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The Terminal Revolution: Reuters and Bloomberg as global providers of financial and economic news, 1960-2020

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Abstract: We identify a previously underappreciated data revolution starting in the 1960s, in which business information firms adopted ICT very early on to automate market data sales. Before this 'terminal revolution', securities firms could barely cope with the paperwork of growing trading volumes, forcing the NYSE to close on Wednesdays to allow them to catch up. The terminal revolution placed computer screens on every client's desk, changed how data was accessed and acted on, and created virtual trading floors, foreshadowing almost all stages the internet would go through some three decades later. We focus on early entrant Reuters and late entrant Bloomberg, which came to dominate global market data provision, discussing other firms along the way. We find that theory on sunk costs and market structure (Sutton, 1998) can explain how the exploding market remained highly concentrated, despite many new entrants. We also find that financial and business news (subject to Arrow's paradox) was a complement to data (not subject to Arrow's paradox), and barely profitable by itself: only firms offering both financial news and data tended to survive.

JEL-codes: L82, L86; N20; N72, N74; N82, N84; O33.

Key words: news agencies, financial and business news, business information, Arrow's fundamental paradox of information, trading data terminals, exchange rates, stock prices, bond prices, commodity prices, precursors to internet, industrialisation of services, ICT productivity impact, Kenneth J. Arrow, business history.

Cases: Reuters, Thomson-Reuters, Bloomberg, Dow Jones, the Associated Press; ANP, Argus, Barclays, Benzinga, Blackstone, Citi Group, London Stock Exchange Group, Knight-Ridder, McGraw-Hill, Merrill-Lynch, NewsCorp, Platts, Quotron, Standard & Poor's, Telekurs, Telerate, Ultronic, UPI.

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Extended abstract: Bloomberg and Thomson-Reuters are major sellers of business news, along with smaller firms such as Dow Jones, Standard & Poor's or Argus. For Reuters it has been a main revenue source ever since its earliest beginnings in the 1850s, and since the 'terminal revolution' in the 1960s, it developed the sales of trading data on bonds, exchange rates, stocks and commodities alongside its business news. For Bloomberg, financial and economic data were the reason for its founding in the 1980s. It started out selling data through its terminals, and subsequently hired journalists to provide business news as a complement, followed further downstream by radio stations, magazines and other products.

The two firms could dominate the market because their large fixed costs and extremely low marginal costs led to ever-decreasing average costs as subscriptions expanded, and because speed was only useful for business customers if combined with accuracy, putting a premium on past reputation which new entrants could not match.

The chapter briefly discusses the origins of business data and news for Reuters before the 1960s, and then explores how the two agencies developed during the terminal revolution, Reuters as an early mover, after parting with AP/Dow Jones, Bloomberg as a later entrant that found an ingenious way to overcome the reputation problem. It discusses the business models the firms developed, and the roles business journalists and business newsrooms played in these.

The chapter puts this in the context of financial crises and also of a shift in the press to a more 'personal finance' style reporting, with 'money' sections in newspapers proliferating. In tandem, demand for news was also increased because traders increasingly demanded qualitative and reflective business news on their terminals next to the data feeds, if only because their clients often mentioned these.

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Introduction

The provision of financial, economic and business news is about as old as journalism itself.[1] In almost any age merchants, traders and craftsmen wanted to know about prices and business conditions elsewhere. For the modern news agencies that emerged in the nineteenth century, the booming revenues from financial news allowed them to survive. For the emerging world economy, financial news was essential for the efficient functioning of markets and the increased prosperity this brought to subscribers.

Despite the phenomenal growth of demand for financial and economic news since the Second World War, its provision on a global scale has come to be dominated by just a few firms. This chapter examines the origins and development of the two global providers of financial, economic and business news today, Reuters and Bloomberg.

Financial, economic and business news---hereafter simply 'financial news'---can be split into the news part involving an editorial process and the data part providing almost continuous trading information on exchange rates, securities, commodity prices and the like,

[1] The author thanks Pedro Aguiar, Oliver Boyd-Barrett, Peter Cirenza, Miguel Fidalgo, Alexander Green and Richard R. John for comments on an earlier draft. Any remaining errors, be it of fact or of interpretation, are solely the author's responsibility. Some of the early research on which this paper is based was funded by ESRC/AIM Ghoshal Fellowship RES-331-25-3012.

in a highly automated way. This chapter argues that it was the synergy between both parts, as well as the synergy with general news, that helped Reuters and Bloomberg to achieve large market shares.

The next section gives a brief historical background and discusses information trading difficulties and concomitant innovations. Subsequently, Reuters' and Bloomberg's roles in the 'terminal revolution' since the 1960s are discussed. A subsequent section assesses this revolution's impact. A final section discusses news provision during financial crises.

Trading financial and economic news

Since the Middle Ages news has been traded in different ways. As a reciprocal custom diplomats and merchants wrote the latest news and prices at the bottom of letters. Some news brokers sold hand-copied newsletters to subscribers. Some cities had news callers. Some business organisations, such as the Fuggers from Augsburg, their own internal news service. In the sixteenth century corn exchanges issued newsletters, and a century later the forerunners of modern newspapers emerged.[2]

Another century later, since the 1840s, the modern news agencies emerged, such as Havas in France---acquiring several older news agencies---Reuters in Britain, Wolff-Continental in Germany and the New York Associated Press. Using the new electric telegraph, these agencies set up worldwide networks of correspondents. Their main customers were newspapers, governments, merchants, banks and insurance companies.

News agencies had to find ways to make gathering and distributing news profitable. The challenge was to trade information for money. According to the "fundamental paradox in the determination of demand for information," put forward by economist and Nobel laureate Kenneth J. Arrow (1962), buyers cannot assess how much they like to pay for information without knowing its content, but once they do, they do not need to pay anymore: "its value for the purchaser is not known until he has the information, but then he has in effect acquired

[2] Bakker (2011). For a long-run historical analysis of news provision from the seventeenth century to the 2010s, see also the essays in John and Silberstein-Loeb eds. (2015).

it without cost." This made selling news piece by piece rather problematic.

The early modern news traders suffered less from Arrow's paradox when they supplied information consisting of the numerical value of a measurable property of an economic quality, such as exchange rates, commodities or securities. These categories could be pre-specified to a buyer and the information revealed upon payment (Bakker, 2011).

Innovations that shifted the production possibilities frontier outwards often led to faster communications technologies. In the eighteenth century, better and cheaper telescopes led to the optical telegraph, advances in electricity to the electric telegraph, advances in pneumatics to fast tube message-delivery systems within cities, and so forth---innovations enthusiastically pioneered by the news agencies. Demand for their services was also stimulated by societal change, such as increasing literacy, the rise of stock exchanges, urbanisation, increasing international trade, a larger market and mass-printing technologies.

In the 1960s, a technological shift, which we will call the terminal revolution, brought financial news and data feeds directly to terminals on the end-users' desks. Incumbents such as Reuters and Dow Jones added ever more data provision to their news reporting, while Bloomberg was a late entrant in data that eventually added news reporting. We will discuss Reuters and Bloomberg, the two leading agencies nowadays, in turn, and then assess the terminal revolution's broader implications.

