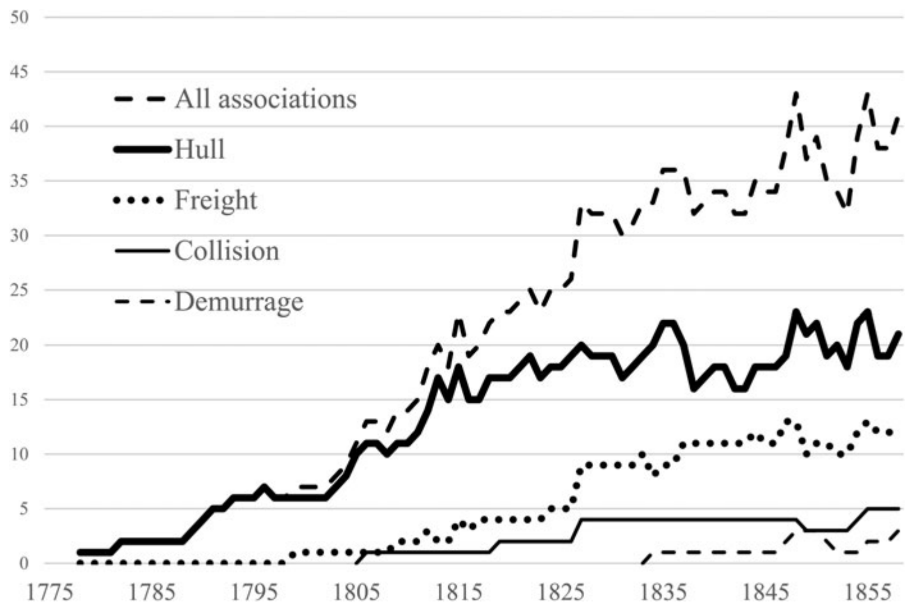

Figure 1. *Marine insurance associations on the Tyne (number of associations)*
Sources: General Directory 1824; United Kingdom 1826, pp. 32–3; Parsons and White 1827; Anon. 1828; Pigot 1828, 1837; Fordyce 1830, 1837, 1844; Anon. 1841; White 1847; Marwood 1848, 1854; Salmon 1856, plus newspaper references to individual associations.

size in both periods, would have been on the order of £2,400 in the 1780s and £3,400 in the 1830s (Davis 1962, pp. 374–6; Craig 1991, pp. 117–18). Even if these ships were ten years old, taking depreciation at 4 per cent per annum would leave them worth £1,600 and £2,260 (Davis 1962, p. 376); with depreciation at 10 per cent annum, £840 and £1,190. Clearly, the value of the average collier was generally much larger than the value of the coal it carried. This would still be true even if we counted only the value of the hull and not its fittings.

The first ship association on the Tyne, the Union Marine Insurance Association, was founded in 1778, with a second, the Unanimous, established in the next few years.[10] Pearson and Doe (2015) suggest that there may have been a straightforward transition, both socially and economically, from multiple ownership of vessels to mutual organisation of marine insurance. But why did it occur in the late 1770s, first on the Tyne then elsewhere in the northeast? Hodgson (1903, pp. 299–300) says that two associations were launched at Sunderland and another may have been started in Darlington *c.*1782 (*Newcastle Courant*, 30 June 1782). Unfortunately, we

[10] There may have been earlier mutual associations. A 1764 case at King's Bench involved a 'society for the mutual assurance of each other's ships', but the court report did not name or locate the association (Burrow 1808, vol. 3, pp. 1512–13).

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know relatively little about how colliers were insured earlier in the eighteenth century. Hausman (1977, pp. 466, 468–72) used voyage accounts drawn from contemporary pamphlets to assess profitability in the coal trade. In a 1729 account, the pamphlet's author included a charge for insurance, but noted that 'it must be divided [*sic*] to the owners, as they seldom or never insure at all'. In 1738 two rival pamphleteers included very different charges for insurance, perhaps to suit their different arguments, perhaps because, if colliers were not being insured, the authors had little idea of the true cost. Much later, in 1786, an anonymous pamphleteer, complaining of the state of the coal trade, observed of colliers that:

