FINANCIAL CONDUCT AUTHORITY

Market Study

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Wholesale Data Market Study

Report

February 2024

How to respond

We welcome views from stakeholders on the next steps. Please send these to WholesaleDataMarketStudy@fca.org.uk by **12 April 2024**.

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Chapter 1

Executive summary

Why we conducted this market study

1.1 Wholesale data plays an important role in wholesale financial markets. This data is used to identify investment opportunities, execute trades of financial assets, make investment decisions, evaluate firms' financial positions and meet regulatory obligations. When wholesale data markets function well, users of that data can make well-informed decisions on where and how to invest. Effective investment decisions are essential for economic growth and the UK's international competitiveness.

1.2 Many firms who produce, supply and use wholesale data operate across multiple countries. Our focus has been on UK domiciled wholesale data users. Most direct users of wholesale data are firms such as asset managers and investment banks. The cost and quality of the data used in the investment process affects outcomes for retail investors.

1.3 This market study has looked at competition in 3 separate but inter-linked markets:

- The provision of benchmarks across several asset classes, including equities, fixed income, commodities, foreign exchange and interest rates.
- The provision of credit ratings data by credit ratings agencies (CRAs) and their affiliates.
- The provision of market data vendor (MDV) services. This covered the business activities of MDVs related to the redistribution of wholesale data, including trade data, index data, credit rating data, reference data, pricing and valuation data.

1.4 We launched our market study on 2 March 2023 following persistent user concerns about how well wholesale data markets are working. We had already conducted a trade data review and published our findings report alongside launching this market study. That review found that while data users could access data they needed, some data users had little choice but to buy data and switching supplier was difficult. It also found that the way data is sold is complex making it harder for users to make informed choices.

Our findings on the three markets

1.5 Overall, we have not found evidence that firms cannot access the wholesale data they need. Our evidence suggests that firms buy the kind of data they need, and, in most cases, the data they buy is of sufficient quality to meet their needs. For example, around 70% of benchmarks users reported no issues with quality, and 90% of credit ratings users were either positive or neutral when asked about their views on the accuracy or quality of ratings and related services provided by the top 3 CRAs.

1.6 However, across all 3 markets in scope of the study, we have identified evidence of, and drivers for, market power. Users may be paying higher prices for the data they buy than if competition was working more effectively. We identified that:

- **These markets are concentrated.** There are usually no more than 3 key providers in each market, most of whom have maintained a significant market share.
- **Most key providers are highly profitable.** They have maintained high profitability (with operating profit margins of at least 30% and, in some cases, more than 60% in the period 2017-2022).
- **Data from key providers is essential.** Users regard sources of data from most key providers as essential as there are limited or no effective alternatives. In some cases, providers have exclusivity over data, for example the unique data held by CRAs. If users need this exclusive data they can only get it from those providers.
- **Key providers face limited competition from challenger firms.** There are barriers to challenger firms entering or expanding in these markets. Challenger firms struggle to overcome network effects, compete with well-established brands and access input data needed for creating wholesale data products.

1.7 The costs of wholesale data are initially incurred by data users, such as banks or asset managers. Such costs will, at least in part, ultimately be passed on to end investors. However, for most users data costs are a relatively small proportion of their total costs. There may be a similarly small proportionate impact on the prices charged to end investors but this is not easily quantifiable. Indeed, many firms were not able to identify how higher data charges have or would be passed on to investors.

Credit ratings data

1.8 Credit ratings are a form of credit assessment undertaken by independent firms, commonly known as CRAs. Credit ratings can be a prerequisite to issuing bonds, and banks distributing their securities. They affect commercial lending interest rates, and influence asset allocation in global investment portfolios.

1.9 Credit ratings and the CRAs whose primary businesses operate within the UK are subject to the UK Credit Rating Agencies Regulation (UK CRAR). The UK CRAR aims to enhance integrity, transparency, governance, and competition within the credit ratings sector. Article 13 of the UK CRAR requires CRAs to publish public ratings for free.

1.10 While public ratings are available for free, for many commercial and regulatory functions, institutional investors need access to comprehensive ratings databases with market wide coverage of different securities. Many investment firms must buy credit ratings data feeds for these functions. These data feeds are commonly provided by unregulated data affiliates of CRAs and third-party distributors such as MDVs. This market study focuses on these data feeds. Around 95% of ratings included within data feeds are issued by affiliates of CRAs based outside the UK, so are not directly subject to the UK CRAR.

Key findings

1.11 **Data affiliates of the 3 largest CRAs – Moody's Investors Service, S&P Global Ratings and Fitch Ratings – account for over 99% of revenues for data feeds.** Competition in the ratings data feed market is directly influenced by the CRA issuer services market, which is concentrated among the 3 largest CRAs. The 3 largest CRAs collectively have over a 90% share of the UK issuer services market. The UK data feed market is estimated to generate revenues of up to £90m annually, in comparison to £300m from CRA issuer services. We estimate that product level profit margins of the data feeds sold by the 3 largest data affiliates may be up to 45%. Analysis of return on capital employed (ROCE) further indicates that throughout 2017-2022 data affiliates achieved levels of profitability exceeding their cost of capital.

1.12 **Using ratings data from the 3 largest CRAs is essential for many investors for comprehensive coverage of markets for investment strategy and regulatory requirements (particularly capital requirements calculations).** Many investors require potential investments to have ratings from at least 2 CRAs. This creates a situation where data users need to multi-source data from multiple credit ratings data affiliates to ensure coverage and completeness of data. This feature of demand limits the scope for users to substitute between data providers. Almost two thirds of respondents to our survey stated they used data from multiple CRAs, citing coverage as the key reason. Around 40% of respondents explicitly referenced using ratings from the largest 3 CRAs. The extensive use of ratings for investment firms means many have to purchase commercial data feeds from more than one data affiliate. For many firms, this means the ratings from different CRAs are complementary, rather than substitutable.

1.13 **Data feed users were generally positive about the accuracy and quality of the largest 3 CRAs' data feeds**, stating they meet expectations and requirements, and highlighting the wide, global coverage and that ratings were regularly updated. Most concerns raised were not about the data feeds specifically, but focused on the methodologies of CRAs, particularly pointing out past inaccuracies of individual ratings of predicting risk of default.

1.14 **There are barriers to entry in the data feed market for smaller challenger CRAs, due to their limited market coverage in the ratings market, less historical data for modelling and weaker brand reputation.** These CRAs may instead provide access to databases of their ratings online for free, but these databases are not viable substitutes for commercial data feeds. This is primarily because they do not have the same coverage as the largest 3 CRAs. Challengers also struggle to overcome reputational barriers. Our survey found 77% of users of credit ratings preferred the largest 3 CRAs due to perceptions of their quality, plus market familiarity and acceptance of their methodologies. This means the 3 largest CRAs data affiliates face limited competitive pressure for their data feeds either from each other or from challenger CRAs.

1.15 **MDVs are important data providers but do not impose material competitive pressure on CRAs' data services.** Of those users that purchase data feeds, our survey found over 70% of them access it through an MDV. However, redistribution licenses between MDVs and CRA data affiliates limit the amount of data which users can access without buying an additional license from CRA data affiliates. This prevents MDVs from generating an independent source of competitive pressure to constrain CRAs' data services.

1.16 **Pricing of data feeds lacks transparency and users' ability to negotiate prices is limited.** Data affiliates are not obliged to, and typically do not, publicly disclose their data feed prices. 63% of respondents identified a concern over contract and licence terms. Users expressed their concern to us that this makes it hard to negotiate. However, given the relatively modest size of data feeds revenues, it is unlikely that high pricing has a significant material impact on end investors.

Benchmarks

1.17 Index providers or benchmark administrators supply indices and benchmarks to provide information about a wide range of markets. A range of market participants use indices to monitor the movement of capital markets. Benchmarks are used in financial markets to measure the performance of investment funds for specified purposes and to determine the value of financial instruments. Examples of these benchmarks include LSEGData & Analytics' World Market Reuters, which is used in the foreign exchanges (FX) spot market, and S&P Global Commodity Insights price benchmarks, which are used in the price assessment of various commodities such as oil and natural gas.

1.18 Providers of indices and benchmarks generally develop, calculate, and maintain a range of indices. They earn revenue from licensing their use to clients, as benchmarks or for other purposes such as internal use or redistribution. As of February 2024, the UK Benchmarks Register lists 35 UK benchmark administrators and 9 third country administrators. However, third country benchmark administrators are not currently required to be listed on this register to provide benchmarks into the UK.

1.19 Use of benchmarks and indices has increased significantly in recent years. Particularly, usage of index linked investment products, often known as passive investing, has grown in popularity. According to the Investment Association (IA), index-linked strategies accounted for one third of total assets under management (AuM) in the UK in 2022, increasing from 21% in 2012, with growth in exchange traded funds being an important driver. From the financial evidence we collected, we estimate that revenue of benchmark administrators generated from the sale of indices and benchmarks to UK-based customers has nearly doubled since 2017, to reach around £600m in 2022.

Key findings

1.20 For benchmarks used to price financial contracts **strong network effects mean the market usually tips in favour of one industry standard benchmark**. Using a benchmark reduces transaction costs by providing parties with a common basis for establishing the price or contract terms. This makes it easier to trade and increases liquidity in the market. As liquidity increases with many products being linked to the benchmark, other market participants also adopt the same benchmark. This process can continue until all existing and new market participants use the same benchmark. Once a benchmark becomes the industry standard, it is unlikely to be displaced. This happens in many but not all cases we have seen throughout this market study. Where these network effects are strong, **there is very limited ongoing competition between benchmarks once an industry standard is established**.

1.21 Some benchmarks represent the value of a portfolio of underlying assets. These benchmarks are typically used in investment products, for example to create index-linked funds or for performance benchmarking. Examples of benchmarks used in this context include popular stock market indices such as the FTSE 100 Index and S&P 500. For these types of benchmarks, we found that **investors demand use of established benchmarks but may have limited visibility over price and quality of different benchmarks**. This precludes asset managers from switching to alternative benchmarks that they may consider to be suitable and cheaper.

1.22 **70% of users who responded to our survey are satisfied with the quality of benchmarks, and suppliers innovate by introducing new products** to meet client demand or fill a market gap.

1.23 These market dynamics create market power for key benchmark providers. Operating margins earned by established benchmark administrators were around 56% on average during the analysed period, exceeding 60% in certain instances. In contrast, those of challengers and new entrants were significantly lower and inconsistent when compared with established benchmark administrators (around 11% on average).

1.24 This market power enables benchmark administrators to adopt commercial practices which can lead to higher prices for some users:

- **Complex and opaque licensing that reduces users' ability to compare prices and leads to higher costs.** 64% of users who responded to our survey consider it difficult to compare prices and/or the suitability of products. They said that they have limited ability to negotiate with providers and challenge price increases. This enables benchmark administrators to charge different prices to data users based on how much they are willing to pay for data, rather than the cost of supplying data to them.
- **Contractual clauses that increase barriers to switching.** Some benchmark providers use contractual clauses which require users to purge or cease using historical data if they terminate a contract, or to pay a fee for a perpetual license for such data. These clauses can create barriers to switching that reduce competitive pressure on key benchmark providers.

Market Data Vendors

1.25 MDVs play a key role in the distribution of wholesale data. While MDVs' formatting, aggregating, and distributing wholesale data to end users is largely unregulated, many firms use MDV services to inform their decisions about regulated activities. In 2022, the UK revenue of our sample of MDVs was £3.3 billion.

1.26 There are different types of MDVs, providing a wide range of services which reflect different business models. The main differentiating factor revolves around the source of the data being sold. On one side, there are MDVs whose core offering involves buying and re-selling of third-party data. On the other, there are vendors whose primary services involve the sale of proprietary data, such as trade data and credit ratings data. We have focused on firms that license wholesale data from data generators (which may also include entities within the same group as the MDV we looked at) and then distribute this data to users.

Key findings

1.27 Overall, we found that **users have a choice of MDVs who compete in data coverage, pricing, customer service, reputation, fee structure and how data can be used**, among others. Around 60% of our surveyed users believe that there are credible alternatives to their current provider; around 40% have switched or partially switched, and more than 80% multi-source.

1.28 **There are high levels of concentration and recent consolidation in MDV markets.** The UK MDV market is highly concentrated in terms of revenue generated, with 2 firms accounting for most of it. Other firms' contribution to aggregate revenue is in the low single-digit percentage range. In the past 5 years the MDV market has seen significant consolidation through mergers and acquisition activity. However, existing firms in the market have entered new market segments and developed new products and services.

1.29 **It may be difficult for some MDV users to switch provider.** Around 70% of respondents suggested switching was difficult or identified a barrier to switching. Some respondents suggested that there was a lack of alternative providers who could provide the same data coverage, quality or equivalent functionalities and services as their existing provider. This indicates that alternative MDV providers are not completely interchangeable. However, we did also see a considerable level of switching – around 40% of users told us they had switched or partially switched provider in the last 5 years.

1.30 **MDVs' pricing practices can lead to some users paying more for the data.** MDVs bundle different products and sell them together, which reduces transparency and can increase costs. However, users can also benefit from bundled options. Users highlighted examples where previously bundled functionalities were unbundled and for which they had to purchase additional licences.

1.31 **Complex licensing practices by MDVs and trade data providers who deliver their data through MDVs increase costs for data users.** Many MDV users have to hold licences both from the data generator (such as a trading venue) and from the MDV through which they access data. We have seen an increasing proliferation of licences for similar data types and different use cases. Complexity also drives additional costs for data users, such as operating a compliance team.

Next steps

1.32 We have identified several areas where more effective competition could be encouraged in wholesale data markets to improve outcomes. We want to see open and competitive wholesale data markets where data is easily and widely accessible to data users on a transparent, fair and reasonable basis. We have considered the full range of tools that could help achieve this. In considering our next steps we have taken into account:

- The considerable amount of regulatory change and supervisory activity that is already taking place in wholesale markets in general, and benchmarks and CRAs in particular under our programme of work to strengthen the UK's position in global wholesale markets.

- The need to view any potential next steps in the holistic context of the current regulatory regime and the changes being introduced through the Smarter Regulatory Framework.
- The global nature of these markets. UK domiciled data providers will frequently supply to customers around the world and UK domiciled users will frequently access their data needs using data providers based overseas.
- The need to be proportionate to the harm and to avoid interventions that may have unintended consequences in markets where, for the most part, users are able to access data that meets their needs and is of suitable quality.

1.33 The drivers of many of the issues we have identified are rooted in the market power of key providers. Tackling this market power directly could place at risk the benefits that some current market structures can provide for data users and financial markets more broadly. For instance, there are liquidity and efficiency benefits from having one industry standard benchmark to price financial contracts. Similarly, increasing the number of 'must-have' credit ratings agencies that data users need to buy data from could increase costs. We are also mindful that limitations on pricing could have unintended consequences such as lowering the quality of wholesale data, reducing innovation or restricting the availability or access to data.

1.34 We will focus our next steps on two broad areas – looking at where the issues identified in the market study could be addressed through the Smarter Regulatory Framework and tackling firm specific issues using other tools such as our powers under the Competition Act 1998.

Work we plan to take forward

1.35 Following the introduction of the Smarter Regulatory Framework by government, we have initiated a substantial programme to review our regulatory framework in wholesale markets. This programme is considering whether improvements can be made to make the regime more proportionate whilst still delivering on the desired objectives and updating the regimes for evolving markets, products and participants. This substantial package of regulatory reform, including the Wholesale Market Review and the Primary Markets Effectiveness reform, involves multi-year projects which are considering a wide range of topics.

1.36 Our scope to make changes to existing regulatory requirements may be increased as Treasury reviews the regulations relevant for wholesale data markets. We will use the findings of this market study to inform potential changes to these regulations that could help address the issues we have identified. As the relevant regulations are reviewed under the Smarter Regulatory Framework, we plan to:

- look at whether regulations could be improved so wholesale data is provided on a transparent, fair and reasonable basis. However, we do not plan to consider options for directly regulating prices of wholesale data.
- consider how free credit ratings data sources could be enhanced to act as a viable alternative data source for firms to meet their regulatory requirements.

- look at whether the UK MiFID II requirements for regulated firms to provide market data on a reasonable commercial basis could help address issues identified relating to data generators.

1.37 The review of these regulations through the Smarter Regulatory Framework will take a number of years and, where relevant, will need consideration of international developments and the regulations in other jurisdictions given the international nature of some of these markets. Should we propose to make and change rules and guidance, we will consult on our proposals.

1.38 We will also use the findings from this market study to inform our ongoing work on developing consolidated tapes for bonds (due to start operating in 2025) and equities. A consolidated tape could increase competitive pressure on existing wholesale data providers resulting in cheaper, higher quality and more accessible data for users.

1.39 Finally, where we see firm specific practices that harm competition, we will consider the full range of our tools to tackle these. For example, we have powers under the Competition Act 1998 (CA98) to examine whether anti-competitive conduct or agreements underpin any competition issues, and if so, we can take action to tackle these.

Decision on a market investigation reference

1.40 We conducted this market study under the Enterprise Act 2002. When conducting a market study under the Enterprise Act 2002, the FCA may make a market investigation reference (MIR) to the Competition and Markets Authority (CMA) where the statutory criteria have been met. We have the power to make an MIR where we have reasonable grounds for suspecting that a feature or combination of features of a market or markets in the UK prevents, restricts or distorts competition.

1.41 In determining whether to make an MIR we consider whether it is appropriate in the circumstances when judged against the criteria set out below. We expect to make an MIR where all of the following criteria are met:

- It would not be more appropriate to deal with the competition issues identified by applying the CA98 or using other powers available to us.
- It would not be more appropriate to address the problem identified by means of undertakings in lieu of a reference (UIL).
- The scale of the suspected problem, in terms of its adverse effect on competition, is such that a reference would be an appropriate response to it.
- There is a reasonable chance that appropriate remedies will be available to the CMA.

1.42 A further key factor is whether we foresee the need to implement remedies affecting firms that we do not regulate.

1.43 In our update report on 31 August 2023, we noted that there were reasonable grounds for suspecting that some features of the benchmarks, credit ratings data and market data vendor services markets prevent, restrict or distort competition. However, our provisional view was that we should not make a MIR for any of the 3 markets. We consulted on this provisional decision in our update report.

1.44 In the consultation responses to our provisional decision, we received 2 responses disagreeing with our provisional decision. These respondents felt there was sufficient evidence contained in our update report to demonstrate a range of competition concerns. These included complex licencing terms, selling products as packages, unreasonable termination requirements, price discrimination and limited ability to switch providers. Both respondents were, however, supportive of the holistic approach to regulation we set out in our update report as one reason why we were not proposing a MIR for any of the markets.

1.45 We also received 5 responses supportive of our provisional decision. This was because respondents thought competition is working well in these markets or that the scale of competition concerns was too limited to warrant a market investigation. One respondent agreed we were best placed to tackle issues identified in these markets, including for the reasons set out in our update report.