The terminal revolution: Reuters

For most of its history Reuters relied business customers as its main source of revenue. General news provision was an icing on the cake, a reputational component bundled with its service for banks, exchanges, trading firms and governments.[3]

In 1851 Julius Reuter began a pigeon service between Aachen and Brussels, and added routes from several other cities. After market closure, stock prices were put on lightweight paper and rolled up in a small cylinder. Three pigeons left simultaneously, to

[3] This section is largely based on Boyd-Barrett (1980), Fenby (1986) and Read (1999). See also https://www.thomsonreuters.com/en/about-us/company-history.html, accessed on 27 August 2024.

improve reliability. The route Aachen–Brussels, by linking two electric telegraph hubs, connected Berlin to Paris. Reuters initially served mainly local merchants and bankers. When the telegraph line Aachen–Brussels was completed, Reuters moved to London, serving merchants, grain traders, bankers, brokers, and the London Stock Exchange. In subsequent decades, Reuters improved the commercial service it offered, partially out of necessity, as its finances were limited. It was continuously searching for alternative revenue streams to subsidize the loss-making general news reporting. It tried an advertising service, a bank, and ran a highly profitable private telegram service through its networks.[4]

In 1920 Reuters got the major British newspapers on board as part-owners, but their limited resources meant the pressure for alternative revenues remained, and financial news' and data's importance gradually increased. In 1920 a Trade Department was introduced, in 1923 wireless transmission of prices and exchange rates throughout Europe and in 1928 a City ticker for London banks.[5] After 1945, economic news became even more important as Reuters bought the Latin American economic news service Comtel, which became the name for all financial news and data gathering, until it was rebranded Reuters Economic Services (RES) in the 1960s.[6] General and financial news had separate staff and newsrooms in London; most other Reuters offices had two editors and budgets.

In the early 1960s Reuters introduced the International Financial Printer, operating from Brussels and printing financial data to business subscribers. Shortly after, together with the US firm Ultronic, Reuters launched the Stockmaster, a terminal allowing the calling up of a price from about ten thousand stock and commodity prices, by typing a three-digit number, rather than simply receive blanket dissemination. By 1969, two thousand terminals had been installed, increasing over sixfold in the next two years.[7]

Other innovations followed, such as Reuter Ultronic Report and Videoscan, which

[4] Boyd-Barrett (1980).
[5] Read (1999). For a historical analysis of Reuters, the Press Association and the Associated Press until 1947, see also Silberstein Loeb (2014).
[6] Boyd-Barret (1980), pp. 225-226.
[7] Ibid., p. 227.

Diagram 1. *Selected transmission technologies for financial data from provider to user, from c. 1870 to the present.*

Since	Technology	User interface	Cases
Late 19th century -	Stock ticker	Paper	Dow Jones Broad Tape
1920s -	Telex	Paper	Reuters Financial Teleprinter (from Brussels)
1960s -	Proprietary hardware terminal that can retrieve individual stocks	Electronic printer & paper	Quotron; Reuters / Ultronic Stock Master
1960s -	Proprietary hardware terminal that can retrieve individual stocks	Video display	Quotron; Reuters / Ultronic Video Master
1990s -	Personal computer with subscription to data provider	Personal computer	Reuters, Bloomberg
2000s -	Mobile devices with subscription to data provider	Laptop, tablet, smartphone, watch	Many, incl. pers. finance such as Benzinga.com

Notes: the chronology is approximate.
Sources: See text.

added a screen to the terminal (see Diagram 1). Videomaster terminals, an improved Stockmaster, increased from three hundred in 1969 to 24,000 by 1974.[8] Performance increased, with the price delay reduced from fifteen to just two seconds.[9] Online systems appeared in many industries, but for financial data they were the most transformative,[10] foreshadowing the internet's impact on the whole economy from the late 1990s and boosted by the booming transmission capacity since 1945. Simultaneous telephone circuits on transatlantic cables, for example, grew from 36 in 1956 to 11,173 by 1983, an

[8] Boyd-Barrett (1980), p. 227.
[9] Read (1999), p. 357.
[10] See, for example, Charles P. Bourne and Trudi Bellardo Hahn, *A History of Online Information Services, 1963-1976* (Cambridge, Mass., MIT Press, 2003).

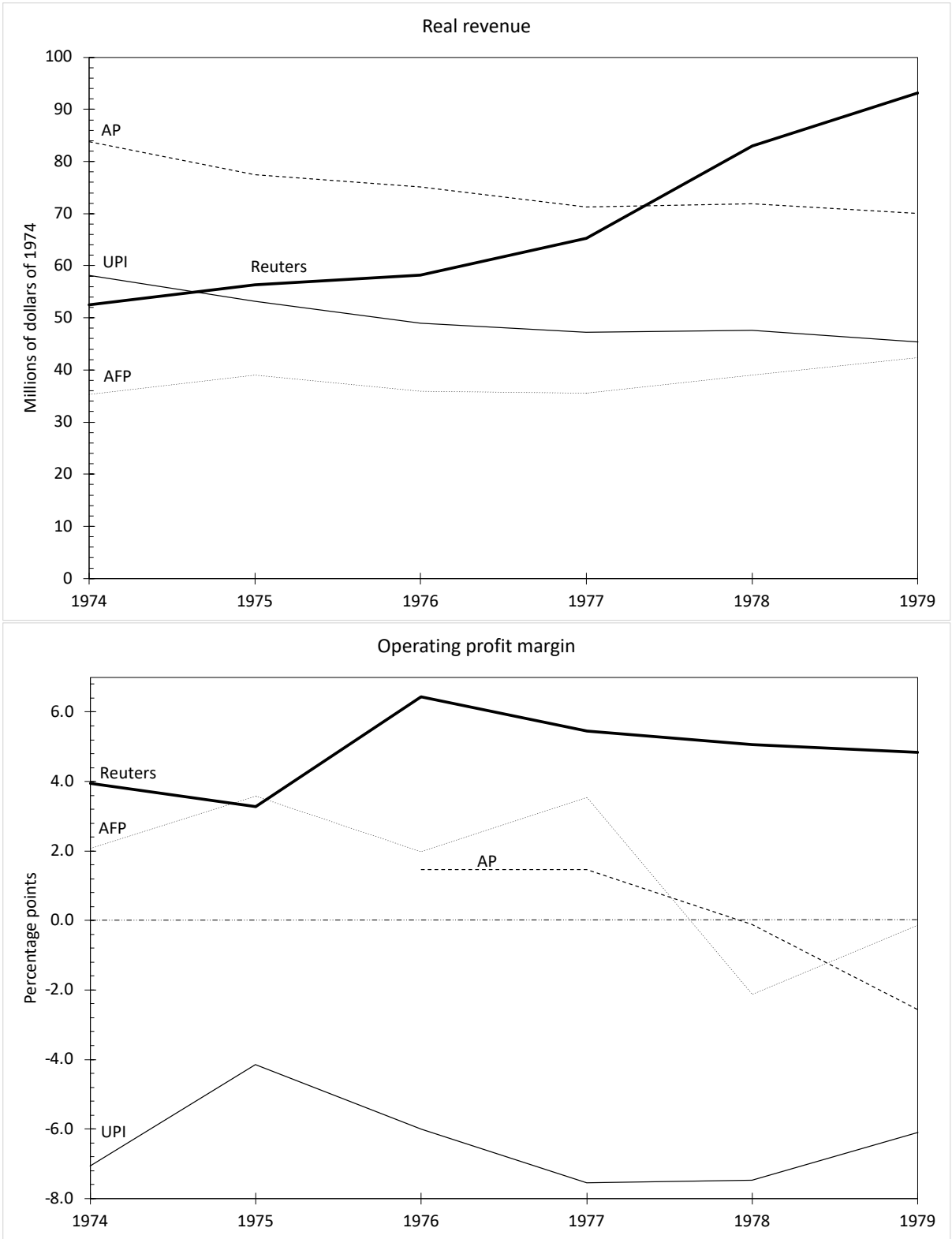

Figure 1. *Real revenue and operating profit margin of four major news agencies, 1974-1979, in dollars of 1974 and percent.*

Notes: values have been deflated with the average of the US and UK GDP deflators (Williamson 2024; Ryland and Williamson 2024); AP profit margin not available for 1974-1975 because of then-current accounting procedures. UPI and AFP figures for 1979 calculated from half-year and budget data, respectively.
Source: calculated from Fenby (1986), p. 123.

annual increase of 24 percent, while satellite capacity grew from 240 telephone circuits per satellite in 1965 to 33,000 by 1981, an annual increase of 36 percent, with satellites' expected lifespan growing sevenfold, from 1.5 to 10 years.[11]

Reuters' reputation as a provider of both financial and general news was important for marketing of new terminals.[12] Already by 1969 computer services would account for 55 percent of European RES profits.[13] In 1967, when Reuters' agreement with Dow Jones and Associated Press ended, it organised its own US financial news gathering and sold terminals and news directly to US businesses and media. Traditionally strong in commodity prices, Reuters added offices in Chicago, the home of key US commodity exchanges.[14]

During the 1970s Reuters introduced the Monitor Money Rate Service. Not only could subscribers retrieve data, now they could also contribute information on money rates, for other users to see. No physical dealing floor existed for money, such as for, for example, gold or stocks. Monitor created such a floor, albeit a virtual one.[15] Boosted by the collapse of the Bretton Woods fixed exchange rate regime in 1971, subscriptions increased from five hundred in 1975 to over five thousand by 1979.[16] Revenue quickly surpassed that of UPI and then AP. Profit margins were far higher than at the other leading organisations, which all had entered negative territory by the late 1970s (figure 1).