> They have usually run without insurance, and thus a bare profit has been left (for subsistence) *to those who have been so fortunate to escape the dangers of the sea*. The remainder have either been ruined, or have suffered a considerable loss of their property. This will not be doubted, when it is recollected what a prodigious number of vessels were lost at one time, in the hurricane of 1784, when the coast was for miles strewed with wrecks. Of this immense loss more than half was sustained by the ship owners, that being uninsured, or (which amounts to the same thing with the ship owners) was insured by each other in Companies. (Anon. 1786, p. 26)

That said, John's (1958, p. 138) study of the London Assurance Company does quote rates for voyages between London and Newcastle for 1730–1 and 1768–70, though few colliers, as opposed to ships carrying other cargoes, may have availed themselves of this facility. This evidence suggests that multiple ownership must indeed have been the predominant form of risk sharing before the late 1770s. What may be significant for the launch of mutual marine insurance associations on the Tyne is that it occurred during the American Revolutionary War, when the greater risks of sailing may have increased the demand for insurance, a demand that may not have been met by Lloyd's or the London joint-stock companies. As Kingston (2016, p. 206) has observed of American experience with marine insurance in the eighteenth and early nineteenth century, 'war created the impetus for institutional development and innovation'.

Most of the growth in the number of associations that insured hulls had occurred by the late 1810s. Although the dating of some associations before 1820 is uncertain, there seem to have been three periods of growth: the early 1790s, the early 1800s and the early 1810s. None of these periods were characterised by particularly strong growth in coal exports from Newcastle (Great Britain 1799–1800, p. 162; Anderson 1839, p. 72). The first two correspond to the increasing risks caused by the beginning of war with France and by its resumption after the Peace of Amiens. The increase in the early 1810s does not seem to have been motivated by increased risks as Britain had control of the seas by this time.

After Waterloo, the number of associations insuring hulls edged upward from 17–18 in the late 1810s to 24–27 in the late 1840s and 1850s. Some rough calculations suggest that mutual insurance must have been the predominant form of marine insurance on the Tyne by this time. In 1830, 19 associations competed to insure the 889 sailing ships and 47 steamers that were registered on the Tyne in that year (Fordyce

1830), with an average of about 50 ships per association. Yet the number of ships insured by the associations cited above was well over 50, ranging from 69 to 120. Somewhat later, in 1839, there were 350 distinct ships in just the four associations studied above, so it is not implausible that the 18 or so hull associations operating in that year insured a very large share of the roughly 1,100 ships registered on the Tyne at that time (Fordyce 1837, 1844).

Although there were some short-lived associations, most of the associations insuring against ship loss remained in business for long periods. Setting aside the associations for which we have only one observation, those founded before the end of the Revolutionary and Napoleonic Wars had an average life of 50 years. This longevity is understated because five of the 13 were still in operation in 1858, the end of our study period. Of the 22 associations founded between 1815 and 1839, only two were still in operation in 1858. An early start thus seems to have helped associations survive, perhaps because by the end of the wars the existing associations had approached the extent of the market. This is consistent with the fact that the number of hull associations increased very little in subsequent decades. Competition among them might then have consisted of luring away a shipowner here or one there. New entrants, with less experience at assessing risks and running associations, would have been faced with the problem of attracting a sufficient number of ships to make a new association viable. Unfortunately, the lack of data on association memberships over time makes it impossible to test this hypothesis.

Mutual associations on the Tyne did not only insure hulls. The first association insuring cargo and outfit (the ship's equipment) was the Tyne Cargo, founded in 1799. The number of cargo and outfit associations grew to just over ten by the 1850s. Most of these associations were siblings of associations insuring ships, usually with a similar name and the same secretary. The nature of the coal trade must have made it relatively easy to organise freight coverage mutually since cargoes varied relatively little in value per ton. The last two columns in a list of the ships insured by the Maritime & Mercantile Cargo, Freight, and Outfit Insurance Association in 1839 were just 'keels' and 'keels insured', with both the capacity of the ship and amount of the cargo insured expressed in the standard measure for coal shipments (Maritime and Mercantile 1839). Moreover, as noted above, for any given voyage, the value of the cargo was usually a good deal less than the value of the ship and hence only a minor element in any loss.