1.46 Having considered these responses, our view remains that we should not make a MIR to the CMA on any of the 3 markets at this time. We have identified areas where competition does not work well in each of the markets. However, we are in a strong position to lead on shaping a holistic and proportionate approach to tackle the issues we have identified, taking into account the broader regulatory context and our other work in wholesale financial markets. Our understanding of these markets provides a strong evidence base that will support us in doing this. We are also well placed to work with stakeholders who can play a role in tackling these issues, including the Treasury and other international regulators. We also have powers under the CA98 to tackle anti-competitive conduct in some wholesale data markets. We think overall this is a more proportionate approach to addressing the issues identified in the market study.

Next steps

1.47 This report marks the end of our market study. We would welcome views from stakeholders on the next steps we will take forward. Please send these to WholesaleDataMarketStudy@fca.org.uk by 12 April 2024.

Chapter 2

Overview of the study

Why we conducted this market study

2.1 Wholesale data plays an important role in wholesale financial markets. This data is used to identify investment opportunities, value financial positions, execute trades, make investment decisions, evaluate firms' financial positions and meet regulatory obligations. It is important that wholesale data markets function well so that capital market participants can better understand the value of their holdings. In turn, they can make well informed decisions on where and how to invest.

2.2 Effective investment decisions are essential for economic growth and the UK's international competitiveness. Markets in which firms compete to provide good quality wholesale data will also help to maintain the UK as an attractive place to do business for a wide range of financial service providers, and so support the UK's international competitiveness.

2.3 This market study is a key piece of work in delivering the strategic aim set out in our Business Plan for 2023/24 to strengthen the UK's position in global wholesale markets and our commitment to promoting competition and positive change. Well-functioning wholesale data markets will play a central role in achieving these goals.

2.4 Our 2022 Financial Lives Survey highlighted that over 72% of all UK adults have a holding in a private pension (of which 57% is in accumulation). 9.3% of UK adults invested in an investment fund or endowment and 17% in a stocks and shares ISA. Therefore, if competition is not working well in wholesale data markets this is likely to affect many consumers through its impact on the costs, quality, access and choice of investment products, and ultimately their investment decisions.

2.5 Over the years, concerns have been raised about how well wholesale data markets function. Following our Call for Input on access and use of wholesale data, we published a Feedback Statement in January 2022 which highlighted concerns that competition may not be working well.

2.6 Our Feedback Statement outlined concerns from benchmark users in response to the Call for Input about unnecessarily complex and opaque contracts and barriers to switching between benchmarks. Benchmark users were concerned that this led to price increases that did not correspond to increases in costs or improvements in service quality.

2.7 The Feedback Statement also set out concerns about MDVs and credit ratings data. Users highlighted practices indicating that these markets are not working well. These included bundling of core services with other data services, making it difficult for users to switch, restrictive terms around data usage, high barriers to market entry, high charges for users when renewing their contracts and a low level of meaningful innovation in the market.

2.8 Following our feedback statement, we launched this market study on 2 March 2023.

2.9 We also conducted a trade data review and published the results alongside this market study launch. We found that trade data users generally can access the data they need and this data plays an important role in investment activity in the UK. However, we also found areas where competition is not working as well as it could. These included:

- some trading markets are concentrated among a few firms so there is little choice for users not to buy this important data and switching supplier is not an easy option
- the way data is sold can be complex, making it harder for data users to make informed choices
- complexity and limited choice result in additional costs to data users, which are likely to be passed on to UK retail investors and savers
- despite rules in place requiring delayed data to be distributed for free, many users end up with little choice but to pay for data.

International nature of wholesale data

2.10 The firms that produce, sell and use wholesale data operate from and across the UK and other countries. The largest firms in each of the 3 markets have a recognisable global reach and provide their data across multiple countries, including the UK. The focus of this market study has been on the UK markets for benchmarks, credit ratings data and MDV services, as set out in our terms of reference. However, the international nature of these markets is important for considering how competition works in these markets and how it can be improved to deliver better outcomes for data users and consumers.

2.11 We have an objective to promote effective competition in the interests of consumers, which is not the case for all international financial regulators. However, similar concerns about wholesale data markets to those we identified have been highlighted in other jurisdictions. For example, the European Securities and Markets Authority (ESMA) set out in an Opinion paper in September 2021 the options it saw for addressing some similar findings about credit ratings data. One of the paper's key findings was that although users could view credit ratings on the websites of the 3 largest CRAs operating in the EU, access was still restricted as users were required to register with the CRA in order to obtain information about credit ratings. ESMA concluded in that paper that legislative changes were needed to improve access to and use of credit ratings. It further highlighted that these could be implemented through changes to the Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies or through the adoption of alternative legislation. Our engagement with international regulators during the study also revealed concerns in other countries about similar issues to those highlighted in our Call for Input and discussed in our market study update report.

2.12 The international nature of wholesale data markets is important in considering how competition can be improved. Any future steps we take will be informed by this international context. This is particularly important in the context of our secondary objective to facilitate, subject to aligning with relevant international standards:

- the international competitiveness of the economy of the UK (including in particular the financial services sector), and
- its growth in the medium to long term.

What the study covered

2.13 The scope of the study was competition in the provision of benchmarks, credit ratings data and MDV services. The full scope is set out in the terms of reference published when we launched the study.

2.14 We used our competition powers under the Enterprise Act 2002 to conduct the market study. This allowed us to look broadly at wholesale data markets, including those that do not fall within our regulatory remit under the Financial Services and Markets Act 2000. We were able to gather information from a broad range of stakeholders who create, distribute, and use wholesale data to understand how these markets work and the implications for data users and retail investors.

Benchmarks scope

2.15 We looked at benchmarks across several asset classes, including equities, fixed income, commodities, foreign exchange and interest rates.

2.16 To form an accurate view of competition, we also considered business activities of suppliers related to indices that fall outside of the scope of the UK BMR. We did not include LIBOR in the scope of the market study as panel bank LIBOR has now ceased.

Credit ratings data scope

2.17 This study predominantly focused on CRA data subscription services provided by CRAs and their affiliates. This included any services available to UK clients, of which a key component is access to a database of credit ratings, which we refer to as data feeds. Due to the CRAs' global nature, we assessed both UK-based and international firms that provide data feeds to UK customers. We also explored the extent to which credit ratings available for free provide a viable alternative to data feeds. We also considered how far other services provided by CRAs, such as research and analytics, are typically purchased alongside data feeds, and their influence on choice.

2.18 To understand the market for data feeds, we also looked at the provision of credit ratings services to issuers, which we refer to as issuer services. The extent and nature of services that generate credit ratings will influence the coverage of any CRA data feed. We therefore looked at the role of ratings produced without payment or involvement from issuers, known as unsolicited ratings, in allowing competitors to build up rival subscription services with competing coverages.

MDVs scope

2.19 This market study focused on business activities of MDVs involving the redistribution of wholesale data. This includes trade data, index data, credit rating data, reference data, pricing and valuation data. We focused on firms that license these types of wholesale data from data generators (which in some cases included entities within the same group as the MDV) and then distribute this data to users.

2.20 We did not focus on other types of information that MDVs provide, such as news, research and analytics. However, we considered these to the extent that they are needed to assess competitive dynamics between MDVs as part of their redistribution activities.

Themes we considered in the study

2.21 As set out in the market study's terms of reference, we focused on 6 cross-cutting themes which collectively reflected the issues raised in responses to the Call for Input, and which we used to focus our analysis of competition in these markets:

Figure 1: The 6 cross-cutting themes

Evidence used to inform the market study

2.22 Our market study has been informed by a broad range of information and engagement with stakeholders throughout the study.

2.23 Following the launch of our market study, we consulted on the terms of reference and if we should refer 1 or more of these markets to the CMA. We received 28 responses from stakeholders including benchmark administrators, trading venues and MDVs, financial firms and trade associations. Overall, the potential competition concerns in these responses were in line with previous issues highlighted to us in these markets.

2.24 We sent requests for information to different types of firms across the markets for benchmarks and indices, credit ratings data and MDV services. We received around 50 responses from suppliers and around 140 responses from users of wholesale data. We also spoke with a range of firms that provide and use wholesale data to understand their experience of how these markets work and the issues and challenges they encounter.

2.25 We also received financial information from firms. We used this to analyse firms' business models, their corporate structure and their financial performance. The aim of this analysis was to better understand the structure and outcomes of each market. The complexity of identifying UK consumers in a global wholesale market has meant that some firms' financial data may either over or under estimate market size, though a review of our sample identified no consistent bias.

2.26 As part of our requests for information, we received transaction level data covering 2017 to 2022 from a sample of credit rating agencies, benchmark administrators and MDVs. The data includes information on revenue broken down at the client, contract, and product level where available. The aggregated transaction level dataset used for our analysis contains data from a total of 8 benchmark providers, 5 MDVs and 5 CRAs and their affiliates. We analysed this data for evidence to inform our understanding of the relevant markets including revenue and pricing trends, and the extent and nature of firm practices and behaviour such as price discrimination. We refer to findings from the analysis of the transaction level data throughout the report as 'transaction level analysis'.

2.27 When we published our update report in August 2023, we invited views on the issues set out in the update and our provisional decision not to refer any of the markets to the CMA. We received 17 responses to the update report. These provided important information that have informed our findings and the next steps set out in this report. This included:

- Information about the issues set out in the update report. We received a range of views in support of and challenging our emerging findings about how competition works in these markets.
- 7 responses to the consultation on our provisional decision not to refer any of the markets to the CMA.
- Suggestions on the types of remedies or other actions we could take to address issues identified in these markets.

2.28 We engaged with regulators in other countries to see if they are facing similar competition issues across these markets and how they are tackling them. This highlighted similar concerns about market features, such as lack of transparent pricing practices, the level of charges, bundling practices and complex licensing agreements.

Purpose and structure of this report

2.29 This market study report sets out our findings. It also sets out the work we plan to take forward to identify potential ways to address the concerns we have identified. Lastly, it includes our decision not to make a market investigation reference to the CMA and the reasons for our decision.

2.30 The rest of this report is structured as follows:

- Chapter 3 sets out the theoretical framework we considered when assessing the market features and potential harms for each of the markets within scope of the market study.

- Chapters 4 – 6 set out our findings on how competition works in each of the 3 markets and the next steps we plan to take in response to concerns identified.
- Chapter 7 sets out our decision not to refer any of the 3 markets to the CMA for a market investigation at this stage and our reasoning for this.
- We have also published annexes that give a more detailed analysis of how competition works in each market and the financial data we gathered from suppliers in each of the 3 markets.

Chapter 3

Our economic approach to wholesale data

3.1 In undertaking this market study we considered where competition issues may arise, given the previous evidence and information we gathered during the accessing and using wholesale data Call for Input (CFI), Feedback Statement (FS22/1) and Trade data review, as well as the associated engagement we have had with a range of market participants and international stakeholders. Our understanding of these markets and potential competition issues was also informed by the regulatory role we have for these markets, including competition and supervisory responsibilities.

3.2 In this chapter we summarise the economic characteristics of wholesale data; the relationship between price discrimination and licensing; and the potential competition issues we considered, including the drivers and impact of market power and the potential impact of ineffective competition on consumers. This is the theoretical framework we used when assessing the market features and potential harms for each of the markets within scope of the market study.

The economic characteristics of wholesale data

3.3 The importance, and value, of data is now recognised across the economy, and in financial markets particularly. It has been a number of years since data became popularly known as "the new oil".

3.4 In contrast to many physical assets, data has a unique combination of characteristics. Data is typically thought to be non-rivalrous – one person's use of a piece of data does not impede someone else using the same piece of data for a different purpose. It is also non-depletable – it does not run or wear out through use. The value, or usefulness, of data can also change over time (a piece of data may become less valuable as it becomes less relevant) and across users (worthless data to 1 user may be extremely valuable to another).

3.5 The cost of reproducing and distributing data can be very low. Once data is produced, it can be copied and shared with an almost limitless number of users at little or no cost. In these cases, the marginal cost of supplying data on existing platforms can be close to zero.

3.6 Low cost and wide access to data should bring significant benefits to users, financial markets and the wider economy. The efficient operation of markets depends on access to information, so that all market participants can send and respond to price signals through their decisions. In financial markets, information and data is critical in the price discovery process, ensuring liquidity and driving efficient capital allocation. The wider public benefit of universal access to financial data is reflected in regulation which requires certain wholesale data to be made available at no cost, such as credit ratings and delayed trade data.

3.7 Wholesale data can also be subject to network effects – where a user's value from data increases with the number of other market participants using that data – which can have implications for the efficient number of data providers. For example, benchmarks can be more valuable to users if they are widely adopted by other market participants due to the reduced transaction costs associated with more liquidity. Investors can benefit from a wide universe of credit ratings based on a consistent methodology from the same provider to improve comparability.

3.8 However, the cost of generating wholesale data, or developing the infrastructure to distribute it, can be significant. Data generators may incur investment and operating costs developing and deriving data, including research, licensing and production costs, as well as operational costs such as sales, customer service and support. Where data is produced jointly, or as a by-product of another activity, data generation will share some of the costs of the joint activity. During our trade data review some firms told us that trade data and trade execution are joint products, such that it is not possible to incur costs to generate one without the other, or allocate costs to either business activity. Data generators may also incur costs aggregating, cleaning and combining data (with complementary data or functionalities and services) to convert raw data into a product which users value. Further, in wholesale financial markets, where the reliability, speed and accuracy of data are a critical dependency in the effective operation of markets, there may be large up-front investment needed to build platforms to distribute data flexibly, with low latency and with sufficient capacity to meet user needs and realise the potential value data has to users.

3.9 For data generators (including benchmark administrators, credit rating agencies and trading venues) or distributors (including MDVs) who incur costs in the development, production or distribution of data, the low costs of reproduction expose them to risk, which could undermine their incentives to invest in the production and distribution of high-quality data. Similar to other intellectual property (IP), for firms to invest in the production and distribution of data, they need a mechanism to protect their ability to commercialise it.

3.10 This raises the questions of how financial data should be priced to balance the economywide benefits of low-cost access, with the need to provide incentives for suppliers to invest and innovate in the development, production and distribution of high-quality data.

Price discrimination through licensing

3.11 The same piece of data can have very different value for one market participant compared to the next. Data's value can change based on its use, how widely it is used by other market participants, whether it is unique or substitutable, how it is combined with other complementary data and its timeliness. Reflecting its variable value to users, the price users are willing to pay for the same piece of data is also likely to vary.

3.12 Given both the need for firms to commercialise data to have sufficient incentive to develop, invest and maintain data products, and the variation in data's value based on its use, the predominant, but not universal, approach to commercialising data in wholesale financial data markets is for data suppliers (both generators and distributors) to licence

data. Licences are based on use case or applications, including restrictions that limit licences to particular use cases and restrictions on onward sharing. However, many data users have multiple use cases and therefore require multiple licences. Given the number of use cases will often not impact the cost of supplying data to customers, data users often equate the need for multiple licences to paying multiple times for the same piece of data.

3.13 This value pricing is a form of price discrimination. Many wholesale data suppliers, across the 3 markets within scope of the market study, vary the price they charge to different customers based on their expected value of, or willingness to pay for, data, independently of the cost of supplying it to the customer.

3.14 Price discrimination can have a range of effects, including on the distribution of prices and product access. It can widen access by enabling some users to access data at relatively low prices. Although reflecting differences in data valuations and bargaining strength, it may be more beneficial for some data users than others. Price discrimination can also have positive and negative effects on competition, which may in turn have implications for overall price levels and quality of service. When firms price discriminate, the outcomes for consumers depend on specific market features. Value pricing in wholesale data markets may not lead to good market outcomes if a proliferation in the number and complexity of the licences data suppliers impose on their customers increases average prices. In this case value pricing could be indicative of weak competition and suppliers' increasingly sophisticated approach to identifying high-value users' willingness to pay and prices that are not commensurate with production or distribution costs, or improvements in quality.

3.15 Data suppliers can price discriminate on observable characteristics. For example, they may charge customers differently for the same data product based on their industry, size, number of users or locations, or assets under management. They can also vary pricing based on the data product itself, such as its content/coverage, frequency or delivery method. Data suppliers can also price based on explicit use cases, creating licences for alternative uses of the data, such as:

- non-display licences (the ability to feed data into an application or system).
- derived data licences (the ability to use data in calculations and derive other data).
- distribution and reporting licences.
- licences that allow data to be used as an input into other products (product/IP licences).

3.16 To price discriminate on customers' data valuations, data suppliers typically individually negotiate with data users, and have limited incentives to provide transparent price lists or rate cards. Most direct users of wholesale data are firms, and many have experienced procurement, legal or centralised market data purchasing teams to negotiate with data suppliers. Despite this, many data users consider suppliers deliberately obscure their pricing models and create complex licensing requirements. This can have wider consequences for users' ability to comply with licensing restrictions, compare alternative competing providers, and therefore the costs and likelihood of switching providers.

3.17 The extent to which data suppliers can charge customers based on their unique data valuations will vary with their relative bargaining power. In some cases, wholesale data providers can exert considerable pricing power over their customers. This can occur where data is proprietary or exclusive with limited or no substitutes and whose users are price insensitive due to the fact data is essential to their own business, for example due to client or regulatory requirements.

3.18 Some data customers may have their own relative bargaining strengths. For example, they could operate important redistribution channels which increase a data product's visibility or provide additional revenue to the data generator through direct licensing. Data users may also be able to improve their own relative bargaining position. For example, they may use benchmarking or advisory consultancies to provide greater pricing transparency and facilitate their negotiations with data suppliers. Although this is likely to incur a cost.

Drivers and impact of market power in wholesale data markets

3.19 Any form of price discrimination requires a degree of market power. In wholesale data markets the drivers of concentration and market power vary across markets and suppliers, with implications for firms' commercial practices and incentives to invest and innovate. Market power can come from a range of data features and market characteristics, and may also be driven by the characteristics of linked or related product markets, for example where data is produced jointly alongside another activity:

- Exclusivity over data (such as the operators of trading venues).
- A market leading provider with a strong brand mandated by clients (who have limited visibility over their costs).
- A market leading provider with a differentiated product offer which is highly valued by users.
- An industry standard which is mutually beneficial for all users to adopt.
- A provider of unique data used for business critical, regulatory or legal compliance with no alternatives.

3.20 Concentrated markets are not necessarily harmful to users if there is effective competition in, or for, the market. A small number of providers can be efficient, providing users with low-cost products and services and enhancing the efficiency of capital markets, in particular where there are network effects. Many data providers operate in global markets, benefiting from large economies of scale and scope. Data users can also benefit from complementary datasets and other analytical products and services being packaged together on integrated platforms.

3.21 However, when data users want to switch providers, for example, due to concerns over costs or quality of their existing provider, they can face barriers to switching. This can come from negotiation and integration costs. It can also come from contractual commitments, including requirements to remove historic data from internal systems which can have significant operational cost and risk implications for users. Sometimes, given client preferences, market norms or regulatory requirements, there may be

no credible alternative to switch to. As such, wholesale data providers may face limited competitive constraints from users switching, negotiating or terminating their contracts.

3.22 The threat of future entry, or dynamic competition, can be enough to provide a competitive constraint and mitigate the risk of firms exploiting their market power. However, in wholesale data markets, barriers to entry and adoption, including network effects and brand preference, can make it difficult, or potentially inefficient for challengers to enter or expand.