In 1981, Reuter added Monitor Dealing Service, enabling foreign currency dealers to conclude trades over terminals, a further step-change in the nature of news. End-users now could not only call up or contribute data, but also transact over the network, thus creating a new fact in response to the news they received.[17] Monitor became larger than all Reuters' other terminal products combined (figure 2). By 1989 it generated large profits---in Asia, for

[11] Peter J. Hugill, *Global Communications Since 1844. Geopolitics And Technology* (Baltimore, Johns Hopkins University Press, 1999), pp. 231-5.
[12] In the 1980s, it would even expand its sports news service to satisfy the demands of business executives and foreign exchange dealers (Fenby 1986: 114).
[13] Boyd-Barrett (1980), p. 228.
[14] Ibid., 229.
[15] Ibid.; Read (1999).
[16] Boyd-Barrett (1980), p. 227; Fenby (1986), p. 113.
[17] For a discussion of the interaction and feedback effects to which news agencies might have contributed, see the section on financial crises, below.

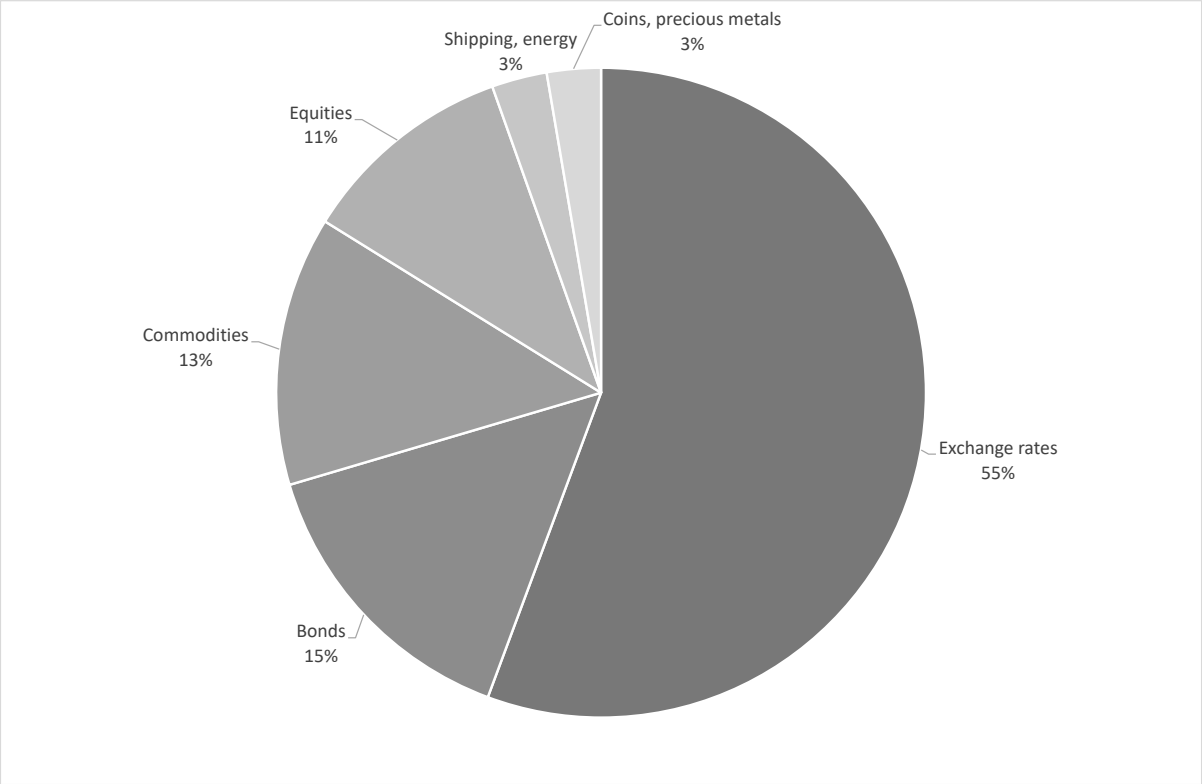

Figure 2. *Number of client locations of Reuters terminals, by type, 1984, as percentage of total*.

Note: Exchange rate locations (Money Monitor) are from late 1983, so their share might be underestimated. Total client locations numbered about 14,900; more terminals could be installed at one location. Total terminals numbered about 32,500 in 81 countries; Reuters also still offered teleprinter services in 112 countries. By 1985, terminals numbered about 47,000.
Source: Estimated from the data in Fenby (1986), pp. 114-117.

example, half of RES' revenue.[18]

In the terminal business, platforms often used feeds from multiple sources. This interdependence led some data providers, through their terminals, also to become distributors of others' data, with large firms such as Reuters and eventually Bloomberg dominating,[19] not unlike other platform businesses, such as motion pictures, where major distributors released a mix of in-house and outside pictures.[20]

A driver behind Reuters rapid expansion into terminals was that, like Julius Reuter in 1851, it was not rich. It needed the revenue to survive and support its other operations. Financial news and data provision's share in revenues increased from 32 percent in 1962 to 66 percent by 1970.[21]

Reuters sharply increased its R&D-outlays, from £3.2m in 1980 to £59.7m in 1989---

[18] Read (1999), p. 409.
[19] Boyd-Barrett (1980), pp. 227-228; Bloomberg (2019).
[20] See Bakker (2025), forthcoming.
[21] Read (1999), p. 350.

from 3.6 to 5.0 percent of revenue. It also spent heavily to acquire specialised technology companies, such as trading room systems manufacturer Rich, Inc. ($59m) and computerised equities trading service INC/Instinet ($100m).[22] To improve resilience, a back-up technical centre was set up in Geneva. Reuters experimented with delivery technologies such as satellite data delivery to small dishes, its Integrated Data Network, a predecessor of present-day intranets, 'News View,' allowing cable subscribers to select news from rotating headlines, and the Equity 2000 terminal.[23] Media products' importance fell from 34 percent of revenue in 1980, to just seven percent by 1989.[24]

Since the 1960s, in several countries where previously it had gathered and distributed through local partner financial agencies, Reuters integrated backward into newsgathering and forward into distribution directly to foreign subscribers. Prime examples were financial stalwarts Switzerland, Germany and Japan.[25] In the 1970s, Dutch national news cooperative ANP calculated that if Reuters cancelled its agreement, members' fees would increase by 12-14 percent.[26] Even though it would not happen until 1981 (after which ANP switched to UPI), it illustrates what Reuters could gain by running its own foreign operations.