The Newcastle (sometimes Tyne) Protecting Society was founded in 1806 and the South Shields Safeguard or Protecting Society in 1819 to protect shipowners from liabilities caused by 'ships running down or doing damage to each other' (*Newcastle Journal*, 1 Apr. 1848; *Newcastle Courant*, 27 Mar. 1819). Subscriptions to the Newcastle seem to have been once and for all, not annual. These protecting societies were the pioneers of a business that was later taken up by P&I clubs from the 1850s and 1860s. It is unclear whether Tate (1819) referred to these specialist associations when he claimed that the northeastern mutuals, unlike Lloyd's, provided insurance against collisions. Their creation may have been encouraged by increasing congestion on the

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Tyne and on the Thames. Associations insuring against demurrage, that is, against fees for late delivery, were first observed in 1834. The appearance of demurrage insurance may have been provoked by increasing delays in the port of London during the 1830s and early 1840s (Solar *et al.* 2023). Some of these risks, such as liability in case of collision or demurrage, were not typically covered by underwriters at Lloyd's (Hazelwood and Semark 2010, section 1.13). By contrast, by the 1830s, the mutual associations on the Tyne covered a range of risks faced by shipowners.

Although we have stopped tracing their numbers annually in 1858, mutual associations continued to operate on the Tyne well into the twentieth century. In 1886 there were at least 23 listed in the Newcastle trade directory, and in 1914 at least 18 (Kelly 1886, 1914). There were still 15 in 1925 and 7 in 1935, though by 1950 only three P&I clubs and the Tugowners' Mutual Insurance Association remained (Ward 1925, 1935; Kelly 1950). In 1886 there was still a Sailing Ship Total Loss Insurance Association, but the names of most associations in the late nineteenth and early twentieth century began to make explicit reference to steamships. The associations also seem to have become larger. In 1884 the North of England Steamship Insurance Association, the largest association, insured 755 steamers and the Newcastle General and Newcastle 100A associations together insured another 426 (*Newcastle Courant*, 21 Mar. 1884). Mutual marine insurance associations on the Tyne thus seem to have continued to thrive after the transition from sail to steam.

The growth and apparent success of mutual marine insurance associations right into the 1850s and beyond seems inconsistent with the claim, initially by Hazelwood and Semark (2010, section 1.19) but repeated elsewhere (Watson 2016, p. 8), that after the market was opened to new joint-stock companies in 1824, 'the owners of better class ships found they could obtain better service at cheaper prices from the newly invigorated proprietary market and the clubs were left with the older badly-maintained vessels that no other underwriter would insure; the hull clubs developed into the notorious "rust-bucket clubs" where poor hull presented more claims on ever decreasing funds. Many hull clubs closed in the period of the early- and mid-nineteenth century.' Our evidence indicates that the mutual associations were able to see off the challenge of the new joint-stock companies, that their numbers grew after 1824 and that they continued to thrive into the late nineteenth century.

IV

Earlier we made rough comparisons intended to show that mutual associations were able to offer insurance on the Tyne more cheaply than Lloyd's *c.*1810 or local joint-stock companies *c.*1840. We have also shown the growth in the number and diversity of mutual associations from the late 1770s to the late 1850s, an indication of their continuing success. We now want to argue that the mutuals must have offered shipowners lower costs or better service since they were able to outcompete rival providers. This argument was anticipated by Lord Bexley when, in backing the bill that opened the

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insurance market to new companies in 1824, he said of the two existing joint-stock companies and of the mutuals:

If the premiums now paid were as low as competition could make them, it was clear the Companies complaining would not be injured by the measure; and if they were not, the competition of other Companies would reduce them. There was at present a practice, he would not say whether legal or not, but there was a practice of parties mutually insuring their vessels, and it was a fact that such parties paid a much less sum than the amount of the premium at Lloyd's. (*London Courier*, 18 June 1824)

The mutual associations on the Tyne faced several competitors in their local market and seem to have been able to see them all off. The underwriters at Lloyd's of London were the leading marine insurers in eighteenth- and early nineteenth-century Britain. The extent to which they insured colliers is difficult to determine precisely. The London underwriters certainly had a presence on the Tyne: in 1829 and 1837 William Readhead were Lloyd's agents at Newcastle and North and South Shields and in 1844 and 1848 Robert Peart. Other agents served Blyth and Warkworth. But such agents may have been more concerned with assessing losses in the area rather than with securing business. There were also many ship and insurance brokers on the Tyne, some of whom may have had contacts with Lloyd's. However, an episode in 1833 suggests that Lloyd's did relatively little business in the coal trade (*London Courier and Evening Gazette*, 19 Dec. 1833). William Thompson, an alderman of the City of London and a member of Parliament, had been chairman of Lloyd's since 1826. When he became involved in setting up a joint-stock insurance company in Sunderland, criticism of this potential conflict of interest led to his resignation. However, his supporters tabled a motion, carried only narrowly by 245 to 240, asking the Committee of Lloyd's to seek its withdrawal. At that meeting, in explaining his conduct, Thompson:

… proceeded to state the origin of his connection with the Sunderland Joint Stock Premium Association, which he said was formed to cure the inconveniences arising from the Mutual Insurance Clubs existing in the north of England, and which, while it was calculated largely to promote the interests of humanity, could not enter into collision with the business of Lloyd's, its insurance being almost exclusively confined to colliers, their freights and cargoes: a species of insurance which very rarely came to Lloyd's.

This Sunderland company seems to have been a joint-stock variant on a mutual association: no person could hold more than ten shares and in 1834 there were 137 shareholders holding either five or ten shares (Sunderland 1834).

Until 1824, the provision of marine insurance by joint-stock companies was limited to the London-based London Assurance and Royal Exchange companies. Their share of British marine insurance business as a whole has been estimated at 10 per cent or less, and they do not seem to have been active on the Tyne. London Assurance's advertisements in Newcastle newspapers offered fire and life insurance, including for loss or damage by fire to ships in harbour and ships building, but the company never seems to have solicited marine insurance business (*Newcastle Courant*, 11 May 1805; *Newcastle Guardian*, 1 Apr. 1854). The Royal Exchange's advertisements also concentrated on fire and life insurance (*Newcastle Courant*, 18 Mar. 1786; 1 May 1824). In 1795 the Royal Exchange even offered to insure farming stock, but marine insurance was not mentioned until the 1840s and then only incidentally (*Newcastle Courant*, 7 Nov. 1795, 30 Sept. 1842, 10 Jan. 1845).

The Marine Insurance Act of 1824 opened the way for the creation of specialised joint-stock marine insurance companies, and two London-based companies, Alliance Marine and Indemnity Marine, were established in that year. The Indemnity was actually launched as, at least in part, a mutual company, but demutualised fairly quickly, in 1827 (Mainland and Howard 1924). Palmer (1984) sees its mutual origins as key to attracting clients and laying the basis for its subsequent success. To judge from advertisements in Newcastle newspapers or entries in trade directories, neither Indemnity Marine nor any other joint-stock companies not based on the Tyne seem to have been particularly active there. Alliance Marine only started advertising in the Newcastle newspapers in 1839 when it appointed Christian Allhusen as its agent. It seems to have continued doing business on the Tyne until the 1850s (*Northern Liberator*, 13 July 1839).

The first joint-stock insurance company headquartered on the Tyne was launched on the initiative of a committee appointed by the local Chamber of Commerce.[11] In March 1834, the committee announced that, having procured sufficient subscribers, they would seek parliamentary approval for the company (*Newcastle Courant*, 1 Mar. 1834). But it was only in December 1835 that the prospectus for the Newcastle-upon-Tyne Marine Insurance Company was launched with a projected capital of £500,000, though subscribers were only required to deposit £1 for each £25 share (*Newcastle Journal*, 12 Dec.1835). To the promoters, such a company was so obviously needed that no motivation was required: 'the difficulty in obtaining satisfactory marine insurance in the Port of Newcastle, has so long been experienced, that it is deemed unnecessary, in submitting a prospectus for the formation of a joint stock company'. The company started offering insurance in 1836, and by 1841, it had already paid dividends totalling 40 per cent to its shareholders (*Newcastle Courant*, 27 Aug. 1841). But the 1840s seem to have been less profitable, as the company stopped advertising in early 1850 and was wound up in 1853 when one of its directors reported that 'the company had ceased to carry on business, and was in a state of hopeless insolvency' (*Newcastle Journal*, 19 Mar. 1850, 6 Aug. 1853).

The Newcastle-upon-Tyne Marine faced competition from other local joint-stock companies within months after its launch in 1836. The North of England Marine

[11] Martin (1876, p. 307) states that in 1826 'three marine insurance companies were brought out in the north of England – the Sunderland, the Tyne, and the Unanimous, of South Shields, the first two perishing in early youth, but the last prolonging life till 1861'. There is no record of any joint-stock marine insurance companies in the Newcastle newspapers of the 1820s and early 1830s. Martin seems to be referring to the Tyne and Unanimous clubs.