3.23 When market shares are relatively high and stable over time, and the underlying market economics make it difficult for this to be broken, ineffective competition and associated harmful outcomes can be exacerbated by certain firm behaviours or practices. These may vary in different markets, but in wholesale data markets could include:

- **Inefficient price discrimination:** This can come through value pricing which increases direct costs of data access and indirect compliance costs for users, with limited widening of access. Or it could come from value pricing that distorts competition in the downstream markets, by varying the cost of, or restricting access to, business critical data inputs.
- **Barriers to switching:** Contractual terms and pricing practices which increase the cost of search and switching, such as non-transparent pricing, packaging data products and other analytical services together and data removal clauses at contract termination.
- **Barriers to entry:** Foreclosing or restricting the ability of existing competitors to expand, or new providers to enter data markets through practices that increase barriers to entry or expansion, such as bundling and refusal to supply.

Impact of ineffective competition on consumers

3.24 Most direct users of wholesale data are firms such as asset managers and investment banks. They use this data as part of the investment process. Our 2022 Financial Lives Survey highlighted that over 72% of all UK adults have a holding in a private pension, 9.3% of UK adults invested in an investment fund or endowment and 17% in a Stocks and Shares ISA.

3.25 Therefore, if competition is not working well in wholesale data markets this is likely to affect many consumers through its impact on the costs, quality, access and choice of investment products of the intermediaries who invest on their behalf, and ultimately their investment decisions. Given the extensive and varied use of wholesale data, including its importance in enabling investment activities and decisions, the potential harm to end consumers from significant market failures in the supply of wholesale data and capital markets is considerable.

3.26 There are 2 channels through which data suppliers' practices could affect investors and capital markets more widely. These practices can impact the price, quality and range of investment products available to investors, and the level of innovation.

3.27 Firstly, where higher data charges, or lower quality, increase the cost of producing investment products, some of these costs will be passed on to the consumers of these products. Cost increases can reflect higher data prices directly, but also indirect costs, such as the administrative cost of complying with extensive licensing restrictions or mitigating the risk of low quality data. The extent to which these costs can be passed on to investors will vary across products and markets. In many cases increases may be relatively small, to the extent consumers may not be aware, and it may have limited impact on investment decisions and choices. However, given the prevalence of data as an input into the manufacture of many investment products, a small increase in data charges could have a large aggregate impact. This can raise the average cost of investing across capital markets.

3.28 Further, for certain products, such as passive funds, pass through of data charges may be significant. Investors' choices may be directly impacted if data charges are unduly high or vary across passive fund providers. This could potentially distort investment decisions and lead to inefficient allocation of capital. Finally, where increases in data costs make the provision or development of investment products uneconomic (due to a lack of certainty over the future costs they face), there is a risk of less innovation, less choice and lower access to investment opportunities.

3.29 The second channel reflects the effects of data suppliers' practices on competition across the value chain. Data suppliers' practices have the potential to distort competition in the downstream markets of their data users. This can happen for example by creating an unlevel playing field by price discriminating, or contributing to firm exit by restricting data availability. This has the potential to further increase the price and lower the quality and choice of products available to end investors, by weakening competition in downstream investment markets.

3.30 Where data providers' practices result in unduly high data charges, lower quality or choice, there are wider potential implications for the efficient operation of capital markets. Should data be under-used or mis-used, marginal trades lost or investment decisions influenced, the price formation process in capital markets may be inefficient and price signals in capital markets may misdirect the allocation of capital. This will have negative implications for confidence in capital markets and economic growth in the wider economy.

3.31 Without effective competition or proportionate mitigation of harms, data users and investors could be at risk of being exposed to prolonged periods of increasingly higher prices, poorer data quality and lower innovation. This could also constrain the productivity and growth of the UK economy through weakening the integrity and effectiveness of market price signals and capital allocation.

Chapter 4

Credit Ratings Data – findings and next steps

Introduction

4.1 This chapter sets out our understanding of how competition in the supply of credit ratings data operates, the outcomes we observe and their drivers, and our proposed next steps.

4.2 We start with a brief overview of credit ratings issuer services. It is necessary to understand this market to consider its relationship with the credit ratings data market it enables, and which is the focus of our assessment. We then explore the different users and uses of credit ratings data, and the potential alternatives that users have. This supports an understanding of the importance of credit ratings data to users, and the strength of any competitive constraint resulting from users' scope to switch between different suppliers or services. Our focus is on the distribution of credit ratings and the use of credit ratings data in the UK, but we also recognise that data services have an important global dimension, on both the demand and supply sides of the market.

4.3 We then examine how users access credit ratings, and the rationale for using commercial services, referred to in this chapter as data feeds. We address the role of MDVs in distributing credit ratings data, and whether MDV services compete with CRAs' data feeds.

4.4 There are significant regulatory obligations on CRAs to be transparent and to disclose ratings. We explain to what extent free public sources of credit ratings influence outcomes in the data feeds market and provide an effective alternative for users. We also examine the extent to which other factors influence the balance of negotiating power between users and suppliers of data feeds.

4.5 We then describe the outcomes that we observe in the data feeds market, and assess whether those are consistent with effective competition, highlighting certain drivers of outcomes that raise concerns. Finally, we set out the next steps that we plan to take.

Market overview

Credit ratings and the issuer services market

4.6 Credit assessments evaluate credit risk, namely the likelihood an organisation is unable to meet its financial obligations and pay debts on time. They involve assessing factors impacting organisations' financial health such as cash flow, profitability, management quality and economic outlook. Credit ratings are a particular form of credit assessment undertaken by regulated firms known in the UK as CRAs. Article 3.1 of the UK CRAR covers the full range of services relating to the creation of credit ratings, known as credit ratings activities. For simplicity and to distinguish from data feed services, we use the term 'issuer services' to denote credit ratings activities. CRAR does not cover data feed services.

4.7 There are 9 UK CRAs and a further 4 CRAs based in other jurisdictions who are registered to provide issuer services. The largest 3 CRAs (S&P Global Ratings, Moody's and Fitch Ratings) are the most widely used both in the UK and internationally. The issuer services market is highly concentrated, with these 3 CRAs responsible for over 90% of UK revenue, as set out in our CRA UK Market Share Report for 2022.

4.8 In part to manage potential conflicts of interest, the largest CRAs tend to supply data feeds through separate corporate entities, which specialise in providing data and analytics services to investment firms. These separate entities, which fall outside the perimeter of UK CRAR, generate a growing proportion of total firm revenue. We refer to these entities as data affiliates.

4.9 Regulation plays an important role in the credit ratings market. The UK CRAR applies to both credit ratings and the FCA registered CRAs that produce them. Initially introduced in 2009 by the EU in part as a response to the CRAs' role in the financial crisis, CRAR aims to enhance integrity, transparency, governance, and competition within the sector. Data feed services, provided directly by CRAs or data affiliates, are not subject to EU CRAR or UK CRAR. Due to the global nature of the market, 95% of the ratings available in ratings feeds are issued in jurisdictions other than UK and are not created or monitored under UK CRAR. However, FCA registered CRAs can endorse ratings issued by CRAs in other jurisdictions, if the FCA considers the legal and supervisory framework to be equivalent to UK CRAR.

4.10 Ratings issued by CRAs under UK CRAR or EU CRAR typically involve in-depth credit analysis with quantitative and qualitative components. The conclusion is quantified using an established and defined ranking system of ratings categories, enabling comparison to other debt instruments. This ranking system most commonly uses letter grades typically ranging from AAA (high quality, very low chance of default) to D (in default).

4.11 Credit ratings have an entrenched role in international capital markets. Ratings can be a prerequisite to organisations issuing bonds, and to banks distributing their securities in structured product and securitisation markets. Capital markets regulation (CRR) and Solvency II places specific requirements on large prudential investors who use credit ratings, where available, to calculate capital requirements and minimum liquidity ratios. For regulatory use, UK investors need to use ratings issued or endorsed by an FCA registered CRA.

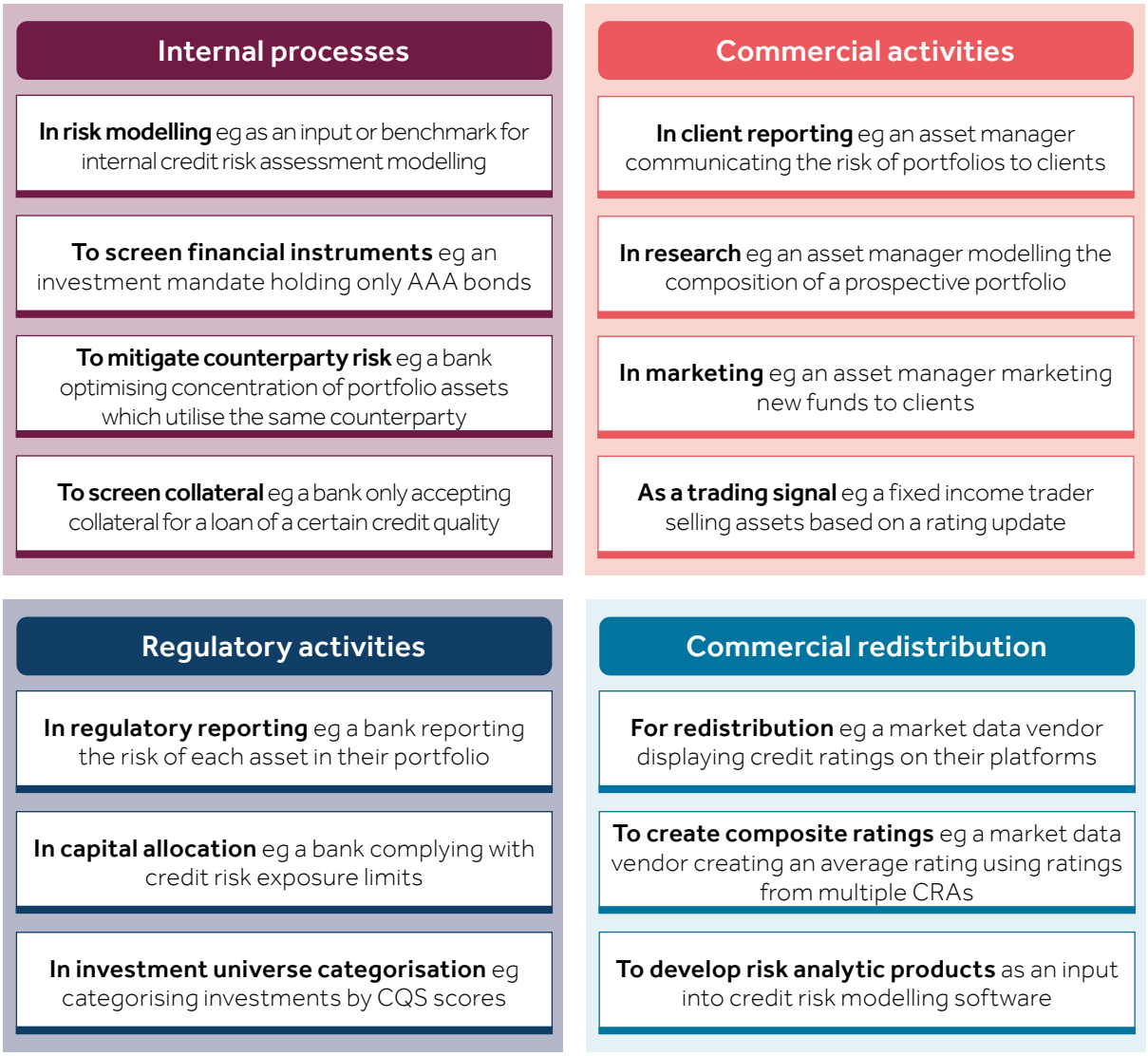
4.12 Our focus is on data feeds comprising of ratings which are disclosed publicly, known as public ratings. CRAs also produce ratings distributed to a list of subscribers. This subscriber distribution is relatively rare in the UK, and usually forms part of an investors-pays business model. CRAs also issue private ratings which are not intended for public disclosure or distribution via a subscription service. Private ratings requested by an issuer, for example, are provided to commercial banks or investors involved in private lending or investment decisions. Also known as "private placements."

The uses and users of credit ratings

4.13 Credit ratings have a wide range of uses. In this chapter we summarise the uses of both individual ratings and data feeds. Users include a range of firms and intermediaries such as insurers, banks, investment managers and pension funds. In this chapters these firms are referred to as institutional investors.

4.14 The most common use of credit ratings by institutional investors is for investment strategy, risk modelling, regulatory reporting, and capital requirements calculations. Our industry engagement found a range of additional uses cases over 4 broad categories, a non-exhaustive list is shown in Figure 2.

Figure 2: Use cases of credit ratings by institutional investors and other market participants



4.15 Internal processes: Many financial institutions implement sophisticated approaches to risk management, employing dedicated risk analysts and utilising advanced computer modelling. These approaches use a multitude of analytical approaches and data inputs. This includes using ratings for credit risk modelling for individual lending and investment decisions, or to monitor exposure to credit risk at a firm level. The role of credit ratings within these models varies. They can be a key input into credit modelling or used to validate and benchmark analysis.

4.16 Commercial activities: Many of the internal processes mentioned might be both to mitigate risk and optimise returns. Aside from internal risk modelling, credit ratings are commonly used to translate a firm's internal evaluation of credit risk to end clients into understandable language. This might include advertising the risk or strategy of a newly launched investment fund. Firms also use credit ratings in defining their investment mandates. For example, these mandates might specify only holding fixed income assets which have been rated as investment grade by 1 or more CRA. Or they may include constraints on holding a certain proportion of debt below a certain rating level, such as BBB.

4.17 Prudential requirements are a driver of needing continuous access to credit ratings. In the UK, many PRA authorised firms are required to calculate credit risk capital requirements on an ongoing basis. Current Capital Requirements Regulation (CRR), and the PRA's proposed implementation of Basel 3.1 standards would base credit risk capital requirements on credit ratings in many cases. This means that many PRA authorised firms rely on credit ratings as part of compliance with prudential requirements for at least some of their exposures

4.18 Redistribution: Firms such as MDVs redistribute ratings to their own customers. This use case differs from others in that it offers an alternative way for firms to access credit ratings. The factors that drive demand for redistribution are derived from the other 3 usage categories above. We discuss this further from paragraphs 4.25 – 4.27 below.

Transparency obligations on CRAs

4.19 Credit ratings can enhance market stability by reducing information asymmetries between issuers and investors throughout the life cycle of a debt instrument. To meet this need, CRAs update individual ratings to reflect perceived changes to credit risk. CRAs communicate these changes to stakeholders transparently to avoid market volatility.

4.20 CRAs are required to disclose updated information on a non-selective basis and in a timely manner. Ratings updates are typically published immediately on CRAs' websites and in data feeds.

4.21 Additionally, CRAs are required to provide an updated list of public credit ratings to the FCA each day, which is then published on the FCA's Public Ratings Database (PRD). Similar requirements in the EU requires ratings to be provided for publication on ESMA's European Ratings Platform (ERP).

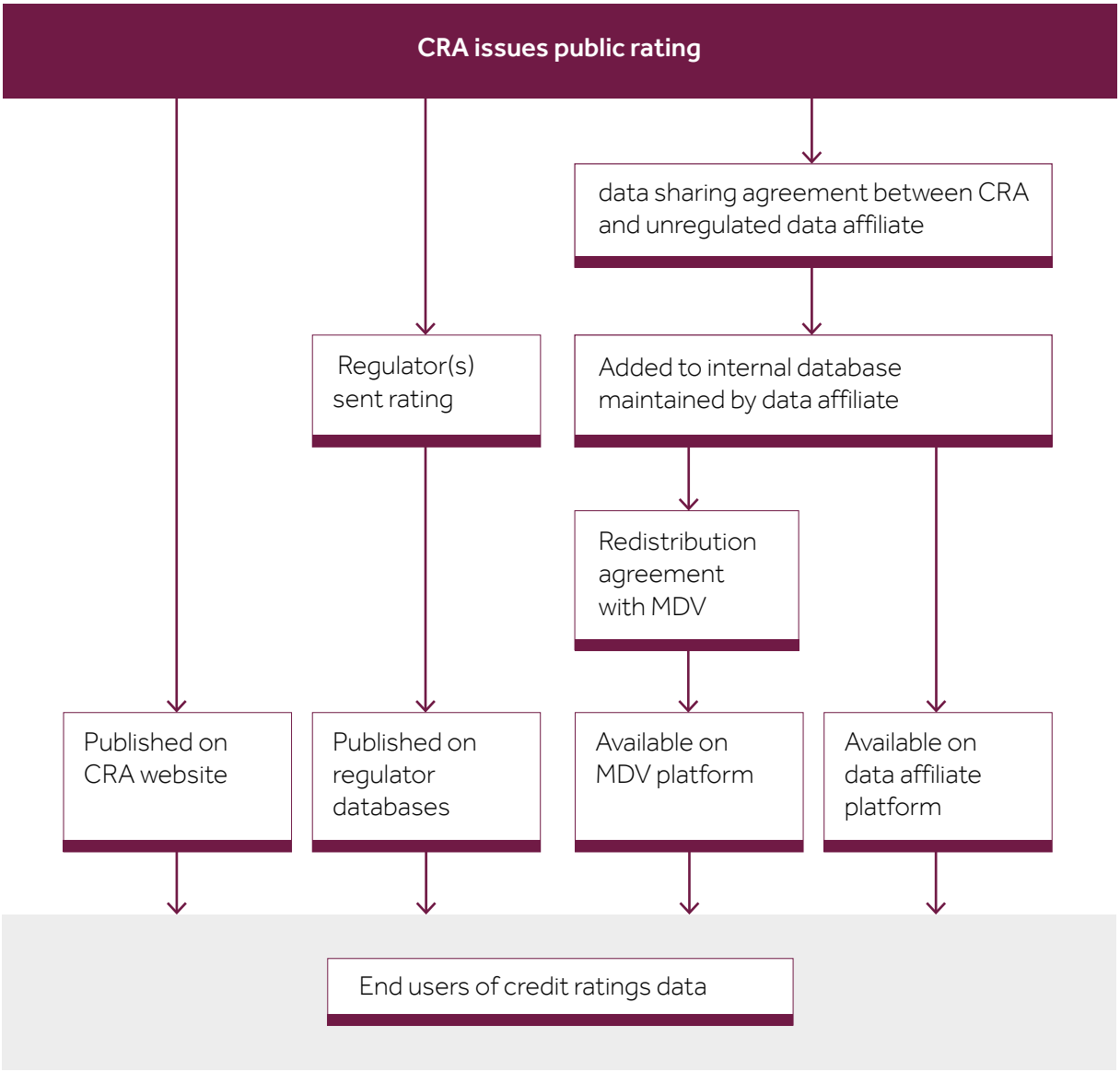
How users access and license credit ratings data

4.22 Investors access ratings in several different ways, including from investment platforms, financial news sources, brokerage firms and directly from issuers. However, for users who need to regularly source hundreds or thousands of ratings, there are 4 main channels:

- Using data feeds directly from one or more CRA data affiliates
- Using ratings data available through an MDV
- Using ratings published on CRAs' websites
- Using ratings published on regulatory databases, such as the FCA's PRD

4.23 We depict these different access channels in Figure 3.

Figure 3: Main distribution channels of credit ratings



4.24 For the largest CRAs, data feeds are provided by unregulated data affiliates, whereas challenger CRAs more commonly offer data feeds directly from the regulated CRA.