From the 1990s, Reuters added further data services, but by then main terminal revolution had already taken place. While new markets emerged in Eastern Europe, competition from new entrant Bloomberg increased, putting pressure on market share, even as Reuters purchased Quotron, a first mover from 1960 and former US market leader. New trading platform Globex, a joint venture with futures exchanges, failed to live up to expectations.[27] In 2001 a new chief executive started cutting costs, eventually reducing them by £1bn.[28] Reuters aimed to increase margins to about twenty percent, compared to Bloomberg's estimated over-thirty-percent.[29]

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[22] Ibid., p. 475.
[23] Ibid., p. 467.
[24] Ibid., p.350, 472.
[25] Boyd-Barrett (1980); Read (1999).
[26] J. A. Baggerman and J. M. H. Hemels, *Verzorgd Door Het ANP: Vijftig Jaar Nieuwsvoorziening* (Utrecht and Antwerpen, Veen Uitgevers, 1985), pp. 178-181.
[27] Boyd-Barret (1998) pp. 68-9.
[28] Graeme Wearden and Katie Allen, "Reuters agrees to Thomson merger," *Financial Times*, 15 May 2007.
[29] Range 17-20 percent. The flipside of increasing returns because of large fixed costs was that when revenue

In 2007, Thomson, a Canadian media firm running Thomson Financial News, acquired Reuters for £8.7bn, a 43 percent premium on its market value. Thomson had switched focus from news media and educational publishing to professional and financial information. Bloomberg's financial data provision market share (31 percent) had skyrocketed. By combining with Reuters (23 percent), Thomson (12 percent) hoped to offer stronger competition.[30]

Jobs were cut, including 140 journalists, to achieve £500m savings.[31] Four years later, Thomson-Reuters had not lived up to expectations. The firm struggled with costs, integrating two sets of legacy products, the delay of its new Eikon terminal and with Bloomberg, which increased its share of the $24bn financial information market.[32]

By 2016, Thomson-Reuters' market share had fallen back to that of Reuters as stand-alone company.[33] In early 2018, it sold 55 percent of the financial data business, rebranded Refinitiv, for $17bn to private equity group Blackstone, which collaborated with the Canada Pension Plan and Singapore state fund GIC, but kept Reuters. Refinitiv would pay Reuters an inflation-adjusted $325m a year for news, for thirty years. The financial data business had accounted for 54 percent of Thomson-Reuters' revenue, Reuters' news for just 3 percent.[34]

Thomson-Reuters and Blackstone tried selling off parts. They floated trading platform Tradeweb and almost sold their foreign exchange platform for $3.5bn to the German stock exchange. Instead, in mid-2019, they sold the entire business for $27bn to the London Stock Exchange Group.[35] Ironically, the data business thus travelled back to its fifteenth century origins, when corn exchanges were the first to print and sell newsletters with prices. The

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did not grow or declined, profits could fall rapidly; see, for example, Fenby (1986), p. 127.

[30] Lex, "Reuters and competition," *Financial Times*, 13 May 2007. An alternative estimate puts Bloomberg's market share at this time at 25 percent. See Wachman (2011), below.

[31] For the role in the merger of the Reuters Trust, the Reuters Founders Share Company and the Reuters Trust Principles, that prevented any party from owning more than fifteen percent in Reuters, see the chapter on Reuters in general in this handbook.

[32] Richard Wachman, "Thomson Reuters merger hasn't lived up to expectations," *Financial Times*, 7 December 2011.

[33] Philip Stafford, Arash Massoudi and Shannon Bond, "Blackstone aims to supercharge Thomson Reuters unit with $17bn deal," *Financial Times*, 31 January 2018.

[34] Stafford et al. (2018).

[35] Arash Massoudi, Javier Espinoza and Bryce Elder and James Fontanella-Khan, "London Stock Exchange confirms $27bn Refinitiv takeover talks," *Financial Times*, 27 July 2019.

news business generated just a tenth of Thomson-Reuters' revenue by 2023.[36]

Together with the financial data business, financial reporting also expanded since the 1960s. Initially, financial journalists remained scarce because general journalists often reported financial news and because most of it came in over the wire, directly from the source. In 1971, for example, RES Europe employed about ten financial reporters,[37] while US economic staff had been expanded to forty full-time journalists and forty stringers, following the break-up with AP/DJ.[38] Two years later, sixty percent of RES' reporting costs originated in the US.[39]

In the 1960s the General News Division (GND) was made into a profit centre, like RES, but from 1973 it became a cost centre for the financial news and data sales that earned Reuters' profits.[40] From 1975, Monitor showed Reuters' news, so that traders could read stories driving the fluctuations they saw on their screens, making business reporting an important complement.[41] In 1977 two seats were removed from the executive board that represented RES and World Services (RWS), weighing it towards those directly concerned with costs and profits. Simultaneously, an Editor-in-Chief was created, reporting to the Managing Director.[42] In 1979 financial and general news outside North America were integrated. The next year RES and RWS were merged.[43] Within the newsroom, financial journalists sometimes felt they were looked down upon, even though they generated most of the revenue.[44] By the late 1980s, Reuters supplied 58 percent of financial news in ten leading world newspapers, but only 36 percent of other news. For AP those numbers were 21 and 33 percent.[45] Two thirds of UK editorial staff were primarily financial journalists.

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[36] Daniel Thomas and Andrew Edgecliffe-Johnson, "Thomson Reuters has $8bn war chest for AI-focused deals, says chief," *Financial Times*, 11 March 2024.
[37] Boyd-Barrett (1980), p. 228.
[38] Ibid., p. 168.
[39] Ibid., p. 170.
[40] Read (1999), p. 138.
[41] Ibid., p. 365.
[42] Boyd-Barrett (1980), p. 230.
[43] Read (1999), p. 401.
[44] Ibid.
[45] Ibid., p. 466.

In Britain working practices were heavily affected by a multitude of unions, each with their own regulations. Reuters managed to navigate these, even though the electronic systems made jobs redundant. In return for Reuters' commitment to retrain and redeploy, the unions largely acquiesced in Reuters' transformation.[46]

Since the break-up in 1967 Dow Jones and Reuters became competitors. From the 1900s Dow Jones had provided stock ticker information in the US, improved in the 1920s to its higher capacity Broad Tape service. Unlike Reuters, the company released leading print publications such as the *Wall Street Journal* and *Barron's* magazine. It was the predominant US supplier of business news. After the breakup, it had teamed up with the Associated Press (AP) and increased its overseas correspondents from 6 to 22.[47]

Like Reuters, Dow Jones also expanded its financial data service. In 1971 it introduced news retrieval via clients' computers, including, from 1974, full-text search of the *Wall Street Journal*.[48] In the 1980s it fully acquired Telerate, a provider of financial information through terminals, for over $1.5bn.[49] By 1989 Dow Jones' Information Group employed 835 employees, with $177m in revenues. It introduced new services such as DowVision, DowPhone and DowJournal. In the mid-1990s, facing competition from both Reuters and Bloomberg, it invested $650m in Telerate, renaming it Dow Jones Markets. It sold the division several years later, writing off $922m.

In 2007 News Corp. bought Dow Jones from the Bancroft family for $5bn. In 2008, Dow Jones and AP ended their exchange agreement. Dow Jones expanded its global editorial staff with twenty positions and started to distribute AFP's news.[50] AP expanded its own business coverage.[51] In 2010 Dow Jones Indexing services were sold to CME group, which owned Chicago commodity exchanges and other exchanges. As with Reuters ten years later,

[46] Ibid., p. 348.
[47] Boyd-Barrett (1980), p. 232.
[48] Bourne and Hahn (2003).
[49] Bloomberg (2019), p. 63.
[50] "Associated Press, Dow Jones Part Ways," *Forbes*, 19 March 2008.
[51] Ibid.

its business returned to its sixteenth century beginnings of corn exchanges' newsletters.[52]

The terminal revolution: Bloomberg

The accelerated pace of globalisation and financialisation since the 1970s boosted terminal demand. Goldman, Sachs, for example, grew from about four thousand employees in New York in the 1980s to more than ten times as much across the globe by 2020. Deregulation also created opportunities for small financial firms, which also needed terminals.