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Assurance Company issued its prospectus in June of that year and started soliciting business in July (*Newcastle Journal*, 4 June 1836, 2 July 1836). Based in South Shields, the company projected a capital of £150,000, though subscribers needed only to deposit £5 for its £100 shares. Its subsequent advertisements spoke of agents in London, Liverpool, Hull, Blyth, Newcastle and North Shields (*Newcastle Journal*, 10 Sept. 1836). However, the North of England company survived only until 1841 when it 'discontinued business, in consequence, it is reported, of the low rates at which marine insurance has of late been effected by other offices' (*Newcastle Journal*, 29 May 1841).

More joint-stock companies were created on the Tyne, but only one survived for more than a few years. The Newcastle Commercial Insurance Company, established in 1839 with a projected capital of £500,000, was still a subscriber to *Lloyd's Registers* in 1880 (*Newcastle Courant*, 5 Apr. 1839). The Tyne Marine Insurance Company, founded in North Shields in 1845, was dissolved in 1848 (*Newcastle Courant*, 7 Nov. 1845; *Newcastle Guardian*, 1 July 1848). The South Shields Marine Insurance Company was also set up in 1845, but there are no signs of activity by this company after 1846 (*Newcastle Courant*, 14 Feb. 1845).

The experience in the Newcastle market of Lloyd's of London and of joint-stock marine insurance companies based on the Tyne and elsewhere, insofar as we can assess it, suggests that from the late eighteenth century, the mutual insurance associations had been able to grasp and hold a large share of the local market for marine insurance. A contemporary local historian even reckoned in 1834 that 'almost all the vessels in the coal trade are now insured in that manner' (Mackenzie and Ross 1834, p. 49). For want of information on either subscribers or on the associations' revenues, costs and profits, it is difficult to prove directly that they were more efficient than their competitors. The argument here for their superior efficiency is their survival, longevity and apparent prosperity in the face of competition.

V

Mutual marine insurance associations were established elsewhere in Britain. The region most thoroughly served was clearly the northeast. In 1854, besides the more than 40 associations of one sort or another on the Tyne, Sunderland had 17 associations and there were 6 on the Tees, 2 at Stockton and 4 at Hartlepool (Marwood 1854). In addition, Whitby and Scarborough, ports at which many colliers were based, had 19 and 8 insurance associations, respectively.

In marine insurance, mutual organisation was primarily an east-coast phenomenon, with associations existing in 1854 from Colchester in the south to Montrose in the north. At Dundee, Arbroath and Montrose the associations were said in 1846 to cover the 'great bulk of shipping belonging to those ports' (*Aberdeen Press and Journal*, 11 Feb. 1846). Further north, the Aberdeen Mutual Marine Insurance Association was established in 1851, but does not seem to have lasted past 1853 (*Aberdeen Press and Journal*, 5 Mar. 1851, 2 Mar. 1853). In East Anglia there were associations at Colchester, Lynn and Wisbech, and in the Humber basin at Boston, Hull (founded in 1829, 1837 and 1843), Knottingley, Leeds (1830) and Selby.[12]

Along the south and west coasts of Britain, several marine insurance associations were formed in the early nineteenth century. In 1854 associations existed at Brixham, Dartmouth (first mentioned in 1812), Exeter (1836), Portmadoc, Shoreham and Topsham (1832), as well as on Jersey (1846) and Guernsey (1838).[13] In the late 1820s, there was an association at Teignmouth.[14] During the second half of the nineteenth century, mutual insurance was the predominant form of marine insurance in the southwest ports (Craig *et al.* 1994, p. 100).

London had only intermittent experience with mutual marine insurance, with several relatively short-lived associations. The London Union Society was founded in 1803 and the Friendly Society a year later. Both insured 80–100 ships, the Friendly Society mostly transport vessels during wartime (United Kingdom 1810, pp. 56–7). The Friendly Society operated until about 1811; the Union Society until about 1818 (*Public Ledger*, 25 Jan. 1811, 20 Feb. 1818). In 1811 three more mutual associations – the West India Shipping Assurance Association, the British Association for the Mutual Insurance of Each Other's Ships and the Regular Coppered Transport Assurance Association – were founded. The West India seems to have ceased operations *c.*1814; the Regular Coppered Transport was last observed operating in 1818; and the British Association was still operating in 1829.[15] The Pacific Shipping Insurance Association, founded by 1818, lasted only until 1826 (*Public Ledger*, 2 Feb. 1818, 16 Feb. 1826). The General Shipping Assurance Association seems to have been in business from at least 1819 until 1825.[16] The Thames Association was launched in 1822 and was still there in 1832.[17] The London Maritime Association operated for a few years in the late 1820s.[18] There do not seem to have been any mutual insurance associations operating in the capital during the late 1830s and most of the 1840s. In 1848 a mutual insurance association was proposed 'to the owners of iron ships and steam boats' on the argument that