4.25 Many users prefer to access data feeds via an MDV due to convenience and familiarity. Of those users that purchase data feeds, our analysis shows that over 70% of users consume data feeds through an MDV, with most users maintaining a direct license with the largest 3 CRA data affiliates.

4.26 MDVs purchase redistribution licenses from CRAs, allowing the MDV users to access credit ratings data without necessarily needing to purchase a data feed. Smaller investment firms and those with limited exposure to fixed income assets are commonly able to meet their requirement for credit ratings utilising this data. However, MDVs' redistribution licenses typically constrain the extent to which their users can use this data for operational purposes. Similarly to MDVs, some CRA data affiliates also redistribute other CRAs' ratings.

4.27 The reasons that users gave us for purchasing data feeds from a CRA data affiliate even when primarily accessing ratings via MDVs included:

- The user required regular access to ratings on thousands of securities. Some MDVs have processes limiting the volume of data available to users who do not have a direct license with CRA data affiliates.
- Firms are using the ratings for extensive commercial or operational purposes and are made aware this is not covered by the distributors' licensing agreement.
- Users prefer to have an explicit agreement with CRAs to provide contractual reassurance about data quality and any potential errors.

4.28 Our demand side survey indicated that the vast majority of firms purchased data feeds from multiple CRA data affiliates. Due to the international nature of the data affiliates combined with the international presence of many customers, UK-based users have the option to purchase data feeds from suppliers based in the US or the EU. One industry association confirmed that all their members who used credit ratings licensed data feeds from U.S. based data affiliates rather than affiliates based the UK.

Free or paid-for data

4.29 In our request for information, we asked users to explain their motivation for paying for commercial data feeds, rather than relying on free data sources. The reasons that users gave us included: market coverage; the availability of historical data; the ability to customise the data they access; and the frequency it is updated. 79% of users told us that they also require other analytical services of CRAs, which may be purchased alongside data feeds. This often includes risk modelling tools, credit research and ESG analysis. We explore the significance of these drivers of demand in paragraphs 4.54 to 4.59 below.

The two-sided nature of the credit ratings market

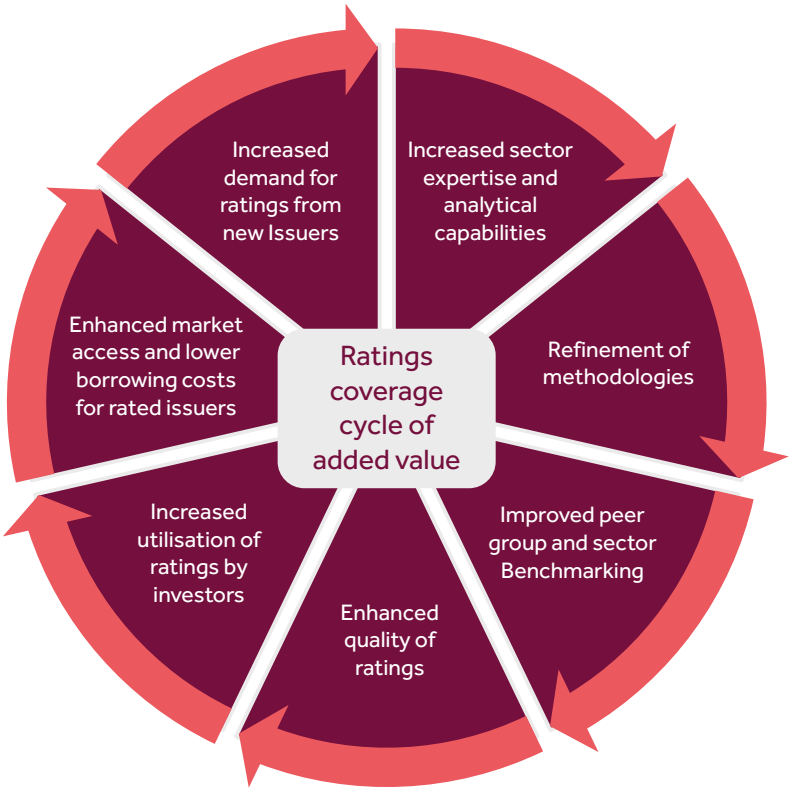
4.30 Credit ratings play a valuable role for both investors and issuer firms in capital markets. Figure 4 demonstrates the increasing value that comes to both investors and issuers of wider market coverage from CRAs. Each side of the market benefits from use on the other side of the market, commonly known as indirect network effects.

4.31 This raises a question about how each side of the market interacts and how this affects the value of data feeds. While there may exist indirect network effects between utilisation of credit ratings by issuers and investors, there is limited evidence that data feeds in particular have indirect network effects. This is due to

- Data feeds are not a prerequisite to accessing or using ratings. Most market participants access ratings from free channels, particularly for new issuances. Both ratings and supplementary information are available and commonly accessed from a multitude of public, private and commercial sources.
- Data feeds do not drive investment decisions. A greater utilisation of data feeds by investors does not increase the value of acquiring a specific CRA's rating to an issuer. The broader market acceptance of a CRA and their rating methodologies for investment decisions is the driver of a rating's value to issuers.

4.32 Data feeds and other analytical services are only possible due to the breadth and depth of information acquired and generated by extensive coverage of markets by CRAs issuer services. This gives the largest CRAs the advantage of being able to generate additional revenue streams that may not be possible for smaller CRAs.

Figure 4: Increased ratings coverage by a CRA brings additional value to both issuers and investors, and wider market integrity



Our findings on market dynamics

Credit ratings and data feeds are a must have for many users

4.33 To understand whether there is scope for CRAs to hold market power in the supply of data feeds, we gathered information on the options that could enable users to reduce their reliance on credit ratings, or switch away from them entirely. The more feasible alternatives that exist, the less likely that CRAs could hold or exert market power with data feeds.

4.34 We identified 4 main groups of use-cases that drive demand for credit ratings and data feeds: internal processes, commercial activities, regulatory activities, and redistribution.

4.35 For internal processes and commercial activities, we assessed whether the development of internal credit risk operations represented a viable option that would enable current users to reduce their reliance on credit ratings, and demand for data feeds. As noted above, many financial firms have sophisticated credit risk operations, and take advantage of a multitude of analytical approaches and data sources which could give them credible alternative options. However, although firms' approaches to assessing credit risk are becoming increasingly sophisticated and diversified, credit ratings were still regularly used either as an input into credit risk modelling, or to corroborate the results of this modelling.

4.36 Several CRAs suggested that credit ratings faced increasing competition from credit scores. Credit scores are a measure of creditworthiness, most often of organisations rather than specific debt instruments. They are typically generated statistically, without any additional substantial rating-specific analysis. We did not find evidence that credit scores were being used by investors, or seen as a viable alternative to credit ratings, nor that this was expected in future. Instead, credit scores were typically used to evaluate lending and supply chain credit risk. Additionally, the analysis that informs credit scores does not include the substantial qualitative assessment that make credit ratings valuable to investors.

4.37 Further, where firms manage clients' funds, investment mandates might specify only holding fixed income securities which have been rated as investment grade by one or more CRA, or a maximum proportion held in securities rated below a certain rating level, such as BBB. Such requirements have become standard industry practice but might also be compelled by regulatory requirements of the end client. In addition, trillions of pounds in fixed income portfolios funds follow passive investment strategies which track fixed income indices. Typically, having a credit rating from one or more of the largest 3 CRAs is a prerequisite for an instrument's inclusion in a major index.

4.38 For regulatory purposes, in our update report we highlighted that there have been many regulatory initiatives in the past decade to reduce mechanistic reliance on credit ratings, and steps to increase competition between CRAs (such as encouraging investors to developer internal credit assessment models and consider using challenger CRAs). However, access to credit ratings data remains important for firms to meet their regulatory obligations, particularly for capital requirements calculations.

4.39 Taken together, the evidence we have collected and our analysis does not support the argument that there are credible alternatives to the use of credit ratings, and users have specific needs that can only be met by acquiring data feeds.

Users' ability to switch between suppliers is limited

4.40 The next step in the analysis is to establish whether there is evidence that the different suppliers of data feeds are engaged in rivalrous behaviour, to the benefit of users. In a market that is competitive, we would expect to see users threatening to switch, and actively switching between suppliers, with suppliers fighting hard to retain their existing customers and win new ones.

4.41 The outcomes that we observe in relation to data feeds indicate that the market operates differently to this.

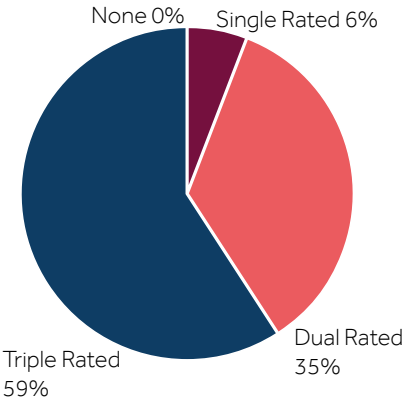
4.42 Most notably, users do not appear to view the ratings of different CRAs primarily as substitutable alternatives, but as complements. The vast majority of respondents to our survey stated they used data from multiple CRAs, citing coverage as the key reason. Of these respondents, 35% referenced the use of ratings from the largest 3 CRAs explicitly.

4.43 Requirements to multi-source data means it is difficult for firms to switch between CRA data affiliates. Our survey indicates that 83% of firms have not switched between CRA data affiliates, with the majority having commercial relationships lasting longer than 10 years. Firms highlighted their coverage requirements mean buying data feeds from a new CRA is often in addition to their current data feed requirements, as opposed to switching away from the established providers. Therefore, users state it is unlikely the largest 3 CRAs will be displaced.

4.44 This has a significant impact on competition in the supply of data feeds. The drivers of this multi-sourcing include factors on both the data feed side, and on the issuer services side of the market.

4.45 On the issuer services side, a key factor is that many issuers acquire multiple credit ratings from different CRAs. As an example, we examined corporate bond issuances. Our analysis of the 500 largest outstanding corporate bonds issuances in the UK found over 90% had ratings from at least 2 of the largest 3 CRAs, and 59% had ratings from all the largest 3 CRAs. This can be seen in Figure 5. Whilst this refers only to the UK corporate bond market, our engagement with regulators and other market participants has confirmed that extent of dual rated securities is reflective of coverage in other developed markets in North America and Europe.

Figure 5: Percentage of ratings coverage by the 3 largest CRAs for the largest 500 corporate bonds issuances in the UK as of December 2023



Summary	Single Rated	Dual Rated	Triple Rated	None	Total (excluding bonds with no rating)
Count	27	169	286	0	482
%	6%	35%	59%	0%	

* Based on sample of 482 the largest 500 UK corporate bond issuances. 18 issuances (2.8%) did not have public ratings available. This is due to a combination of withdrawn or private ratings. These 18 issuances did not have ratings from challenger CRAs.

4.46 This practice of acquiring ratings from multiple CRAs has an impact on demand for data feeds. In particular, to analyse the credit risk of a bond or other asset whilst considering all relevant information, an investor needs to ensure they have access to not just a relevant credit rating that had been issued, but relevant credit ratings on securities in the same asset category. Investors requiring full coverage of dual rated securities would therefore need to purchase data feeds from more than one CRA. This can be seen in Figure 6, which shows the coverage investors would get when they use ratings from multiple CRAs, based on our sample of the largest corporate bond issuances in the UK.

Figure 6: Market coverage of the UK corporate bond market using different combinations of CRAs

	CRA 1 data	CRA 2 data	CRA 3 data	Coverage of dual rated bonds
Combination 1	✓	✓	✖	81%
Combination 2	✓	✖	✓	67%
Combination 3	✖	✓	✓	78%
Combination 4	✓	✓	✓	100%

Based on the sample of 455 of the largest 500 corporate bond issuances in the UK which had ratings from at least 2 CRAs ("dual rated"). Of this sample, 305 bonds issuances (63.0%) had ratings from all three of the 3 largest CRAs.

4.47 This feature of demand therefore limits the extent to which data users could substitute between different suppliers of credit ratings data, and in turn limits the extent to which data users could leverage competitive bidding between different suppliers.

4.48 For other rated asset classes, similar arguments and evidence applies. For example, institutional investors regularly prefer, or require, instruments to be rated by 2 CRAs, both in primary and secondary markets which would create similar demand features.

4.49 There is more usage of smaller CRAs in particular submarkets, where it is more common for issuers to acquire ratings from a mixture of one of the largest 3 CRAs and a smaller CRA. Examples include the submarkets for BBB bonds, high yield bonds, insurance companies, and mortgage-backed securities (MBS). As this is usually in combination with a rating from a larger CRA and does not reduce data feed requirements for specialist investors. Instead, it means such investors additionally acquire data covering challengerCRAs.

4.50 The need for coverage and completeness for data users creates a particular feature of demand that limits the scope for users to substitute between data feed providers.

MDVs are a valuable distribution channel for CRA data, but not a source of independent competitive pressure for CRA data affiliates

4.51 Given most users access data feeds via MDVs instead of data affiliates' own platforms, we analysed whether the ability for users to access data feeds through MDVs, rather than directly from CRAs or their data affiliates created a competitive constraint on CRAs.

4.52 For MDVs to provide a competitive constraint on CRAs, we would have to observe that those MDVs have the commercial freedom to determine their pricing levels and structure independently from the CRAs and data affiliates from whom they obtain licences to redistribute the ratings data.

4.53 Redistribution licensing arrangements do not offer MDVs the commercial freedom that would be necessary for us to include MDVs as independent and distinct suppliers in the market for ratings data feeds. In particular, the redistribution licences determine the volume (and other) thresholds above which an end user must license with the CRA or data affiliate directly, rather than with the MDV. The majority of firms consume data feeds through an MDV while maintaining a direct license with the largest 3 CRA data affiliates. Therefore, MDVs provide users with additional options for accessing data feeds, but are not a source of independent competitive pressure.

Free data does not provide an effective alternative for most use cases

4.54 The availability of free data could provide a potential constraint on CRAs that limits the market power they may hold. We have therefore assessed whether the current provisions for the supply of free data enable such a constraint.

4.55 Given the original, EU-specific version of CRAR applies within the EU, ESMA runs a similar database to PRD, known as the European Ratings Platform (ERP). Aside from lowering information costs to regulators by centralising information, these public databases had 2 intentions:

- Allowing investors and other users of ratings to easily compare all credit ratings for a specific rated issuer or instrument.
- Helping smaller and new credit rating agencies gain visibility in the market.

4.56 As part of the study, we asked firms about their usage and perceptions of these public regulatory databases. Firms expressed that they needed to purchase commercial data feeds, rather than being able to use databases maintained by regulators. Only 1 firm in our survey stated free data had impacted their usage of commercial data feeds. Users highlighted the following limitations they perceive in the potential for free public databases to meet their requirements for credit ratings data:

- **Machine readability and interoperability:** Users require data to be accessible in formats that can be integrated into internal systems such as such as spreadsheets, risk management and trading platforms, in ways regulatory databases do not allow.
- **Real time requirements:** Commercial data feeds are commonly refreshed every 15 minutes, whereas regulator databases are typically updated each working day. Many users required data to be updated in close to real time.
- **Query limitations:** Users can require access to ratings on thousands of different issuers and securities. Regulatory databases have limits on the amount of data that can be accessed in a single database request or in a given 24-hour period.

4.57 Broader concerns were also raised which did not directly pertain to data quality:

- **Regulatory usage ambiguity:** CRAs have historically required investors to license the use of ratings for operational purposes. This licensing is included as standard within data feed subscriptions. In the past 3 years CRAs have sought to clarify ratings can be used for regulatory purposes without a licence agreement. However, investment firms reported that it can still be unclear how regulatory purposes are defined.
- **Limitations on commercial usage:** Users are required in many instances to purchase data feeds licences when using data for commercial purposes, limiting their ability to use free data.
- **Liability for errors or downtime:** Due to resource constraints, there is no guarantee that regulators can constantly ensure that databases are kept up, and limited liability if they are unavailable or contain errors. Firms relying on this data for regulatory or commercial practices may be more reassured being in a formal legal contract with a commercial data provider.

4.58 Many of these findings are in line with those reported in research published by ESMA in 2021.

4.59 Our survey found many users were generally content with their existing arrangements for licensing and accessing ratings, in addition for using it for a multitude of non-regulatory, commercial purposes. Data feeds often provide additional value by integrating complementary market information, as well as additional research, analytical tools and access to professional credit analysts. There is also a greater expectation, and capacity, for individual user support with commercial products versus free databases. However, some respondents stated that they required commercial data feeds to meet their regulatory requirements because databases maintained by regulators, including the FCA and ESMA, were unsuitable.

There are significant barriers to entry to the data feed market

4.60 In this chapter we assess the barriers to challenger CRAs commercialising their credit ratings. We discuss 3 main areas: coverage, reputation, and barriers caused by other market participants.

Coverage requirements

4.61 The crux of what makes data feeds valuable to investors is the comprehensive coverage of different geographic regions, economic sectors, and asset classes. For the largest 3 CRAs, this coverage is possible due to their high market share of the global issuer services market. For challenger CRAs to compete in the data feed market with the largest 3 CRAs, they would need to significantly increase their global market coverage. However, there are barriers to achieving the required levels of coverage.

4.62 Barriers to challenger CRAs gaining market coverage via competing in the issuer services market include the following:

- Issuers are not sensitive to price changes for issuer services from the largest 3 CRAs. Market participants have consistently mentioned how the value gained from acquiring ratings from the largest 3 CRAs far exceeds the costs of issuer services. This inhibits smaller CRAs being able to compete with the largest 3 CRAs using a low pricing strategy.
- Given the resource intensive nature of the ratings process for issuers, including regular data requests and demands for senior management from ratings analysts, issuers may not have the capacity to maintain additional ratings from challenger CRAs.
- Issuers benefit from being rated by the same CRA over the long term to allow for historical comparisons and a consistent, continuous record of an issuers' creditworthiness. This makes it difficult for challengers to encourage issuers to switch to a CRA with a different ratings methodology.
- Issuers may have covenants within contracts with lenders and investors that require them to maintain a certain credit rating from a specific CRA. Switching to challenger CRAs would be in breach of these contracts.

4.63 Challenger CRAs could increase market coverage instead by using an unsolicited ratings strategy. Unsolicited ratings are still subject to CRAR but created without payment or involvement from issuers. They have historically been used by challenger CRAs to demonstrate their analytical capabilities and expose the market to the application of their methodologies, potentially leading to paid for solicited ratings from issuers. There are numerous barriers to using a similar unsolicited ratings strategy purely to compete in the data feeds market:

- To reach the coverage levels required to develop a rival data feed, challengers would need to maintain thousands of unsolicited ratings to build up legitimacy, at significant cost. Given the relatively small revenues of the data feeds market relative to the cost of generating ratings, it is unlikely to be a profitable long-term strategy.