Attracted by this boom and by technological opportunities, many firms entered financial data or news provision.[53] Already in 1971, a consortium of Swiss banks developed Telekurs, a terminal similar to Reuters' Monitor. In the US, 'high-tech' firms such as first-mover Quotron and later entrant Telerate expanded rapidly. Media firms also entered. McGraw-Hill spent $30m developing a business data and news services, only to abort its attempt. An American newspaper group pooled its commodity news and prices with UPI, branded it Unicom and also launched the Knight-Ridder Financial News service, which eventually folded.[54] The Canadian newspaper owner Thomson also competed in financial news and data. Six banks and brokers formed Electronic Joint Venture, an alternative business data service.[55] Many more specialised data services existed, such as, for example, Morning Star.[56]

Most new entrants eventually failed. A striking exception was Bloomberg. Founded in 1981, it began as a terminal-based financial data provider for banks, but subsequently launched a world-wide news service distributed to its terminals and to newspapers. Soon it added radio, television, magazines and other services.

Michael Bloomberg started the venture with three former colleagues from the bank Salomon Brothers. Initially called Innovative Market Solutions (IMS), it used several strategies to counter its newcomer-disadvantage. Just one bank, Merrill-Lynch, became its

[52] Bourne and Hahn (2003).
[53] This section is largely based on Purnick (2009), Randolph (2019) and Bloomberg (2019).
[54] Fenby (1986), p. 117; Bloomberg (2019).
[55] Bloomberg (2019), p. 115.
[56] Read (1999), Bloomberg (2019).

lead customer and thirty percent equity owner, assuring cash flow and Bloomberg's reputation. Second, starting with bonds, Bloomberg added stocks, commodities and financial news to its data feeds. Third, it focused on the hardware, its terminal as a distinctive element. The terminal could do instant quantitative analysis of bond prices and run through various scenarios, showing yield curves. This made buyers less dependent on sellers, so increasing efficiency and transactions. Other providers, retaining little historical data, could not support sophisticated investment calculations.[57] Telerate, a key competitor, for example, could not do yield curves.[58] Over time more functions and data feeds were added, including 'post-trade' back-office services.[59] The Federal Reserve policy of more freely floating interest rates, making bond prices more volatile and less 'safe', further fed Bloomberg's expansion, as valuing bonds correctly became ever more important.[60] By the late 1980s Bloomberg employed three hundred employees in New York, Princeton, London and Tokyo.[61] The firm only sold its premium product, offering no discounts or pared-down terminals, increasing its allure and creating a status symbol.[62]

In 1990, as Bloomberg was becoming a competitor to Dow Jones' data business, it feared that the company would stop providing its news stories. Bloomberg therefore hired *Wall Street Journal* reporter Matt Winkler to set up its news service, who recruited two dozen reporters and editors.[63] An innovation was automated news message writing about market movements and unusual securities movements. Later voiced versions and automatic weather and sports results played between Bloomberg radio items. Bloomberg claimed this freed up journalists to write on more analytical and challenging stories. The firm bartered its terminals in exchange for a newspaper mentioning Bloomberg as source when they picked up a story,[64] not unlike how in the 1850s Reuters had charged British newspapers a lower fee when they

[57] Purnick (2009), p. 43.
[58] Bloomberg (2019), p. 76.
[59] Ibid., p. 63.
[60] Purnick (2009), p. 42.
[61] Bloomberg (2019), p. 82.
[62] Purnick (2009), p. 45.
[63] Bloomberg (2019), p. 87.
[64] Ibid., p. 100.

mentioned its name.

Bloomberg combined stories with graphs and calculations showing the underlying analytics while also advertising the terminal's capabilities. It improved accuracy by requiring any stories to be verified by at least two independent sources.[65] It also reported earnings of smaller firms faster than competitors, who customarily waited to report large firms first. It differentiated itself with many small, fast and accurate items next to the main news.[66] Providing both items aimed at large audiences, and a swarm of 'narrowcast' items, each interesting for only a few subscribers, gave it a competitive advantage, Bloomberg argued.[67]

Bloomberg began with reporters in the US, London and Tokyo. It battled hard to get access to official press pools in Washington and Tokyo. Its journalists eventually had to work also with radio and television. Bloomberg pioneered computer recording and editing of radio reports, helping it to distribute them to stations. It also set up a Japanese language news service.[68]

Bloomberg grew rapidly, while Reuters and Dow Jones also flourished in an expanding market and therefore initially did not see Bloomberg as a threat.[69] Bloomberg first focused on niche products, mainly bond prices. From there it was easier to add what mainstream competitors provided than vice versa.[70] Foreshadowing the internet, Bloomberg also launched new data categories, such as the advertising of foreclosed real estate.[71] By 1991 ten thousand terminals were installed world-wide. In 1996 Bloomberg bought back a third of Merrill's stake and in 2008 the remaining twenty percent, valuing Bloomberg at $22bn, excluding a control premium. Michael Bloomberg retired in 2001 to start a political career and returned as CEO from 2014-2023.

By 2019, an annual subscription to a Bloomberg terminal cost about $22,000.[72]

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[65] Ibid.
[66] Ibid., pp. 84-86.
[67] Ibid., p. 119.
[68] Ibid., p. 106.
[69] Ibid., p. 90.
[70] Ibid., p. 90.
[71] Purnick (2009), p. 52.
[72] Bloomberg (2019), p. 108.

Bloomberg employed about three thousand journalists and analysts.[73] Its systems dealt with eighty billion transactions a day and its Bloomberg Instant Messaging services fifteen to twenty million messages.[74] By 2020, 320,000 terminals were installed world-wide.

Bloomberg Radio and Bloomberg Television worked like news services, allowing broadcasting stations to pick and choose items for transmission. Bloomberg Television started with a thirty-minute morning show for Maryland Public Television, syndicated nationally.[75] It did not make money for Bloomberg, but did build its reputation.[76] End-user-like products like the magazines *Bloomberg Personal* and *Bloomberg Markets*, were supplemented by *Business Week*, acquired from McGraw-Hill in 2009, becoming *Bloomberg Business Week*.

The financial data was complemented by forays into other data such as Bloomberg Law, which competed with Thomson-Reuters' Lexis, Bloomberg Government, on regulation, as well as the purchases of the Bureau of National Affairs, specialising in legal, regulatory and tax issues, and Barclays Risk Analytics and Index Solutions.[77]

Bloomberg survived where many others failed. First mover Quotron, for example, initially held a sixty percent US market share. It was bought by Citi Group in 1986. After a decade Citi *paid* Reuters $100m to take it.[78] Factors in Bloomberg's success were its innovative terminal, Merrill-Lynch's initial support improving its reputation, the reawakening of bond trading in the 1980s, and its diversification into providing financial news alongside its data, and later radio and television. The diversification had substantial synergies with the sale of terminals. Entrants that focused on either technology and data or on news, generally did less well.[79]

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[73] Ibid., p. 108.
[74] Ibid., pp. 53-54.
[75] Ibid., p. 118.
[76] Ibid., p. 118.
[77] Ibid., p. 169.
[78] Ibid., p. 91.
[79] In the next section we will discuss the supply and demand-side mechanisms that might have benefitted Reuters' and Bloomberg's strategy.

Assessing the terminal revolution

Back in the 1960s the booming trading volume caused many securities trading departments to run into problems. They needed to manage increasing amounts of paper to record transactions, share ownership and historical prices. The deluge became so problematic that the NYSE closed on Wednesdays. Unable to manage the paperwork, several banks and brokers went under.[80] Only the terminal revolution would flatten the paper mountains.

By 1968, terminals had a measurable effect on the economy. The American Secretary of the Treasury, for example, observed that European investments in the US had increased noticeably since Stockmaster's adoption.[81] In the 1980s, the Bloomberg terminals improved the institutional investors' position vis-à-vis bond brokers, so increasing their returns.