[12] *Leeds Intelligencer*, 16 Dec. 1830 (Leeds); *Cumberland Paquet*, 10 Feb. 1829 (Hull); *Hull Packet*, 24 Feb.1837 (Mutual); *Hull Packet*, 24 Mar. 1843 (Humber).

[13] Marwood 1854, advertisements, pp. 16, 17, 19, 33, 79; *Western Times*, 8 July 1837 (Dartmouth); Thomson 2010, pp. 207–10 (Exeter and Topsham); Bellamy 1843, p. 61 (Guernsey); *Shipping and Mercantile Gazette*, 9 May 1846 (Jersey).

[14] The Teignmouth Assurance Association subscribed to the Shipowners' Register from 1825 to 1830.

[15] *Public Ledger*, 4 Feb. 1811; *Sun*, 29 Sept. 1815; *Public Ledger*, 25 Feb. 1814; *Hull Advertiser*, 23 Nov.; *Public Ledger*, 16 Feb. 1829. The Regular Coppered subscribed to the Shipowners' Register until 1818.

[16] *Public Ledger*, 7 Oct. 1825. The General Shipping Association subscribed to the Shipowners' Register from 1819 to 1830, so it may have survived somewhat longer.

[17] *Public Ledger*, 3 Apr. 1822, 16 Mar. 1831; the Thames Association subscribed to the Shipowners' Register from 1823 to 1832.

[18] *Public Ledger*, 31 Mar. 1827; the London Maritime subscribed to Underwriters' Register from 1828 to 1830.

'the rate of insurance generally demanded by insurance companies and underwriters is higher than necessary, arising partly from prejudice and part from its being comparatively a new description of risk' (*Shipping and Mercantile Gazette*, 28 Dec. 1848). Whether or not this scheme succeeded, there was a brief flurry of creations in the capital so that by 1854 nine mutual marine insurance associations existed (Marwood 1854).

Although mutual marine insurance was associated with the coal trade on the east coast, it does not seem to have prospered at coal ports on the west coast. The Coal Assurance Society did operate at Whitehaven from 1793 to 1815, but subsequent attempts to create a mutual association in Cumbria, in 1830, 1834 and 1846, all proved unsuccessful.[19] No evidence has been found of any mutuals operating at the coal ports of South Wales during the first half of the nineteenth century.

Mutual marine insurance never took hold at all in some parts of Britain. In Liverpool, local underwriting of marine risks developed early along the lines practiced in London and there is no evidence of any marine mutual associations being formed (Swarman 1987). Nor were any established at Bristol, though there were calls, apparently unheeded, for their creation in the mid 1850s (*Bristol Mercury*, 30 June 1855, 14 July 1855). Mutuals were also absent from other major English ports, such as Portsmouth and Southampton, and from the principal Scottish ports of Glasgow and Leith. Local joint-stock insurance companies were created after the 1824 Act in all of these major ports.

The spatial distribution of marine mutual associations largely survived the transition to steam (United Kingdom 1878–9). Around 1880, there were about 160 mutuals of one sort or another in England. Close to 20 were insuring fishing boats and barges, still sailing vessels, in the ports of East Anglia and the southwest. Another 22 covered freight and 14 were protection and indemnity clubs, most located in the northeast. Of the hundred or so hull mutuals, a quarter was located on the Tyne, with another quarter on the Wear, the Tees, or the north Yorkshire coast. Of the rest, nine were in London, eleven in the southwest, perhaps also serving the fishing fleet, and the only new development was 12 along the west coast of Wales.