- Investors are reluctant to rely on unsolicited ratings due to the perception that they are of a worse quality than solicited ratings. This is mainly due to being created exclusively using public information, which could be freely analysed by investors.
- There is also not the same incentive for CRAs to maintain unsolicited ratings for the lifetime of an asset if they are not being paid to by the issuer, this means that there is a higher risk of the rating being withdrawn, which could impact investors' ability to rely on it.
- Unsolicited ratings have historically been on instruments that have already been rated by other CRAs on a solicited basis. Therefore, users of data feeds will have little incentive to purchase data feeds from challengers instead of using the largest 3 CRAs' solicited ratings.

Reputation and market acceptance

4.64 There are indications of additional reputational barriers for challenger CRAs. Our survey found 77% of users of credit ratings preferred the largest 3 CRAs due to a perception of their quality, plus market familiarity and acceptance of their methodologies. Similar findings were consistently found in direct engagement with both suppliers and users. This market acceptance in turn was seen as contributing to better liquidity, reducing costs associated with holding and trading securities.

4.65 The largest 3 CRAs have maintained their market position due to having long established and tested methodologies across thousands of monitored ratings demonstrating their consistency as a relative assessment of credit risk.

4.66 Some market participants also highlighted that challenger CRAs could sometimes be perceived by the market as giving less accurate, overly optimistic credit ratings versus the largest CRAs. Maintaining ratings with established CRAs is typically a sign of stability and reliability. Although there are legitimate reasons for an issuer to use or switch to challenger CRAs, this is usually for market specific expertise. Market participants have told us issuers acquiring ratings from challenger CRAs without additionally acquiring a rating from one the largest 3 CRAs can be perceived negatively by the market.

4.67 Our evidence shows that issuers perceive the largest 3 CRAs to be the market standard used by other market participants, which influences their choice of CRA. As previously discussed, it would take a considerable amount of time and resources for challengers to develop the reputation required to compete with the largest 3 CRAs in the issuer services market. Therefore, this acts as a significant barrier to entry for challenger CRAs looking to enter the issuer services market, and in turn into the credit ratings data market.

Barriers caused by other market participants

4.68 The debt issuance process is highly complex, involving numerous third-party intermediaries, including underwriters and legal firms, who each have their own relationships with CRAs. We engaged with these intermediaries to understand the influence that they might have on issuer choice of CRAs and whether smaller CRAs may be disadvantaged by these intermediaries demonstrating a preference for ratings from the largest 3 CRAs.

4.69 Underwriters, typically investment banks, play a significant role in risk assessment, pricing, and marketing of new debt issuances. Engagement with both issuers and underwriters confirmed that underwriters consistently played an impartial role in the exact choice of CRA, and any decision to acquire ratings from multiple CRAs. The same impartiality was found for legal firms, who play an equally crucial role in the regulatory and compliance aspects of new issuances.

4.70 However, we did find challengers experienced barriers to entering the market in the following areas concerning benchmark providers and MDV platforms:

- Fixed income benchmark requirements: Globally, the equivalent of trillions of pounds of debt securities are held in portfolios tracking fixed income benchmarks. Many major fixed income benchmark providers require securities included within their indices to have ratings from 2 of the 3 largest CRAs. This may indirectly pressure issuers who wish to be included in an index to prioritise ratings from the 3 largest CRAs.
- Visibility of smaller CRAs on MDVs: When accessing data on MDVs, ratings from the largest 3 CRAs are prioritised and usually visible as standard. Ratings from other providers are often optional or unavailable. MDVs and CRAs have said this is a reflection of the lack of demand for smaller CRA data however, this reinforces the position of the largest 3 CRAs.

4.71 These additional barriers to challenger CRAs for benchmark eligibility for and positioning within MDV products can limit their ability to expand in the CRA issuer services market.

Summary of barriers to entry and expansion for challenger firms

4.72 Barriers to entry and expansion for challenger CRAs in the issuer services market have a direct impact on those firms' ability to enter and grow in the data feeds market. These barriers are exacerbated by the entrenched market acceptance of the largest 3 CRAs and access barriers to challenger CRAs' credit ratings being used in benchmarks and limited visibility to investors on MDV platforms. Therefore, for the foreseeable future the issuer services and data feeds market are unlikely to be contestable in a way that would put competitive pressure on data feeds provided by the largest 3 CRAs and their data affiliates.

Outcomes of these market dynamics

4.73 Weak competition in any market can lead to suppliers having market power, which in turn can lead to poor outcomes such as high prices, low innovation and lower service quality. This chapter analyses evidence we have to determine whether CRA and their data affiliates have market power, and how such power is reflected in the outcomes that we observe.

4.74 Weak competition and the presence of market power can enable firms to charge prices significantly above the levels that might be expected in a competitive market.

4.75 There are challenges in making this assessment. In particular, we understand there are significant differences in the volume and frequency of data accessed by users within data feeds, but we do not have a measure of price per unit of data. Instead, the cost of data feed licences to users is determined based on the total revenue that a user pays. Our analysis therefore focuses on changes in the revenue per customer (expenditure) as a proxy for price. This does not take into account whether users are obtaining increasing amounts of data through their licences, but we note that 70% of firms in our user survey state that their usage has remained broadly unchanged over the last 5 years.

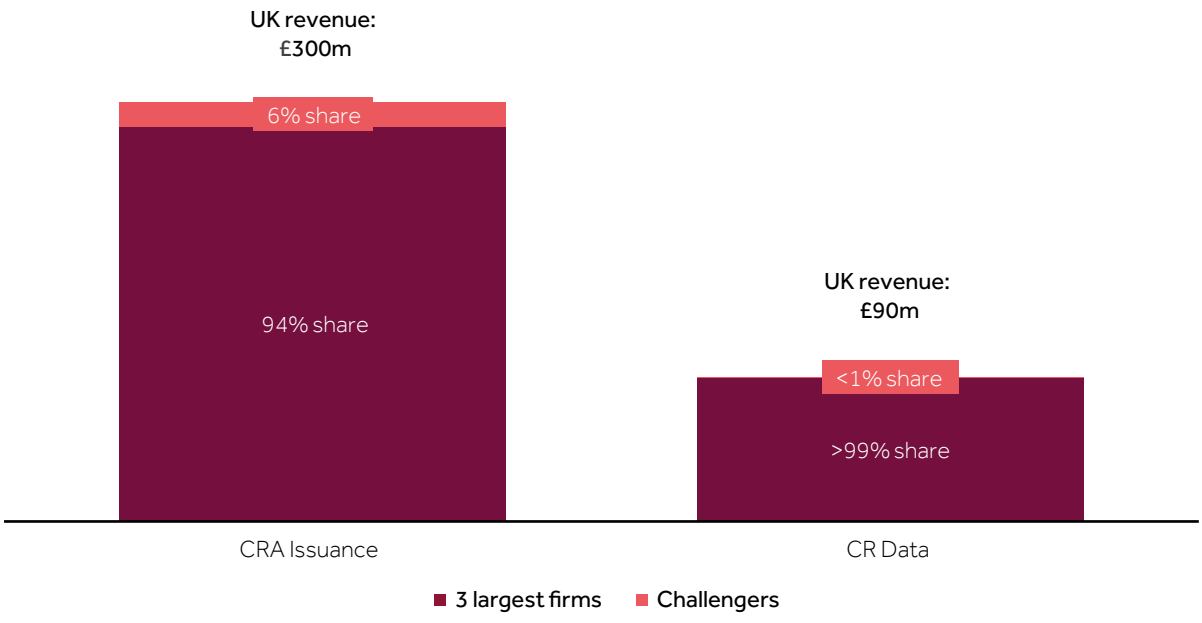
Market shares and concentration

4.76 To assess market shares and concentration, we have considered the scope of the market to be the supply of data feeds by CRAs and their data affiliates to UK domiciled customers, irrespective of the domicile of suppliers. As mentioned previously, this may not fully reflect the international nature of UK customers. This is particularly as many users access data feeds through firm-wide enterprise agreements with suppliers.

4.77 Given the intrinsic relationship between the issuer services and data feeds market, we set out market shares in both.

4.78 Our evidence of the financial data collected during this study shows that the CRA issuer service and data feed markets are both highly concentrated, with the 3 largest CRAs and their data affiliates holding shares above 90%. Figure 7 below illustrates.

Figure 7: Estimated relative 2022 market shares of the 3 largest CRAs and Challenger firms in UK CRA issuance and CR data markets

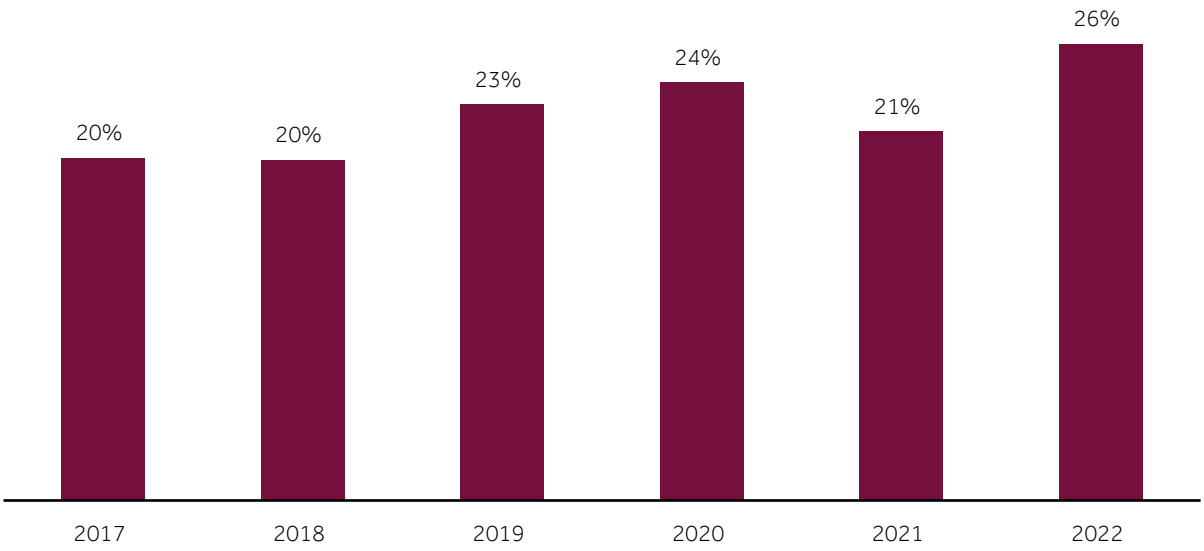


4.79 While there have been several entrants into the UK issuer services market in recent years, as of 2022 no challenger CRA had more than a 3% share of the market, with a cumulative 6% share of UK issuer services revenues attributable to challenger CRAs.

4.80 The data feed market is even more concentrated than that of issuer services. Out of 9 challenger CRAs registered to operate in the UK at the time of market study launch in March 2023, only 2 sell data feeds to UK users, either through the regulated CRA or a data affiliate. This accounted for less than 1% of the estimated £90m revenue generated by data feeds in 2022.

4.81 We also analysed the relative importance of revenues from data feeds to inform our judgement over the potential scale of harm. For the CRAs selling both issuer services and data feeds to UK customers, revenue from data feeds grew from 20% in 2017 and 2018 to 26% in 2022, with some year-on-year variation. Figure 8 sets out our findings. The proportion of revenues attributable to data feeds varies significantly by firm, ranging from 35% of 2022 revenue (for one of the 3 largest CRAs) to 2% of revenue (for a challenger CRA) in 2022.

Figure 8: Data feed revenue as % of total revenue (UK issuer services + UK data feed revenues)



4.82 The combination of high concentration and growing importance of revenues from data feeds supports a focus on the harm that can arise from the sale of data feeds. However, given the relatively smaller revenues, the potential scale of harm arising from data feeds is evidently less than that from issuer services.

Revenues per customer vary widely and have risen significantly

4.83 The pricing model of data feeds is based on a variety of factors, including:

- the volume of data delivered or accessed, eg per user, location, and asset class
- firm characteristics, eg total firm revenue, fixed income assets under management
- how data feeds are used, eg when data is used internally in regulatory reporting or externally through the redistribution of credit ratings data
- how data is delivered, eg the number of and type of access channels, and the frequency of data updates and delivery
- whether users agree to sign multi-year or enterprise contracts, which can often lead to discounted fees

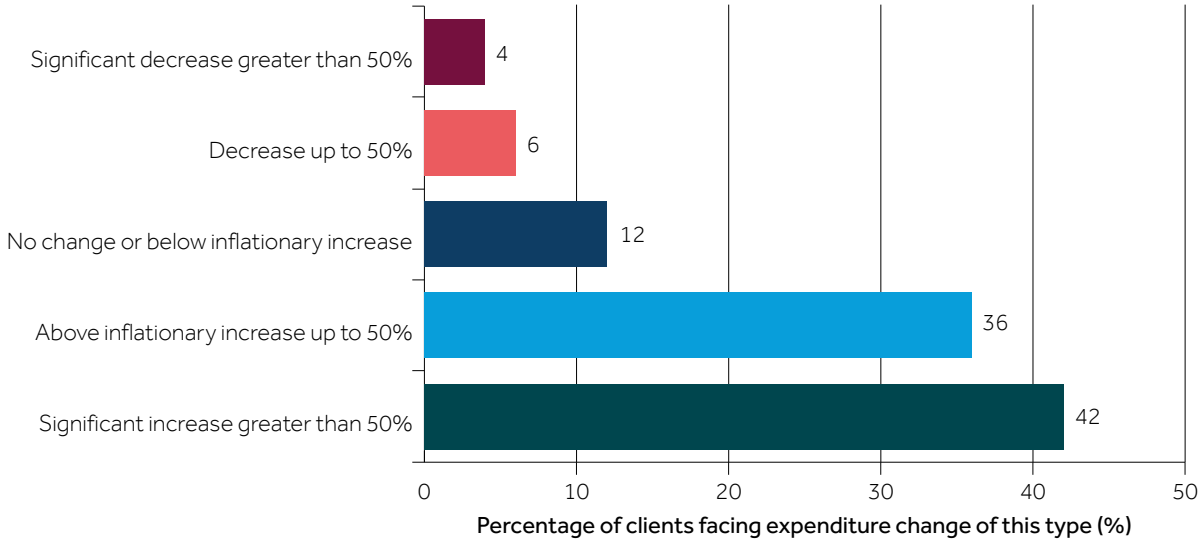
4.84 For challenger CRAs, licensing terms tend to focus on volume of use. The 3 largest CRAs' prices are more complex, based on more, if not all, the above factors. This model of pricing leads to users paying vastly different amounts for data feeds.

4.85 We constructed a dataset of customer level transactions for the period 2017-2022 which demonstrated significant variation in revenue per customer both within firms and between different firms. Users paying the most are generally large multinational firms who often purchase data feeds from multiple CRAs. Across the 3 largest data affiliates, 80% of customers paid below the mean price for data feeds. These customers were generally smaller with relatively limited data requirements, such as boutique asset managers and small consultancy firms.

4.86 The differences observed between the largest 3 CRAs and challengers in part reflect the significant amount of data, and associated value to investors, within the largest 3 CRAs' data feeds and the barriers that exist to challenger CRAs commercialising their data.

4.87 We have analysed how customer expenditure has changed over the period 2017-2022. We found that most data feed customers paid more in 2022 than in 2017. These increases were only partially accounted for by inflation. The total expenditure of 42% of customers in our dataset increased more than 50% (see Figure 9), and a further 36% of customers faced increases in total fees above inflation but less than 50%. 62% of firms from our survey felt they were getting poor value from their current data feed licensing fees.

Figure 9: Change in total expenditure for the 3 largest CRAs' customers who were part of the sample from 2017 to 2022



4.88 The top 20 revenue-driving data feed customers of the largest 3 CRAs saw average expenditure per client increase significantly, with between 24% and 90% increases in average expenditure from 2017 to 2022. This indicates that neither large nor small users have sufficient bargaining strength to resist increases in cost in their negotiations over contractual terms with their data feed suppliers.

4.89 It was put to us that rising prices for data feeds can reflect investment in quality improvements. However, few respondents to our user survey reported any material change or improvement in data feed service quality.

4.90 We would expect that increases in input costs would be passed through to data feed customers in the form of higher data feed prices. This can limit the ability for users to launch new products for their own downstream clients. Due to the relatively small part of overall costs that data feeds represent to users, who are typically large investment firms, we have not identified specific examples of increasing data feed prices leading to higher prices for users' own downstream clients, nor impacting new product launches. However, data feed users have said this is likely to occur in future if prices can continue to rise.

4.91 Overall, we observe a significant degree of variation in customer expenditure. Further, several firms were unable to provide us with a specific price list for data feeds. Instead, data feed suppliers instead based data feed pricing on a range of factors built into an internal model, which they have significant discretion to adjust on a per customer basis. Firms provide customers with limited transparency over what drives the prices they charge and discounts they offer. This makes it likely that data users with similar characteristics and usage of credit ratings are paying significantly different amounts for data feeds.

Users have limited bargaining power

4.92 Users with bargaining power can negotiate with suppliers to decrease prices, potentially preventing the largest 3 CRA data affiliates from increasing prices they charge for data feeds or constraining the size of any price increases.

4.93 However, our survey finds that while the vast majority of users negotiated with suppliers, 76% had limited success. User cited multiple reasons for this, mainly:

- Rigid fee structures: CRA data affiliates tend to be inflexible in their pricing models and only offer minimal concessions. Some users suggested pricing was based on fixed criteria they had limited ability to negotiate over, eg the users' total revenue or fixed income assets under management. 50% of users that had limited success in negotiating stated that this rigidity was a factor.
- Limited choice: Due to the complementary nature of data feeds, users have limited ability to switch between data feed suppliers and are often required to multi-source from all the largest 3 CRA data affiliates. This means they cannot threaten to switch away from suppliers to attempt to reduce prices. 28% of users that had limited success in negotiating stated that this limited choice was a reason.
- Limited price transparency: Data affiliates are not obliged to, and typically do not, publicly disclose data feed prices. 41% of users highlighted this limited price transparency, with over a third of users feeling unable to compare what they pay to other potential suppliers or other users with similar data needs. 19% of users that had limited success in negotiating stated that price transparency was a factor.

CRAs and their data affiliates have high and sustained profits

4.94 In this section we assess the profitability of regulated CRAs and their data affiliates based on analysis of the financial data collected for the study. We examine the returns generated and compare these with our cost of capital estimates. For further information and assessment of issuer services and data feed profitability please refer to Annex 3 – Credit Ratings Data.

4.95 Our information request aimed to collect granular financial data to enable us to assess the profitability of generating and distributing data feeds to UK users. Firms found it challenging to supply the detailed breakdown of financial information we requested. Our analysis is therefore largely based on total operating costs and capital held by the sample firms selling credit ratings data to UK domiciled end users.

4.96 We have, however, sought to estimate the underlying product-level profitability of data feeds, based on additional information provided only by select firms and / or which was qualitative in nature.

4.97 Over the past 6 years, operating profit margins of the 3 largest CRAs averaged over 40%, exceeding 60% in certain instances. In contrast, the profit margins of challenger CRAs rarely exceeded 25%.

4.98 Analysis of return on capital employed (ROCE) corroborates these findings. In every year throughout the 2017-2022 period, the 3 largest CRAs achieved returns significantly above our estimates of their cost of capital. Some challenger CRAs generated returns exceeding their cost of capital, but this was to a lesser degree and varied more year-on-year.