Gradually general news and financial news converged. During the Cuba crisis, for example, Reuters reporters saw the first sign of aversion of disaster in falling sugar price data.[82] Unemployment and inflation increased the public's interest in the economy.[83] Also, financial crises had real-world consequences readers wanted to understand, such as the 2008 crisis' effect on house prices.

Eventually, newspapers included personal finance sections, further increasing demand for financial news. Terminal subscribers wanted news stories on their screens, and later television feeds, not only to know what drove price movements, but also what competitors could be watching and what clients might talk about.[84]

The terminal revolution also changed subscribers' relationship with news. While they had been passive receivers, from the 1960s they could retrieve prices of particular stocks by typing a code.[85] From the 1970s they could submit information and so 'broadcast', as with Reuters Monitor. Sometimes terminals created a virtual dealing floor where no physical one existed, such as Monitor did for the money market. From the 1980s, subscribers also transacted through the terminals, creating news events on the data service itself. Finally, long

[80] Bloomberg (2019), pp. 128-129.
[81] Read (1999), p. 358.
[82] Read (1999), p. 447.
[83] Ibid.
[84] Thompson (2015).
[85] Read (1999), p. 354.

before email, terminals allowed traders to instantly message each other.

The terminal revolution's impact increased because financial data overcame Arrow's paradox of trading information discussed above. The nature of the 'news', for example a bond price, could be specified without revealing its actual value. With speed, accuracy, reliability of supply and uniform distribution (simultaneous reception without favour)[86] added, this constituted a formidable subscription-based business model.

The question remains, why, despite many entry attempts, the market for financial news was dominated by a few global companies. In 2016, for example, Bloomberg had a 33 percent market share, Thomson-Reuters 23 percent and S&P Global Market Intelligence 6 percent.[87] Even with large fixed and sunk costs and economies of scale making marginal revenues equal marginal profits, the booming demand could have made room for additional firms and so decreased industrial concentration.

This did not happen because the competition here can be seen as a quality race. The agencies spent heavily on R&D and marketing to develop their data and news infrastructure. Such a competitive escalation can make markets highly concentrated: when the market grew, the R&D cost to reach a certain quality level remained the same, but the rewards for it were now higher. Attracted by greater profits, either new firms could enter, or existing firms could spend more on R&D. Which effect had the upper hand depended on how expensive it was to increase quality ('technology'), and the reward buyers were willing to pay for better quality ('tastes').[88]

For financial data, this led to high concentration. First, new technological possibilities made R&D relatively 'cheap': if a firm spent highly, product quality was likely to increase substantially. Second, demand for financial data was vertically differentiated: customers were

[86] See, for example, Fenby (1986), p. 111, who emphasizes guaranteed equality of access as the news was transmitted as an important marketing attraction, right from the very start of Reuters in the 1850s.
[87] Stafford et al. (2018).
[88] On sunk costs see John Sutton, *Technology and market structure: Theory and history* (Cambridge MA: MIT Press, 1998); for a discussion of the relevance of sunk costs for the history of media industries see Gerben Bakker, "The Decline and Fall of the European film industry: Sunk costs, market size and market structure, 1890–1927," *Economic History Review*, vol. 58 (2005), pp. 310–51; 317–22; for a historical discussion of the problem of financing sunk costs see Gerben Bakker, 'Money for Nothing: How Firms Have Financed R&D-Projects since the Industrial Revolution', *Research Policy*, Vol. 42 (Dec. 2013), pp. 1793-1814.

willing to pay a large premium for small differences in speed, accuracy and convenience. Added was a network effect: the more subscribers, the higher the perceived quality, the higher the likelihood of new subscribers. This was reinforced tax authorities and royalty collectors requiring data from named providers, and by services such as Bloomberg Instant Messaging becoming standard for client communications and for contracting and monitoring transactions, making switching costly.

For financial news, the parameters were similar: increasing fixed outlays on reporting augmented quality, and customers were again willing to pay a large premium for slightly better quality, such as slightly faster delivery, slightly fewer errors, slightly simpler written so faster understandable. The key for Reuters and Bloomberg emerging as leaders were the synergies between financial data and financial news. Most traders wanted to have both on their terminal, and the reputation effect worked on both sides of the business. Failed entrants had generally provided just one side.

Reuters' revenue and profit margin (figure 3) shows the terminal revolution's effect and corroborates network effects. Between 1967-1995 revenue growth accelerated sharply, to over fifteen percent per annum, inflation-adjusted. Until the early 1990s, the profit margin increased, suggesting increasing returns. Another driver was becoming a quoted company, increasing the profit incentive rather than minimising costs to user-shareholders.[89] Yet the declining margin since 1992 suggests that was not the whole story. From 2001, another headwind—besides Bloomberg's competition, internet and new technologies—was probably the euro erasing lucrative money trades. The margin never got back to its 24 percent peak. Even the post-merger margin for Thomson-Reuters markets group, of different size and composition, initially much higher than Reuters', declined sharply for a few years, before rebounding. Since 2000, the business looked much less attractive. The rest of the world had caught up with the terminal revolution through adopting the internet.

Part of the quality race involved developing new computer techniques. In 2006, for

[89] Interestingly, from the five pre-war benchmark years that Read (1999) quotes in comparable format, 1938 dwarfs all single-digit other years with a 23 percent margin. The international political crises and news may have played a role, but it could also be the case that in this difficult time Reuters could count less on support of its user-shareholders and may have needed to increase the profit margin.

Figure 3. *Real revenue and profit after tax margin of Reuters and of Thomson-Reuters' markets division, 1951-2017, semi-logarithmic, in 2023 pounds and percent.*

Notes: real revenues are plotted logarithmically, the slope reflecting the growth rate. Bench mark data from Read (1999: 87, 164) shows comparable profit margins of 4.2, 7.2, 1.7, 7.1 and 22.6 percent for 1898, 1908, 1918, 1928 and 1938. The value for 1990 has been estimated by interpolation. Thomson-Reuters data (from 2008) is not fully comparable. US dollar revenue has been inflation adjusted using the US GDP deflator. For 2008, the US/UK exchange rate has been used to transform the revenue to pounds. For 2009-2017 the real growth rates of US revenue have been applied to this 2008 value in pounds to arrive at a revenue estimate that shows the underlying growth rate and is less sensitive to exchange rate fluctuations. The data is also not fully comparable because Thomson-Reuters' markets group also included Thomson's pre-merger assets and because the margin accounting concept is different ("operating profit margin"), and after 2015 is also not available in that format, but has been estimated here using the ebitda margin's growth rate. Yet the fluctuations are expected to be reasonably informative.
Sources: for 1951-1989 Read (1999: 485-6); 1991-2007 Reuters Annual Reports; 2008-2017 Thomson-Reuters Annual reports. GDP deflators and exchange rates: Officer (2024), Thomas and Williamson (2024), Williamson (2024), measuringworth.com/ukgdp/, /usgdp, /exchangepound.

example, Reuters added software that automatically generated news insights for use in automated trading, an early example of artificial intelligence (AI). Nowadays Bloomberg and Reuters habitually include AI-generated headlines. In 2016 Reuters introduced News Tracer, patented software that automatically scanned social media feeds and extracted emerging news events, giving Reuters an eight- to sixty-minute head start. Tracer detected a Californian shooting before any global news organisation, gave Reuters an eighteen-minute lead in reporting an earthquake in Ecuador, and eight minutes in the Brussels bombings.[90] Undoubtedly, such software could analyse social media chatter about securities, and

[90] Not unlike more rudimentary systems intelligence agencies used from at least the 1970s. Xiaomo Liu, et al., "Reuters Tracer: Toward Automated News Production Using Large Scale Social Media Data," in: *arXiv.org*, Ithaca, Cornell University Library, 2017; https://www.reutersagency.com/en/reuters-community/reuters-news-tracer-filtering-through-the-noise-of-social-media/.