The British mutuals seem to have had only a limited influence on the organisation of marine insurance in other countries, mainly in Scandinavia. Inspired by the British example, Norway's first mutuals were founded in 1806, but were generally short-lived (Johnstad 2000). Only from the late 1830s did the organisation of mutual marine insurance in Norway take off. By 1855, there were 11 associations that, together, supplied more marine insurance in Norway than the five joint-stock companies that were in existence. Several Swedish mutual marine companies were founded in the 1820s, but most grew from the 1840s (Petersson 2011, p. 47). The Finnish Mutual Marine Insurance Association was founded in 1850 (its cargo insurance sibling was started

[19] Cockerell and Green 1994, p. 83; *Cumberland Paquet*, 28 Dec. 1830, 4 and 14 Nov. 1834, 3 Feb. 1846.

ten years later) and initially insured 117 ships under a premium scheme (Kaukiainen 1991, pp. 131–5; Huldén 1970, pp. 4–12).

VI

Mutual marine insurance associations were thus most prevalent and probably most successful in Britain's northeast. Most ships on the Tyne, Wear and Tees and in the related ports of Scarborough and Whitby were colliers, making them a relatively homogeneous population in size, design and trade. They were perhaps not an ideal risk pool, given that they all faced the same weather conditions and navigational hazards along the east coast. But, on the other hand, it should have been relatively straightforward to value the ships and to assess their seaworthiness. Moreover, there were many of them, so no single collier would have been a major loss. But it must be acknowledged that mutual associations may have been less suitable for dealing with ships carrying more valuable cargoes or voyaging outside the North Sea area. As noted above, associations were numerous at Whitby, yet, while entirely ignoring the mutuals in her discussion of marine insurance at the port, Jones provides several examples of large Whitby ships sailing to distant destinations that were insured through either Lloyd's or one of the London joint-stock insurance companies (Jones 1982, pp. 497–8).

Colliers were not only relatively similar; their masters and owners interacted frequently. They typically made around ten voyages a year, often from the same staith (coal pier) in the northeast to the same port, often London. In addition to the well-established regime of annual inspections by the associations, masters could thus observe the performance of other ships and other masters. Associations insured mainly local vessels, and masters and shipowners formed an important element in local society. Their professional and social interactions helped develop the social capital necessary for mutual organisation as well as helping to deal with potential problems of adverse selection and moral hazard (Ligon and Thistle 2005).

We might speculate briefly on why mutual organisation may have easily taken hold on the Tyne. One might be a lack of familiarity with joint-stock enterprises, how marine insurance was organised at many other British ports after 1824. Freeman, Pearson and Taylor (2007) note that, unlike other major ports, few joint-stock shipping companies existed in Newcastle. A second reason might be that shipowning was not particularly concentrated in the northeast. Fordyce (1830) published a list of the ships registered at Newcastle in 1830 with names of the firms owning them. Multiple ownership was still common (Ville 1989), so many were listed as '& Co' and even some with a single listed owner may have had others owning fractional shares. However, we consider the names listed to have been the managing owners. Of these managing owners, most had just one ship; together, those with a single ship accounted for 46 per cent of all ships. Owners with at most four vessels accounted for 87 per cent of all ships. The largest fleets were one with seven ships and two with eight ships. The absence of large fleets made it less likely that owners would either self-insure or negotiate coverage at a distance with Lloyd's or one of the joint-stock companies, and more likely for them to band together with local owners of similar status.

Yet another reason for the success of the mutual marine insurance in the northeast may have been regional loyalty and the local elite's willingness to cooperate. In 1783, shortly after the first mutuals were founded, the Newcastle Fire Office was established with local capital to provide fire insurance (Pearson 2004, pp. 132, 164–6, 255–7). It quickly cut into the London companies' business in the northeast, so that by 1796 local offices underwrote 87.5 per cent of fire insurance taken out in Northumberland, a share far higher than in most English counties. The Fire Office also became involved in organising the water and gas supply in Newcastle. But the most important instance of cooperation in the northeast was the persistent, and often successful, cartelisation of the coal mining industry during the eighteenth and early nineteenth centuries (Hausman 1981, 1984; Tan 2009). The coal owners and the founders of the Newcastle Fire Office were only incidentally shipowners. However, their cooperative endeavours may have provided examples of how local solutions could be found and how such solutions may have been preferred in the northeast.

These features of the shipping industry and its environment in the northeast helped underpin a local marine insurance industry dominated by mutual associations. We have shown how the number and variety of these associations increased during the late eighteenth and early nineteenth centuries and how they largely saw off competition from other suppliers of marine insurance. Even though mutual insurance contracts had to be renewed annually, many of the mutuals turned out to be very long-lived cooperative organisations, and the example of the Coal Trade Association suggests that they were able to retain members quite effectively.

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