4.99 Data affiliates demonstrated lower profitability than CRAs, with profit margins of the 3 largest affiliates averaging slightly above 30%, and lower amongst challenger affiliates.

4.100 Analysis of data affiliates' profitability likely underestimates profitability of credit ratings data for 2 reasons:

- Our analysis of data affiliates' cost structures found that royalties paid to CRAs comprised around a third of costs incurred by data affiliates, one of the largest sources of expenditures. These royalties directly impact operating profit margins of the data affiliates. While agreed on an arm's length basis, royalties may involve profit mark-ups. Consequently, such mark-ups effectively represent transfers of credit ratings data profits from CRA data affiliates to CRA issuance businesses. We received evidence, albeit limited, confirming that these mark-ups can be significant.
- Data affiliates typically offer analytical products which can be purchased alongside data feeds or separately. We found that one of the 3 largest data affiliates routinely track and evaluate profitability of various business lines. The business lining housing data feeds generates significantly higher profitability than other business segments of this data affiliate.

4.101 Overall, we estimate that product level profit margins of data feeds sold by the 3 largest data affiliates may exceed 45%. Analysis of ROCE further indicates that throughout 2017-2022 data affiliates achieved levels of profitability well exceeding firms' cost of capital. This demonstrates an ability for the largest firms to generate returns above their cost of capital, which would be competed away in a competitive market and therefore suggests a degree of market power.

Market power in the data markets does not appear to strengthen entry barriers in issuer services

4.102 Due to the interconnectedness of issuer services and data feed markets, we were concerned that firms with the ability to exercise market power in the data feed markets could give CRAs a competitive advantage in the issuer services market through providing a low-cost source of finance.

4.103 Our analysis indicates that CRAs which receive content licensing royalties from their data affiliates derive less than 5% of total revenues from such financial transfers. These CRAs issuer services would remain highly profitable even in the absence of such royalties. While we cannot rule out the indirect economic benefits for CRAs from selling data feeds, we have no evidence that data feed revenues have a significant impact on entry into the issuer services market resulting from access to low-cost sources of finance.

Contractual terms

4.104 We raised concerns in the Update Report that data feed licensing may include complex contractual terms to reduce price transparency and limit how the underlying data could be used. Some customers indicated that CRAs and data affiliates tried to upsell more expensive enterprise licenses with fewer restrictions. A small number of customers alleged they were restricted in using data feeds for specific purposes, and required additional licenses for different use cases and locations.

4.105 We have examined these concerns further since publishing our Update Report and have not identified significant concerns about undue complexity of licensing. The concerns that were expressed to us related more to the lack of transparency creating uncertainty for users about the cost implications of increasing their commercial use of data feeds.

Quality of data feeds

4.106 We asked data feed users for their views on the accuracy and quality of CRA services. Respondents were generally positive about the accuracy and quality of the largest 3 CRAs' data feeds, stating they meet expectations and requirements, and highlighting the wide, global coverage and that ratings were regularly updated. Most concerns raised were not about the data feeds specifically, but focused on the methodologies of CRAs, particularly pointing out past inaccuracies of individual ratings of predicting risk of default.

Next Steps

4.107 We have identified a number of issues that may limit effective competition within the ratings data feed market. There are barriers to entry and expansion for both issuer services and data feeds, with both markets highly concentrated, and suppliers in the market on which we focused – the data feeds market – face limited competitive pressure.

4.108 Users of data feeds having limited bargaining power and the terms of redistribution licences prevent MDVs from generating an independent source of competitive pressure to constrain data feeds services. Alongside this we see high profitability, and high prices, particularly for larger users.

4.109 We consider the best way to tackle these issues is to look at them holistically as part of the wider regulatory work in wholesale financial markets and alongside international developments. Central to that regulatory framework is the UK CRAR. The UK CRAR is Assimilated law ("Assimilated law") that will be reviewed by Treasury as part of the Smarter Regulatory Framework Review. It is possible that changes to the statutory framework for the provision of credit ratings in the UK driven by policy objectives is an outcome of the review. Treasury may determine that addressing the issues we have identified is a relevant policy objective of the review.

4.110 When the UK CRAR is reviewed under the Smarter Regulatory Framework review, we will consider with Treasury the implications of the market study findings. In particular, we will explore:

- potential ways to improve effective competition and help ensure credit ratings data is provided on transparent, fair, and reasonable terms.
- how free sources of credit ratings could be enhanced to act as a viable alternative to commercial data feeds for firms to meet their regulatory requirements.

4.111 We do not consider other, more interventionist approaches are likely to be suitable given the benefits created by the current market structure. For example, increasing the number of 'must-have' CRAs that data users need to buy data from could increase costs. Similarly, there are potential unintended consequences of seeking to control prices in a market where the quality of the data is not a concern. We are mindful that limitations on pricing could have unintended consequences such as lowering the quality of wholesale data, reducing innovation, or restricting the availability or access to data.

4.112 In the meantime, where we see firm specific practices that harm competition, we will consider the full range of our tools to tackle these. For example, we have powers under the CA98 to examine whether anti-competitive conduct or agreements underpin any competition issues, and if so, we can take action to tackle these.

Chapter 5

Benchmarks – findings and next steps

Introduction

5.1 This chapter sets out our understanding of how competition in the supply of benchmarks operates, the outcomes we observe and their drivers, and the next steps we propose.

5.2 We start with a brief overview of the market, including the regulatory background and an overview of benchmark products.

5.3 We then examine the main market dynamics. We consider whether there is competition between benchmarks, and the key factors that can shape and limit competition.

5.4 We then explain the outcomes that we see from these market dynamics and assess whether those are consistent with effective competition, highlighting certain drivers of outcomes that raise concerns.

5.5 Finally we set out the next steps we will be taking.

Market Overview

Regulatory background

5.6 An index is a figure that is publicly available and is regularly determined, either by applying a formula or other calculation, or by making an assessment based on the value of one or more underlying assets or prices. Indices are widely used to monitor the movement of capital markets by a range of market participants. Indices often have a set of focus areas, which can be based on asset classes, geography, industry, or theme.

5.7 An index becomes a benchmark where it is used within the scope of the UK BMR, specifically:

- To determine the amount payable under a financial instrument or financial contract or the value of a financial instrument
- To measure the performance of an investment fund for the purpose of:
  - Tracking the return
  - Defining the asset allocation of a portfolio, or
  - Computing the performance fees

5.8 Benchmark administrators providing benchmarks within scope of the UK BMR must comply with the UK BMR. The compliance requirements differ based on the scale of use of the benchmark. Critical benchmarks are subject to more stringent requirements than significant benchmarks and significant benchmarks are subject to more stringent requirements than non-significant benchmarks.

5.9 One of the requirements of administrators of critical benchmarks is that they provide licences of, and information on, the benchmark to all users on a fair, reasonable, transparent and non-discriminatory basis. This requirement mitigates the market power of a critical benchmark administrator.

5.10 The requirements also differ based on the type of input data used by the benchmark. Benchmarks determined entirely and directly from regulated venues (regulated-data benchmarks, for instance an index that uses the prices of publicly traded stocks or exchange traded derivatives as its only input data), certain commodity benchmarks and interest rate benchmarks each are subject to different requirements under the UK BMR. Regulated-data benchmarks cannot be classified as critical benchmarks under the UK BMR.

5.11 Benchmark administrators that are not UK entities will need to be approved through recognition or endorsement, or benefit from an equivalence decision before the end of 2030 if they wish to supply benchmarks to the UK after that point.

5.12 As set out in our terms of reference, the focus of this study is on competition in the supply of benchmarks within the scope of the UK BMR. However, in order to form an accurate view of competition we have also considered the business activities of suppliers related to indices that fall outside of the scope of the UK BMR to the extent that they exert competitive constraints on benchmarks.

Overview of benchmark products

5.13 Benchmarks and indices are used for a wide range of applications and their use has increased significantly in the last few years. Particularly, usage of index-linked investment products, often know as passive investing, has grown in popularity. According to the Investment Association (IA), index-linked strategies accounted for one third of total assets under management (AuM) in the UK in 2022, increasing from 21% in 2012, with growth in exchange traded funds being an important driver. From the financial evidence we collected, we estimate that revenue of benchmark administrators generated from the sale of indices and benchmarks to UK-based customers has nearly doubled since 2017, to reach around £600m in 2022.

5.14 Indices that are used as benchmarks track specific markets that can be categorised by asset class. This includes equities, fixed income, interest rates, FX, and commodities. There are additional asset classes like cryptocurrencies, as well as multi-asset class indices.

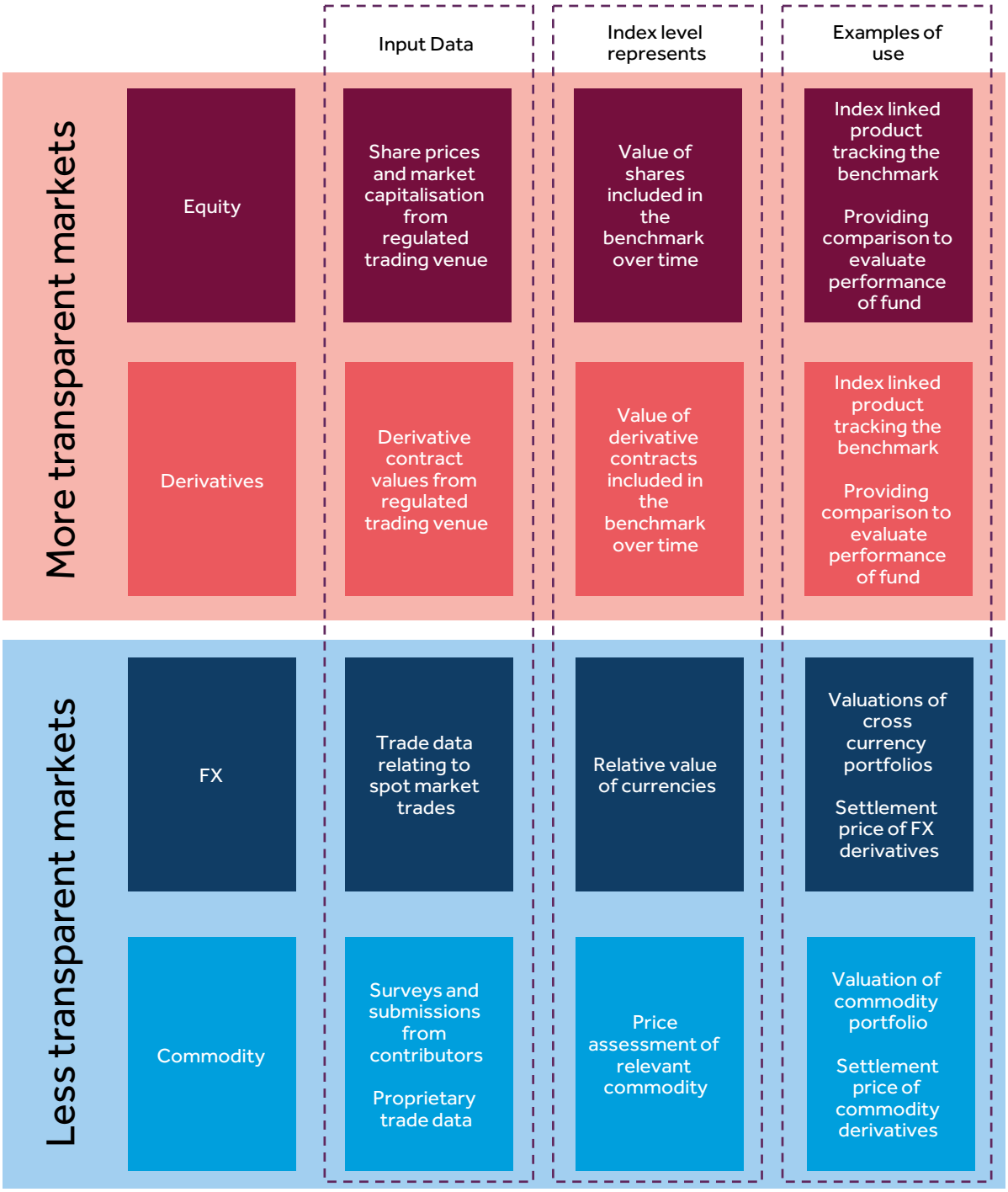
5.15 The different markets tracked by benchmarks have varying levels of price transparency. Data from exchanges is publicly available, while over-the-counter (OTC) and spot market transactions are less visible to market participants, and input data for interest rate benchmarks is often not visible at all to other market participants. The more opaque the market, the more benchmarks are important for the purpose of price discovery.

5.16 The level of price transparency in the market a benchmark tracks affects their typical use case. While all benchmarks are in practice used for any of these purposes, some types of benchmarks are more frequently used in certain use cases.

5.17 Benchmarks tracking price or value in opaque markets are needed by firms to have a common basis to determine the price. Individual firms are unlikely to arrive at the same value given the opacity and potential information asymmetry between market participants. Without a common point of reference, trading would require additional negotiation over price. Therefore, banks, principal trading firms (PTFs), wholesale brokers, firms in commodity markets and exchanges, amongst others, often use interest rates, FX and commodity price assessment indices and benchmarks as the basis of valuations and to price financial contracts. Asset managers also use these indices and benchmarks in their portfolios. For instance they use FX benchmarks to convert the value of assets denominated in different currencies.

5.18 Benchmarks that are based on trade data from exchanges tend to be less used for pricing financial contracts, because there is no strong need for price discovery. Instead, these benchmarks typically represent the value over time of a defined portfolio of assets (where price of these assets is known independently of the benchmark). Our analysis of responses to our information request to benchmarks users shows that equity, fixed income and commodity derivative benchmarks are the most common type of benchmarks used in investment products by asset managers for index tracking funds or performance benchmarking. These benchmarks and their providers are often more familiar to investors, as they are visible and often prominent features of index-tracking investment strategies and they are used more generally, for instance in the news, to describe the performance of financial markets.

Figure 10: Simplified illustrative examples of typical input data and use cases of benchmarks by asset class



5.19 Throughout this report, we refer to 2 broad categories of benchmarks: benchmarks used for pricing and benchmarks used for investment products.

Our findings on market dynamics

5.20 Around 80% of users of benchmarks who have responded to our survey claim that there are some benchmarks that are a must have for their business. They provided several reasons, the most common being liquidity, brand, scale and history of the provider, and customer expectations.

5.21 Users and benchmark administrators have reported that different markets tracked by benchmarks tend to coalesce around a specific benchmark or provider, which is considered the industry standard. As different benchmarks track a variety of sectors, geographies and types of assets, there are many standard benchmarks, administered by different providers.

5.22 Providers of must have benchmarks may have a degree of market power because users do not, or cannot, switch or negotiate, and potential entry or expansion does not provide a competitive constraint. Where this is the case, competition may not work effectively to incentivise them to provide competitively priced, high quality benchmarks or sufficient levels of innovation.

5.23 We have considered several features of the market and found that 2 mainly shape competitive dynamics: network effects and brand awareness of end investors. Below, we explain how each of these impact different parts of the market and may be a source of market power of certain benchmark administrators, and then provide a brief summary of our findings on other market features. More detailed information on our analysis of market features is available in Annex 2 – Benchmarks.

Network effects significantly limit competition where benchmarks are used for pricing

5.24 Benchmarks are more valuable to users if they are widely adopted by other market participants, ie there are direct network effects in the use of benchmarks.

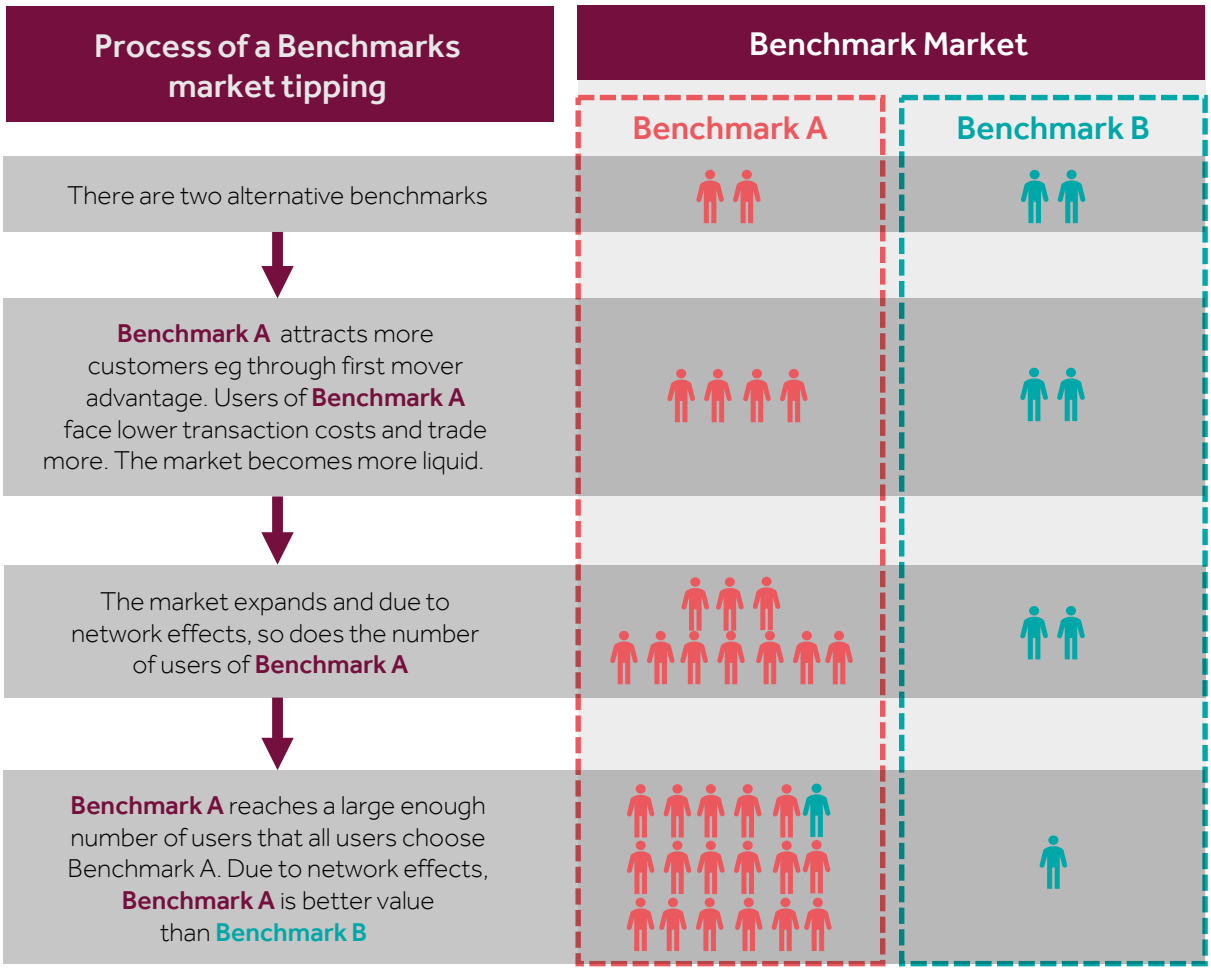
5.25 Indices summarise information about the value of one or more assets over time. In the absence of a readily available index, market participants would have to collect the information themselves each time they need to use that information. The cost of that process would vary based on:

- the market in question, eg obtaining the prices of a bundle of exchange-traded stocks is relatively easy, while in other markets where OTC transactions are prevalent it is more challenging to obtain the relevant data; and
- the level of knowledge of the specific market participant, eg in commodity markets oil companies may have more information on oil prices than other proprietary traders.