nowadays Bloomberg and Eikon terminals include a service screening social media feeds.[91] Key for AI was accuracy, enabling trust. Apple Intelligence's summaries of BBC, *New York Times* and *Washington Post* news generated false headlines, such as a criminal suspect shooting himself, a prime minister being arrested and a player winning a match that hadn't started yet, suggesting journalists were still needed to evaluate AI's outputs, reducing its speed.[92]

The quality race created a dual market structure often seen when marginal costs were almost zero: a few firms dominated, complemented by a fringe of smaller national, regional and specialised news agencies. The US firm Platts, for example, in 1909 launched an oil trade magazine and from 1923 published Oilgram, with daily benchmark prices. In 1953 it was acquired by McGraw-Hill and from 1973 it provided daily reports by telex. In the 1990s it diversified into metal prices, general energy data and industry conferences. In 2012 it acquired an agricultural commodities data firm. From 2016, through mergers, it became S&P Global Commodity Insights, providing a mix of data and news.[93] A competitor was Argus, a privately-owned British firm founded in 1970. It has over 1,400 staff in thirty offices globally. Argus provides benchmark prices for transportation, commodities and energy, including niche benchmarks, such as daily prices of 50 ppm low-sulphur diesel in west Africa.[94]

When personal computers and internet made specialised hardware redundant, new entrants emerged, such as Money.net, charging $150 a month, and Alphabet's Symphony, a financial instant messaging (IM) service, aimed at breaking Bloomberg IM's dominance, was launched with Goldman Sachs and other banks at only fifteen dollars a month. In 2016 it had $15m earnings and a $1bn value.[95] Reuters distributed Eikon data through Symphony. Another entrant was Benzinga.com, providing analytical tools for personal finance investment strategies next to news. Founded in 2010, it is also distributed through other

[91] Bloomberg terminal accessed on 29 November 2024; Eikon/LSEG terminal, accessed on 4 December 2024.
[92] Natalie Sherman and Imran Rahman-Jones, "Apple suspends error-strewn AI generated news alerts", *BBC News* website 17 January 2025, https://www.bbc.co.uk/news/articles/cq5ggew08eyo.
[93] https://www.spglobal.com/commodityinsights/en/about-commodityinsights/our-history; accessed 28.11.2024.
[94] https://www.argusmedia.com/en/about-argus, accessed 28.11.2024.
[95] Boyd-Barrett (2019), pp. 14-15.

Diagram 2. *Selected cases in the industrialisation of data gathering and transmission: standardisation, automation, tradability.*

Since	Standardisation	Automation	Tradability	Cases
Interwar period -	Comparable daily benchmark price, nature specifiable in advance (oil)	Not always fully automated; humans still needed	Arrow's paradox overcome; data or data stream can be traded	Argus' west African 50 ppm sulphur diesel benchmark;Platts
1960s -	Price of a stock and its traded volume	Automated data gathering rather than by hand or detective work	Arrow's paradox overcome; data or data stream can be traded	Ticker tape; the terminal revolution
2000s -	Real estate prices, trading volume, price per square unit	Automated data gathering when classified ads went online	Data generators (advertisers) pay; combnd data sold on to banks etc.	RightMove; REA; Springer; data can be specified in advance and sold
2000s -	Used car prices	Automated data gathering when classified ads went online	Data generators (advertisers) pay; combined data sold on	Springer, Autotrader / Guardian Media Group
2000s -	Social media feeds without liability for platforms	Automated 'news' gathering directly from subscribers	User data sold on and used for advertising	Facebook, Instagram, Twitter, TikTok, Telegram

Notes: For each item, the most salient episode has been emphasized. For commodities this sometimes was the development of comparable benchmark prices that could be prespecified to potential subscribers, for stocks the automated data gathering and transmission to end-users from the 1960s. Real estate and used car prices sites could be seen as two-sides markets, with the site serving the market for real estate advertisers, other advertisers to real estate seekers, and those interested in the aggregate cross-sectional and time series data, such as banks and government agencies. On two-sides markets, see, for example, Rochet and Tirole (2003). The standardisation, automation, tradability typology is based on the conceptual framework for the industrialisation of services introduced by Bakker (2001, 2008).
Sources: See text.

platforms such as Morningstar.[96] Many other examples existed. Most offered one aspect rather than Bloomberg's and Reuters' complete spectrum.

Before internet, gathering news had been expensive for clients, involving phone calls, faxes and browsing trade publications. Using AI, clients could scan internet for data and emerging news. While terminals also offered social media analysis, clients' outside options had increased.[97]

Non-financial data also became valuable and tradable. For NewsCorp, example, its Australian property listings business REA accounted for seventy percent its $15.4bn value, outweighing famous assets such as Dow Jones and HarperCollins. NewsCorp unsuccessfully

[96] See Benzinga.com. MorningStar accessed on 3 December 2024.
[97] See also Reuters Tracer, mentioned above.

bid £6.1bn for Rightmove, REA's British equivalent.[98] The advantage was that these businesses did not need expensive news gathering to generate revenue and that besides the advertising itself aggregate data had become valuable---but only if a platform dominated. The trend happened more widely. Likewise, German publisher Axel Springer's classifieds business (including jobs and real estate ads platforms) was worth €10bn, and its respected media business just €3.5bn.[99] The Guardian Media Group's *Auto Trader*, the leading British car listings site, generated tons of cash. In 2014 GMG sold its fifty percent stake, and in the next ten years Auto Trader's inflation-adjusted value increased threefold, or about twelve percent year-on-year.[100]

These cases show similarities to how Reuters' financial data came to dwarf the rest of the business since the 1960s. Driven by the internet a data revolution took place, akin to the earlier terminal revolution, that standardised data, automated its collection and processing, and made it tradable --- an industrialisation of data gathering and transmission (Diagram 2).[101] Key was also that the data's nature could be specified in advance, without revealing the actual value, thus overcoming Arrow's paradox.

Social media further extended this trend, with users providing all 'news' and platforms being shielded from liability, unlike publishers. Thus, news consumers became news producers and their data a way to optimise advertising.

Financial news and financial crises

Financial crises made financial news agencies prominent.[102] They usually happened in

[98] John Gapper, "Rightmove's Property Data Is More Valuable Than News," *Financial Times*, 26 Sept 2024.
[99] Laura Pitel, Arash Massoudi and Ivan Levingston, "Axel Springer agrees €13.5bn break-up deal with KKR," *Financial Times*, 19 Sept. 2024.
[100] John Gapper, "Rightmove's Property Data Is More Valuable Than News," *Financial Times*, 26 Sept 2024.
[101] The standardisation, automation, tradability typology is based on the conceptual framework for the industrialisation of services introduced by Bakker (2001, 2008). For an empirical analysis of the industrialisation of services across entire economies in the long-run, see Broadberry (2006).
[102] On an early case see Dwayne Winseck, "Double-edged swords: communications media and the global financial crisis of 1873," in: Peter Putnis, Chandrika Kaul and Juergen Wilke eds., *Communication, News and Globlisation: Historical Perspectives* (Hampton Press / International Association of Media and Communication Research, 2011), pp. 55-82.

financial and political capitals with an existing news infrastructure, making reporting low-cost. Quality dimensions such as speed, accuracy and uniform distribution became even more important. Finance research generally finds that news affects market movements, the magnitude differing across studies. During crises, everyone wanted to know what drove share prices, interest rates, exchange rates, commodities, credit ratings and survey results. Markets became far more sensitive to news, both reports containing new information and 'persuasive' reports only promoting a particular stock.[103]