5.26 With opaque markets and information asymmetry, the transaction costs to enter a financial contract can be high. Using a benchmark reduces transaction costs by providing the parties with a common basis for establishing the price or contract terms, therefore making it easier to trade and increasing liquidity in the market.

5.27 As liquidity increases with many products being linked to the benchmark, other market participants also adopt the same benchmark so they can find trading counterparties and many financial instruments to hedge their positions. This process can continue until all existing and new market participants use the same benchmark. In economic terms, the market tips to a specific benchmark, which becomes the industry standard. This process is illustrated in the figure below.

Figure 11: Illustrative example of network effects resulting in market tipping towards a specific benchmark



5.28 In markets where network effects are strong, competition tends to be 'for the market' rather than 'in the market'. This means that 1 provider will typically have 100% market share (or close to 100%) and competitors try to win over the entire market rather than gradually grow their market share.

5.29 However, competition 'for the market' might still exist, if it is possible for an alternative provider to displace the leading provider by attracting a significant number of customers in a short period of time. If displacement was possible, the administrator of the industry standard benchmark might still face competitive pressure despite a high market share.

5.30 Where benchmarks are used to price financial contracts, market-driven displacement of an industry standard benchmark is unlikely for the following reasons:

- The costs an individual user would face if they were to independently start using a benchmark other than the industry standard is high, as they would struggle to find suitable counterparties and hedge their positions. Some respondents to our user survey, mostly banks and hedge funds, have reported that they would not deviate from the industry standard, or they would face a lack of liquidity and price mismatch across financial contracts.
- There is limited potential for a critical number of users to switch from one benchmark to another in around the same time. Financial transactions are executed and financial products created and traded continuously; some remain outstanding for many years. The number of market participants may be high in some markets which may make such a move more difficult and, while there may be large users that may influence the market, particularly where there are few participants, this would require considerable effort and coordination among users.

5.31 Half of the users responding to our survey have reported that they believe displacement of an industry standard benchmark is impossible or unlikely, while the remaining half considered it possible, for reasons including a significant degradation in quality or regulatory intervention.

5.32 In practice, there is limited evidence of market-driven displacement of an industry standard benchmark in the past. The most notable example of a benchmark being displaced is the transition away from LIBOR, which took multiple years and significant regulatory intervention. Suppliers have also flagged few examples of markets moving from a commodity price assessment to another provider, mostly driven by large firms in the commodity value chain. Typically, this is due to preference for an alternative methodology or greater suitability of the alternative benchmark with the product characteristics.

5.33 For uses of benchmarks in index-linked investment products, network effects create value because the wide availability of financial products linked to a benchmark makes it easier to build investment strategies, hedge risk and make comparisons. However, many of these index-linked products are based on benchmarks that track more liquid markets, hence the benefits of network effects may be lower than for benchmarks typically used for pricing financial contracts. Asset managers, who are the main users of benchmarks in investment products, rarely highlighted the need for liquidity as the main reason to use the industry standard, pointing instead to clients' preferences for certain brands, suggesting the latter is a stronger driver of choice.

Brand awareness of end investors means asset managers have to use established benchmarks in investment portfolios

5.34 Benchmark administrators license to customers, in particular asset managers, the right to use their product name in their investment products and for client reporting.

5.35 Where benchmarks are used for creating investment products, defining investment criteria and tracking portfolio performance, the benchmark is a prominent element of the product offering of asset managers to their customers. For example, index-tracking funds may include the benchmark name in the name of the fund or in the description, and reporting of fund performance would also display the benchmark.

5.36 Most asset managers who buy products linked to industry standard benchmarks have told us that their choice was driven by their customers' requirements and preferences, and both institutional investors and retail investors have a strong preference for products that are linked to well-known benchmarks or providers. Around 60% of benchmark users identified a well-established brand as an important factor they consider when choosing a benchmark provider. Some users specifically suggested that end investors and customers are reluctant to switch to alternative benchmarks, even if commercial terms may be more favourable. Other users highlighted that end investors are reluctant to switch away from well-established benchmarks, even if comparable benchmarks may be based on similar input data.

5.37 Investors' brand awareness is not a problem on its own. Investors' preference for brands can reflect the value they place on perceived reputation, trust or quality and a benchmark administrator who has built a reputation over time through its business strategy should benefit from the value of its brand. However, it may lead to poor outcomes if investors' preferences are based on partial information or if the information available is not evaluated correctly, for example if benchmark costs are not visible to investors.

5.38 Asset managers are likely to have more expertise and information than single investors, allowing them to better evaluate different benchmarks. Nevertheless, the majority of asset managers who responded to our user survey claim their choice is effectively constrained by their customers' requirements and they cannot switch to alternative providers, or they would lose business. Some asset managers also reported that they were unsuccessful in their attempts to persuade customers to use alternative providers.

Other market features contributing to shaping competitive dynamics

5.39 There are 3 other market features – barriers to switching, vertical integration and barriers to entry – which shape the competitive dynamics of these markets. Based on our assessment, these are less impactful than network effects and brand awareness. We provide a brief summary of our findings on these and more information in Annex 2 – Benchmarks.

Barriers to switching due to the nature of the products are high

5.40 Barriers to switching limit competitive pressure on suppliers, as users cannot credibly threaten to switch provider in a timely manner in response to a price increase or degradation in quality.

5.41 Network effects and brand preference can create significant barriers to switching, as benchmark users may often have limited, or no, credible alternative providers to switch to.

5.42 For benchmarks typically used in investment products, we have heard from asset managers that switching benchmark during the lifecycle of an investment product is challenging. This is due to the logistical challenges and reputational implications of obtaining sign-off and notifying investors.

5.43 Even for new investment products, switching benchmark provider involves costs related to setting up a commercial relationship with a new provider and the appropriate infrastructure to receive and process the data. However, these costs might not always have to be incurred, as many benchmark users license from several benchmark administrators simultaneously.

5.44 Certain commercial practices of suppliers, such as opaque pricing and contract termination requirements, may also increase barriers to switching. This is further explored in paragraphs 5.100 – 5.102 below.

Vertical integration is prevalent across the value chain

5.45 Vertical integration is prevalent in the wholesale data value chain, with several benchmark administrators being in the same group as input data providers (eg exchanges, ESG ratings), users (eg asset managers who self-index) and distributors (eg MDVs).

5.46 Consolidation has been increasing in recent years along the benchmarks value chain, with large firms entering the market through acquisitions or benchmark administrators in different market segments merging.

5.47 Vertical integration can create efficiencies and benefits to users, but can also enable foreclosure strategies when providers have market power. In such cases it may be appropriate to consider whether there are potential issues under the CA98.

Barriers to entry are high due to start-up and input costs but not insurmountable

5.48 Network effects and brand awareness are mainly a barrier to static competition. If an industry standard benchmark is already widely adopted by the industry then it is a must have for users. Competition is still possible in new markets (eg new asset classes), which frequently emerge because of trends in investment patterns and the wider economy. Network effects and brand awareness may also create a first-mover advantage, ie providers have the incentive to react quickly to demand trends and enter new markets.

5.49 However, potential entrants may face other entry barriers due to start-up costs. Benchmark administrators who responded to our survey reported that the main barriers to entry faced by potential benchmark administrators are related to product development, obtaining input data and complying with regulatory requirements.

5.50 Introducing new indices into the market involves research and development, technology infrastructure, distribution networks, and human capital costs. By contrast, the marginal cost of supplying an already developed index to a new customer is generally likely to be negligible. This cost structure is common in data markets.

5.51 Several benchmark administrators stated that costs of acquiring data from exchanges have been rising in recent years, through increased licensing costs and new scenarios where licenses are required. Aside from cost, most benchmark administrators have indicated that they do not face difficulty in obtaining inputs.

5.52 Benchmark administrators aiming to provide services in the UK need to comply with the requirements of the UK BMR, eg set up a robust governance and control framework. Even if there is a potential for regulation to increase barriers to entry which may soften competition, these are necessary to deliver benefits beyond competition, as the UK BMR addresses, among other things, conflicts of interest and governance, and controls for reducing the risk of manipulation of benchmarks.

5.53 Despite these barriers, as discussed further in paragraphs 5.69 – 5.70, there have been several entrants in the market, particularly in niche segments, suggesting that barriers to entry are not insurmountable.

Outcomes of these market dynamics

The market is concentrated, stable and profitable for some providers

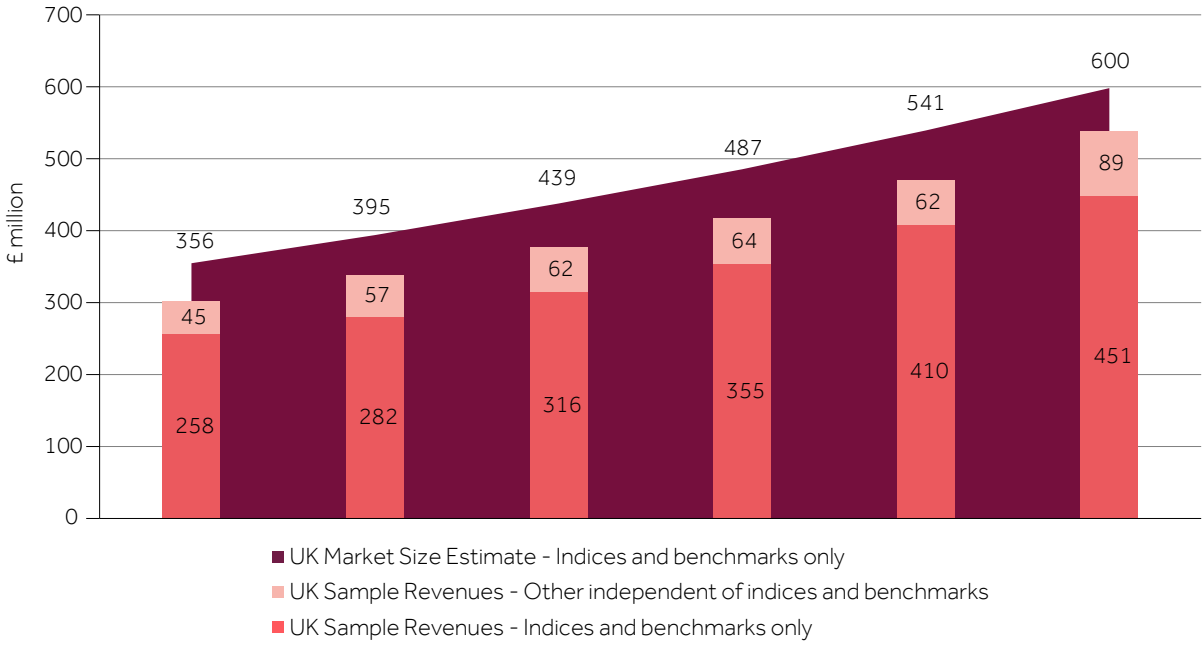
A few large firms make up most of the revenue from benchmark licensing

5.54 The UK index and benchmark administration market has nearly doubled in size since 2017, with revenues generated from UK-domiciled customers estimated to be around £600m in 2022 (Figure 12).

5.55 We received financial information from 14 providers, including UK and third country domiciled benchmark administrators. Revenues from this sample of firms' sale of indices and benchmarks to UK-domiciled customers exceeded £450 million in 2022 (Figure 12). These revenues do not include services that firms reported as being independent from the sale of the indices or benchmarks (totalling £89m in aggregate across our sample in 2022), which included the generation and distribution of other market data, research, news, IT and analytics.

5.56 On average, over 70% of sample UK revenues for the periods 2017-2022 was generated within the equities market, with the remainder being attributable to fixed income, FX, commodities and other (such as crypto and ESG).

Figure 12: UK market size estimate and sample firms' revenues from indices and benchmarks



5.57 We found that the 3 largest benchmark administrators accounted for just under 70% of the estimated UK market revenues in 2022. These firms held a broadly stable revenue share of the estimated UK total since 2017.

The quality of benchmarks meets users' needs and there is evidence of innovation for new products

5.58 Quality and innovation are key market outcomes that are affected by the level of competition and market power.

5.59 Weak competition generally reduces incentives of suppliers to invest in quality, however competition is not the only driver of quality. In this market, regulation is a key driver of quality. The UK BMR requires benchmark administrators to uphold benchmark integrity and transparency through appropriate governance, controls and reporting. Supervised entities must only use benchmarks that are on the FCA register for benchmarks or are provided by an administrator who is on the FCA register.

5.60 Over 70% of users who responded to our survey are satisfied with the quality of benchmark products and did not report any issues. The remaining firms flagged that they have run into issues with accuracy of calculations, data delivery or reporting at times. Many users said these are not frequent or that suppliers are forthcoming in resolving these issues.

5.61 Some users expressed concerns around liability clauses, prevalent among benchmark administrators, that exclude liability for errors, effectively transferring risk responsibility to the user. Evidence we have collected at this stage is not sufficient to establish whether liability clauses are leading to poor market outcomes. As discussed in our Update Report, we are conducting work on quality of benchmark data as part of our ongoing supervision of benchmarks.

5.62 Weak competition is also typically associated with low incentives for innovation. The benchmarks industry is continuously evolving to meet client demand and fill market gaps. As discussed above, due to network effects and brand awareness, the first mover in a market is more likely to win competition for the market and remain the industry standard. As a result, benchmark administrators have an incentive to invest in innovation in new products and try to seize those markets.

5.63 We found that all providers, established or not, invest regularly in creating new products and expanding into new markets, and innovative firms have entered the market in recent years.

5.64 Innovation on existing products in established markets, particularly radical or disruptive innovation, however, is likely to be weaker due to low competition. There might be a risk that single benchmarks continue to be used for many purposes, some of which it might not be suitable for, or there might be a better benchmark, or that methodologies become obsolete.

Switching is infrequent

5.65 Close to 75% of firms who responded to our user survey have not switched, or considered switching, between benchmark providers in the past 5 years. Less than 20% have switched successfully to an alternative provider to try and reduce costs or increase quality, while a few have considered switching, but have not done it due to high switching costs.

5.66 Data on UK funds linked to a benchmark shows that, in addition to high concentration around the leading benchmark brands, new funds set up in recent years continue to use the established benchmarks. This indicates that it is rare for existing investment products to change benchmarks and that asset managers continue to choose the established benchmark providers for their new products.

5.67 For benchmarks used in pricing, users would not be expected to individually switch to another benchmark. None of the users who responded to our survey reported switching providers for these uses.

5.68 For the benchmarks that are typically used for pricing, the frequency of displacement of an industry standard benchmark, with the shifting of use from one benchmark to another, is a better metric. As set out above, we found that likelihood of displacement is low. We are aware of some cases, reported by suppliers, where this has happened in the recent past for commodity price assessments (see Annex 2 – Benchmarks), however displacement is not common overall.

New entrants have entered the market, but not materially impacted market outcomes

5.69 Several firms have started administering benchmarks in recent years. Some firms, eg Morningstar (formerly Moorgate benchmarks), have entered as challengers of traditional benchmark providers, bringing innovation in methodology or licensing. Others have entered niche asset classes that have emerged over time as a result of trends in investment markets, eg CF Benchmarks who focus on cryptoassets, or General Index who provides commodity price assessments. Traditional benchmark

providers also often compete in these new niche asset classes, especially where there may be first-mover advantages, which contributes to the level of competition and innovation. Not all firms have been successful, for a variety of reasons, and some have exited the market in recent years, as can be expected in a dynamic industry.

5.70 Several firms have started creating and administering benchmarks to use in their own financial products, eg swaps, notes and funds, generating little or no revenue from licensing the benchmarks to third parties. These benchmark administrators are referred to as 'self-indexers': we're aware of 15-20 self-indexers, primarily investment banks but also some asset managers. Based on our survey, benchmark users who have started self-indexing have done so mainly because they required products that were not available in the market, but also to reduce the cost of licensing third party benchmarks. These firms generally also require third-party indices for certain use cases.

Profitability of established benchmark administrators is relatively high

5.71 Operating margins earned by established benchmark administrators were around 56% on average during the analysed period, exceeding 60% in certain instances. In contrast, those of challengers and new entrants were significantly lower and inconsistent when compared with established benchmark administrators (around 11% on average).

5.72 The return on capital achieved by the majority of the established firms was consistently above the cost of capital, largely outperforming challengers and new entrants. These results are consistent with a degree of market power being held by most established benchmark administrators.

5.73 In summary, there is very limited scope for competition 'in the market' where benchmarks are used for pricing financial contracts, and we found that competition 'for the market' once an industry standard is established is weak. We have also found that some benchmark administrators' products are considered to be a must have for specific market segments due to customer preferences for well-known brands.

5.74 As a result, benchmark administrators of industry standard or must have benchmarks are subject to limited competitive constraints from users switching or the threat of new entrants, and have been highly profitable for a number of years, suggesting they enjoy persistent market power. This means competition may provide limited incentives for benchmark administrators to lower prices, improve quality or innovate. This can be exacerbated by firm behaviours or practices which use their market power to hamper competition.

5.75 Despite this, at present users are generally satisfied with the quality of benchmark products and there is evidence of innovation in the creation of new products.

Market power enables benchmark administrators to adopt potentially harmful commercial practices

Fees are complex and fee structures vary between suppliers

5.76 To understand how benchmark providers charge fees, we gathered information about their commercial fee structures in our qualitative evidence. In the asset management use case, commercial fee structures include fixed annual fees; fees based on pre-determined thresholds (usually AuM thresholds); fees calculated by basis points on AUM; or by charging a proportion of management fees or total expense ratios (TER) paid by end investors.

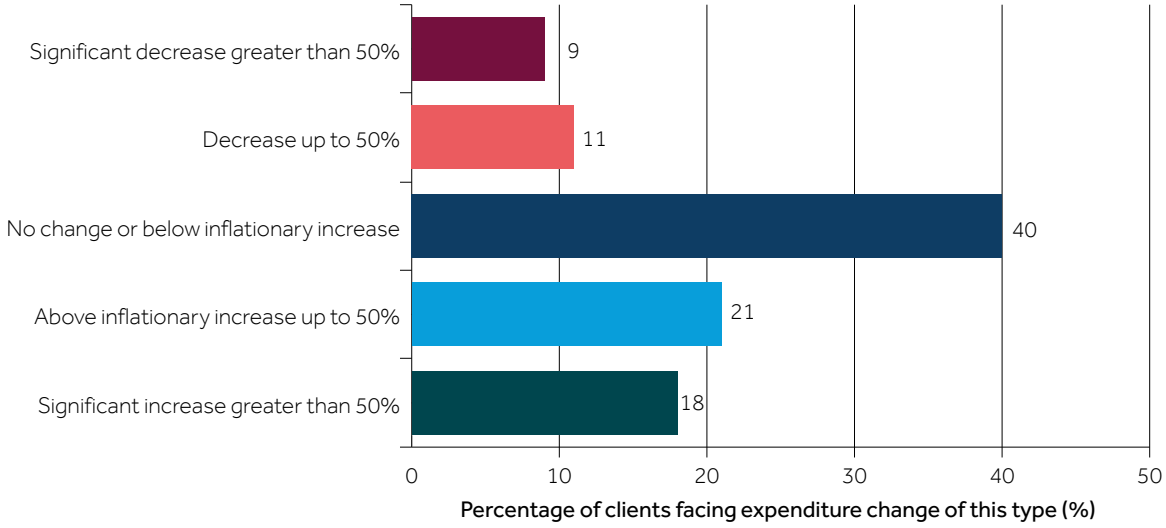
5.77 There are some cases where a combination of fees may be used together. For example, some benchmark providers may set fee floors and fee caps equal to specific basis points on AuM, with the actual fee determined by a proportion of fund TER.