It remains the question if financial news reporting contributed to financial bubbles, producing feedback effects through self-reinforcing herd behaviour. The terminals led to faster feedback, even more so after automated trading emerged, leading exchanges to introduce 'circuit breakers', which closed markets for a pre-specified cooling-off period when an index fell outside a pre-determined percentage. Authors such as Robert Shiller argue that the media were important in instigating bubbles, while others find the opposite.[104] Campbell et al., for example, find that press coverage did not feed the 1840s British railway mania, and Battacharya et al., find that media reporting played only a limited role in the 1990s internet bubble.[105] Likewise, studying the early twenty-first century, Thompson (2015) finds financial journalists' impact was limited.[106]

After a financial crisis broke, subscribers stopped trusting previous expectations. Keynes noted this when he discussed animal spirits: businessmen expected so many surprises that they were not prepared to perform their usual jump into uncertainty when making new investments. The only thing they felt sure about was that surprises would continue.[107] News being its own complement, more financial news led to a higher demand for news, just as the

[103] Paul C. Tetlock, "Giving content to investor sentiment: the role of media in the stock market," *Journal of Finance*, Vol. 62 (2007), pp. 1139-1168; Diego Garcia, "Sentiment during recessions," *Journal of Finance*, Vol. 68 No. 3 (June 2013), pp. 1267-1300. Joseph E. Engelberg and Christopher A. Parsons, "The Causal Impact of Media in Financial Markets," *Journal of Finance*, Vol. 66 No. 1 (February 2011), pp. 67-97, examining regional news find also that stock price movements are very sensitive to the reporting and publishing of new information.
[104] Shiller, *Irrational exuberance*, pp. 85-105.
[105] Gareth Campbell, John D. Turner and Clive B. Walker, "The role of the media in a bubble," *Explorations in Economic History*, Vol. 49 (2012), pp. 461-481; Utpal Bhattacharya, Neal Galpin, Rina Ray and Xiaoyun Yu, "The Role of the Media in the Internet IPO Bubble," *Journal of Financial and Quantitative Analysis*, Vol. 44, No. 3, June 2009, pp. 657–682.
[106] Thompson (2015).
[107] John Maynard Keynes, *The General Theory of Employment, Interest and Money* (Palgrave MacMillan, 2007; orig. edn. 1936).

yield curves on Bloomberg terminals fed demand for news stories explaining them.

During the 1987 financial crisis, the first major one after the terminal revolution had run its course, combining financial and general reporting benefitted those who could provide both on a global scale. The editors of Reuters, for example, noted how they had provided coverage from financial centres across the globe and included news that could affect the crisis. Every time Wall Street dropped a hundred points, a news snap was sent out. Coincidentally, Reuters' new Equities 2000 terminal was one of the few that could keep up with the market falls.[108] An internal report commented:

> "Economic and general reporters combined to produce a breath of coverage unmatched…by our competitors: concise market reports, reviews of the needs for new techniques to cope with colossal moves in share prices, the strains placed on the stock exchange computer systems, the chances of a recession, the political implications for President Reagan and next year's presidential candidates, Treasury Secretary James Baker's man-in-the-middle role, the effect of Reagonomics, the losses at brokerage houses, colour piecers on the frenzy in the exchanges and brokerage houses, the atmosphere in Wall Street bars and the attitude of small investors."[109]

In the 2008 financial crisis, the links between financial and general reporting became even more pronounced, most notably in the effect on the housing market and the subsequent recession. Thompson (2015) notes that financial journalists were quite uncritical of financial institutions' exotic 'safe' investment products that proved to be risky, but does not find conclusive evidence that more critical reporting could have mitigated the crisis. Tunstall (1999), however, notes that integrated agencies faced conflicts of interest: the more movement and insecurity in financial markets, the more they gained from commissions on transactions through their terminals.

[108] Read (1999), pp. 466-467.
[109] Read (1999), pp. 467.

Conclusion

Bloomberg and Thomson-Reuters are major sellers of business news, along with other large firms such as Dow Jones, as well as a fringe of small niche firms. For Reuters business news has been a main revenue source from its beginnings in the 1850s. Since the 1960s 'terminal revolution', it sharply increased the sales of trading data on stocks, bonds, exchange rates and commodities, alongside its financial news. For Bloomberg, financial data was the reason for its founding in the 1980s. It began selling data through its terminals, but then hired journalists to provide financial news as a complement, followed further downstream by radio, television, magazines and other products. For both agencies, general news was just the icing on a vast cake of financial news and data revenue.

When during the 1960s increased trading volumes led to paper overload in securities trading, computers became widely adopted. This played into the hands of the agencies that could provide the data, the terminals and the news stories, making existing markets more efficient and sometimes creating market platforms where none existed. This revolution involved successive step-changes in the relation between data user and provider that foreshadowed the internet's arrival three decades later (see Diagram 3).

Despite many firms entering, Reuters and Bloomberg emerged as winners from this revolution. Quality was easy to increase by developing data terminals or expanding news reporting. Even a small quality increase attracted a disproportionate premium from subscribers. Perhaps paradoxically, this led to a quality race, a competitive, synergistic escalation of outlays both on terminal development and news reporting. Reuters and Bloomberg won, partially because they provided both, instead of only one or the other.

Demand for their products was further increased by the convergence of financial and general news---yielding another synergy for those who could provide both---through the rise of 'personal finance' reporting, with newspaper 'money' sections proliferating, and through traders demanding reflective news on their terminals next to the data feeds, if only because their clients mentioned these. Even after Reuters' news and data business split, they remained mutually dependent through a thirty-year contract.

Deregulation, financialisation and globalisation had stimulated the growth of news

Diagram 3. *Selected historical step-changes in the relation between data buyers and the data they buy or subscribe to, c. 4000 BCE to the present.*

Since	Nature of data transmission and reception	User interface	Cases	Cost to user
c. 4000 BCE -	Physical market squares / trading floors	One's person (voice, gestures); signs / boards	Corn Exchanges; London Stock Exch.; London Metals market	Ancient market rights / position on the market
15th century	Blanket data feed received	Literacy; paper; screens	Merchants' letters; newsp., telegraph, tickertape, telex, terminals	Reciprocity; price of copy; subscription
18th century -	User can broadcast through the system	Meeting with publisher; paper	Advertisements	Payment for the advertisement
1960s -	Individual stocks data retrievable / queriable	Proprietary hardware terminal and printer; later video	Quotron; Reuters Stock Master	Subscription to both data stream and hardware
1970s -	Virtual market place	Proprietary hardware video terminal	Reuters Money Monitor	Subscription to both data stream and hardware
1970s -	User can submit data to the system	Proprietary hardware video terminal	Reuters Money Monitor	Subscription to both data stream and hardware
1980s —	Users can transact through the system	Proprietary hardware video terminal	Various Reuters products	Subscription to both data stream and hardware
1980s -	User can message through the system	Proprietary hardware video terminal	Bloomberg IM	Subscription to both data stream and hardware
1990s -	Automated trading programmes	Proprietary hardware video terminal	Investment funds	Subscription to data stream,hardware, and to aut. trading software
2000s -	No need for propr. hardware anymore to access system	Personal computer; telephone, tablet, watch	Almost everywhere, incl. consumer services	Subscription to software only
2000s -	Users can interact with each other and broadcast at the same time	Website, mobile phone app	Social media (precursors were mass emails from late 1990s)	Consumer marketing; low-grade information because free

Notes: The periodisations are approximate.
Sources: See text.

agencies, combined with historical contingencies such as the 1970s Bretton Woods fixed exchange rates collapse that cemented Reuters' position in foreign exchange and the 1980s Federal Reserve policy that helped Bloomberg dominate bond markets. The role of Reuters and Bloomberg, and other financial news providers, in the world economy and in financial bubbles undoubtedly will be debated for many years to come, with calls continuing for better trained, more critical financial journalists holding firms, regulators and governments to account.

Further reading

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Bloomberg

Reuters

AFP

AP

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