5.78 Consistent with our broader findings on commercial practices of suppliers, our analysis of fund fee structures also indicated that discounts are applied by benchmark administrators.

Licensing fees are increasing

5.79 Our transaction data analysis based on data supplied by benchmark administrators on individual customers' contracts, found that total customer expenditure has generally been increasing. Many customers saw an increase in total expenditure over the period 2019-2022. 39% of customers saw total fees increase more than the inflation rate for the period. For 18% of customers the increase was over 50%.

Figure 13: Change in total expenditure for benchmarks providers' customers who were part of the sample from 2019-2022



5.80 Many users responding to our survey have reported that the cost of benchmarks has been increasing in the last 5 years. Most of these users have continued to license the same benchmarks, rather than switch, because of barriers linked to switching costs or customer requirements.

5.81 Increased benchmarks costs have affected users in different ways. The majority of users who responded to our survey stated that they have not terminated any benchmark licences with specific providers or reduced their usage of benchmarks as a result of increased prices.

5.82 A few firms told us they have terminated their licenses following price increases over 20% and others have reduced their use of benchmarks.

5.83 The remaining firms have changed the way they use benchmarks in an attempt to control costs, for example restricting operations at certain locations to avoid extra charges, re-organising internally to limit usage of benchmarks, or amending their product offering. Based on our user survey, some firms who have started self-indexing did so to reduce the cost of licensing third party benchmarks.

5.84 The extent to which increased cost of benchmark are passed through to investors in the form of higher fees will vary significantly across the market.

5.85 For benchmarks used in investment products, fees on index-linked products are typically charged as a basis point charge applied to the AuM or a proportion of the management fee paid by end investors. These are, in theory, more likely to be passed through than fees charged as a subscription. Based on a small sample of data, we understand that benchmark costs for funds in our sample typically amount to 10 – 20% of TER or management fees. Index strategies have grown significantly in popularity in recent years: they account for 33% (£2.9trn) of AuM of Investment Association members (£8.8trn, estimated to be 85% of total UK-managed' AuM), increasing from 21% since 2012. This growth is primarily driven by ETFs. Given recent trends in investment markets, with increasing use of index-based strategies, there is a risk that the harm from ineffective competition in benchmark markets will affect more investors in the future.

5.86 Pass-through of high fees is not the only way that investors can be harmed by higher costs of benchmarks. Some users reported benchmark costs are a factor when considering exit and entry in investment markets, for example the financial viability of developing a new investment product based on a given index.

Complex and opaque licensing

5.87 Data suppliers often price their products based on the perceived value to the customer (value pricing). Based on our analysis of benchmark administrators' commercial practices, this is prevalent among benchmark administrators. Typical pricing practices we observe (across many but not all providers) that enable value pricing are the following.

- License fees based on many price drivers: use case (eg reference in investment product, creation of derived data), assets under management (AuM) linked to the benchmark/number of contracts referencing the benchmark (the most common factors), observable characteristics such as customer size, access route, customisation, frequency of data delivery.
- Price lists used internally but not available to customers. The final price of the licence, although determined by the price drivers, is negotiated on an individual basis and ad hoc discounts are often applied.
- Confidentiality clauses applied to terms and conditions. Customers are not allowed to share information about fees and terms and conditions, so there is limited knowledge about average pricing levels across users.

5.88 These pricing practices enable benchmark administrators to estimate users' willingness to pay for the data, ie the maximum they are willing to spend, also corresponding to the value they derive from the data, and charge as close to that amount as possible. They may also have a mixed impact on switching, allowing firms to offer discounts to both their rivals customers, and their own.

5.89 The ability to price discriminate relies on suppliers having market power. In competitive markets, the extent to which providers can price discriminate is limited by competitive pressure, as users can threaten to switch to a provider that offers more favourable price and terms and conditions. But if certain data is essential and suppliers have market power, as for established benchmark providers, they can use value pricing to charge higher prices to some users, as well as potentially lower prices to low-value users.

5.90 Based on our analysis of fees charged by benchmark administrators, there is considerable variation in expenditure across customers. For a sample of large benchmark providers, the highest-spending customer in a given year pays many times more than the average expenditure per customer for that provider, while around 85% of customers in 2022 spend less than the average expenditure per customer.

5.91 Based on users' feedback, they do not consider they have effective power in negotiation with suppliers, in particular:

- The majority of users who responded to our survey consider it difficult to compare prices, suitability of products, or both.
- Despite prices being negotiated individually and discounts being frequently applied by suppliers, the majority of users do not think they can effectively negotiate with providers and have limited ability to push back on price increases.
- Many users suggested licences are increasing in complexity and many believe they have to pay more than once for the same data, as a result of needing multiple licences for the same data.

5.92 Based on our analysis of suppliers' commercial practices, we find that established benchmark administrators' commercial practices are generally more complex and opaque compared to challengers. We find that established providers, and in particular established equity benchmark administrators, on average have a larger number of pricing drivers indicating more complex licensing.

5.93 As discussed in chapter 3, value pricing can be efficient in data markets. If providers could not price discriminate at all, instead charging a uniform price to all users, at least some customers are likely to pay higher fees than they currently do. Some users may not be able to afford the data, distorting competition in markets in which users compete in favour of large players. As such, we do not consider price discrimination by benchmark administrators is a concern in itself, especially where it broadens access and allows benchmark providers to invest in innovation and quality. However, we do not believe a proliferation of licenses, designed to extract ever increasing revenues from high-value users, and creating increasingly burdensome compliance and monitoring costs on all users is in the best interest of a well-functioning market.

Licences covering bundles of benchmarks could create harm if used to leverage market power into new markets

5.94 Benchmark administrators sell their benchmarks in packages, generally by index family, with the scope and size of an index family varying across suppliers. This may simplify the contracting process. Users might find multiple indices useful and easier to license in a package rather than having to manually select them. However, this practice can also be used by suppliers to extract higher fees, and potentially create barriers to switching and entry.

5.95 Users reported that the way benchmarks are packaged in index families results in them having to purchase more data than necessary to keep using the desired products.

5.96 Benchmark administrators might include many indices in a package with their 'must have' benchmarks, making users pay for more data than they use. Changing the composition of packages frequently can help them to exploit this further by strategically dividing their most popular products. However, unbundling individual indices from packages and families may not necessarily lower benchmark users' costs if benchmark administrators have the incentive and ability to charge for 'must have' benchmarks at a similar price to the currently bundled packages.

5.97 We have not found that users have a particular preference for sourcing all benchmarks from one provider or that packaging of products prevents them from considering other suppliers. Instead, users stress the importance of selecting the industry standard regardless of who the provider is, which often leads them to have to buy many different indices from different providers.

5.98 Packaging of products might also be used strategically to foreclose rivals. As mentioned in previous chapters, the importance of network effects and brand value can create first mover advantages into new markets and asset classes, potentially creating an incentive to use foreclosure strategies like anticompetitive bundling and tying of 'must have' benchmarks with new products to gain new markets.

5.99 On balance, we do not find that the general practice of selling products in packages is a cause of poor market outcomes. However, cases where an established supplier might be abusing their market power to foreclose rivals should be evaluated on an individual basis – we invite users and suppliers alike to share concerns around possible anticompetitive practices in relation to specific products on an ongoing basis.

Benchmark administrators' commercial practices further increase barriers to switching

5.100 In addition to allowing suppliers to price discriminate, commercial practices of benchmark administrators outlined above also have the effect of increasing barriers to switching for users. Although, given network effects and brand preferences, lowering barriers to switching elsewhere may not materially increase switching rates.

5.101 Benchmark administrators' complex and opaque pricing increases the cost to users of searching for alternatives and in turn switching costs. The majority of benchmark users who responded to our survey reported that it is difficult to compare product offering and prices across different benchmark administrators.

5.102 Some terms and conditions imposed by benchmark administrators also increase direct switching costs. In particular, most benchmark administrators require users to purge or cease using historical data upon contract termination, unless they pay for a perpetual licence to keep using historical data after contract termination. Users responding to our survey reported ongoing fees to continue using historical data of between 50% and 100% of the original licence, with inflationary increases built into the perpetual licence. Asset managers generally need historical data for performance comparison, therefore a perpetual license is effectively an additional cost they would have to pay on top of the alternative benchmark license fee, making the price differential required to incentivise them to switch higher. The majority of users responding to our survey reported that this requirement constitutes an impediment to switching. Based on our sample of suppliers, this requirement is more frequently imposed by established benchmark administrators than challengers.

Next steps

5.103 We have found that there are 2 strong drivers of market power for providers of benchmarks. For benchmarks used to price financial contracts, network effects lead to the market tipping to one benchmark and some of these benchmarks have high impact on financial systems. For benchmarks used in index-linked investment products, strong brand awareness may lead to poor outcomes for consumers. We also observe commercial practices of benchmark administrators that could harm competition and outcomes for data users.

5.104 We recognise that users of benchmarks are concerned about the prices paid for the use of benchmarks and increases in those prices. We do not consider more interventionist approaches are likely to be suitable given the benefits created by the current market structure. There are liquidity and efficiency benefits from having one industry standard benchmark to price financial contracts. We also do not consider more interventionist approaches on price would be appropriate as there are potential unintended consequences of seeking to control prices in a market where the quality of the data is not a concern. We are mindful that limitations on pricing could have unintended consequences such as lowering the quality of wholesale data, reducing innovation or restricting the availability or access to data.

5.105 We consider the best way to tackle these issues is to look at them holistically as part of the wider regulatory work in this sector and alongside international developments. The UK BMR is Assimilated law that will be reviewed by Treasury as part of the Smarter Regulatory Framework Review. It is possible that changes to the statutory framework for the provision of benchmarks in the UK driven by policy objectives is an outcome of the review. Treasury may determine that addressing the issues we have identified is a relevant policy objective of the review.

5.106 When the UK BMR is reviewed under the Smarter Regulatory Framework review we will consider with Treasury the implications of the market study findings. In particular, we will explore:

- any barriers to switching
- how to ensure that benchmarks are provided on transparent, fair and reasonable terms.

5.107 Where we see firm specific practices that harm competition, we will consider the full range of our tools to tackle these. For example, we have powers under the CA98 to examine whether anti-competitive conduct or agreements underpin any competition issues, and if so, we can take action to tackle these.

Chapter 6

Market Data Vendors – findings and next steps

Introduction

6.1 This chapter sets out our understanding of how competition for the supply of MDV services operates, the outcomes we observe and their drivers, and the next steps we propose.

6.2 We start with a brief overview of the market and MDV services.

6.3 Next, we examine the main market dynamics. We then explain the outcomes that we see from these market dynamics and assess whether those are consistent with effective competition, highlighting certain drivers of outcomes that raise concerns.

6.4 Finally we set out the next steps we plan to take.

Market Overview

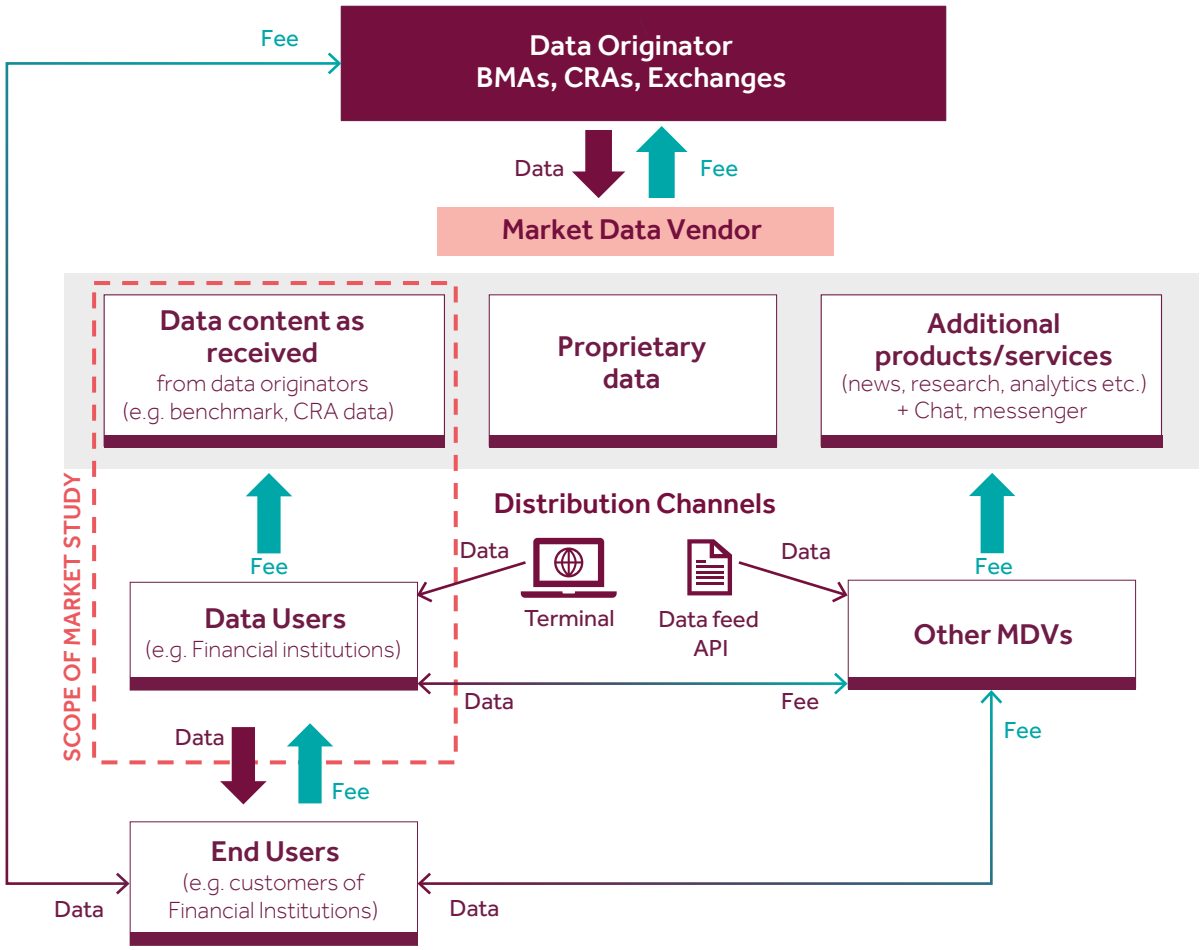
6.5 MDVs play a pivotal role in disseminating trading data and various market-related information, including benchmarks and credit rating data. They offer a range of products such as desktop applications, web-based tools, and data feeds to distribute both proprietary and third-party data. Beyond data access, participants in financial markets use MDV products for trading, portfolio analysis and regulatory compliance, among other services.

6.6 MDVs exhibit diversity in data provision, format, functionalities, and additional services and analytics. Some specialise in real-time trade data and trading functionalities, while others focus on company fundamentals and research. The distribution vehicle, whether terminal/desktops or data feeds, is another key distinction.

6.7 There are different types of data feeds, including consolidated real-time data, pricing information, and reference data, each serving distinct purposes within the financial landscape. The distribution channels for these feeds are equally diverse. Data feeds can be disseminated in different ways, including through terminals, APIs (Application Programming Interface) and end-of-day SFTPs (Secure File Transfer Protocol).

6.8 We summarise the flow of data distributed by MDVs, and associated fees, in Figure 14.

Figure 14: Flow of data and fees for data distributed by MDVs



6.9 Our analysis is focused only on those firms, or those business segments within companies, that predominantly redistribute third-party generated data. These firms license wholesale data from data generators (which may also include entities within the same group as the MDV) and then distribute this data to users.

6.10 We sent our request for information to a range of firms, selected based on criteria encompassing core service offerings, scale, and market relevance. We received responses from 7 MDV firms (representing 81% of estimated UK market revenues) whose core business is within the scope of this market study. The range of responses we received provided insight on respondents' perspectives on a range of supply-side factors influencing competition in the UK market. We have also engaged with approximately 100 UK-based MDV users, including banks, broker-dealers, asset managers, hedge funds, and trade associations.

6.11 In 2022, the aggregate revenues of the MDVs in our sample totalled over £12 billion globally, with over £3 billion generated from sales to UK-based customers. The UK MDV market is highly concentrated in terms of revenue generated, with 2 firms accounting for most of it. Other firms' contribution to aggregate revenue is in the low single-digit percentage range.

Licensing arrangements for access to data

6.12 Data is predominantly licensed rather than purchased. MDV users often need to license data that they access via the MDV from upstream generators including trading venues, CRAs, and benchmark administrators. Users pay a fee to receive data through a terminal and/or on a feed, while simultaneously having to license and pay fees to the owner of that data.

6.13 We asked users if they buy data directly from data suppliers such as trading venues, why they do or don't, and how easy it is to set up such a relationship. Around 40% of respondents stated they buy directly from data suppliers, particularly trading venues for real-time pricing data. Respondents typically distinguished between directly accessing data from data suppliers and accessing from an MDV, with or without needing a separate licence with the data supplier.

6.14 Users indicated that reasons for accessing data directly from the data supplier include data availability restrictions or where low latency is required. Some users indicated that MDVs require users to comply with the requirements and restrictions imposed by the third-party data providers, but that it was the user's responsibility to contact data suppliers directly to obtain information about additional licensing requirements.

6.15 Users who accessed data via MDVs told us that this provides sufficient coverage for their business needs, and that it was more efficient for them to access consolidated data sources instead of taking data directly from each source. These efficiencies include having fewer individual negotiations, as well as the technology and operational costs from onboarding data from multiple providers.

6.16 Licences to use data are broadly split into 4 categories of usage (although data generators and MDVs may have more, or fewer, categories, respectively). Using trade data as an example, we see:

- display licences allowing data to be viewed on a screen (commonly sold as subscriptions).
- non-display licences covering all other internal purposes for using trade data.
- redistribution licences for when trade data is directly distributed onwards by the purchaser.
- derived data licences where trade data is used as an input to a calculation, such as an index.

6.17 The need for direct licensing varies based on the nature of data usage. In instances where data is exclusively displayed through a terminal or desktop interface, additional licensing or charges are generally not required. This generally applies to certain types of data that do not involve real-time or non-display applications, such as delayed trading data, indices, ratings, company information, and news. For real-time or non-display use cases distinct licences are typically required, necessitating separate agreements with each data generator as well as additional licences with the MDV in some instances. The administration of these licences vary, with some managed by the MDV on behalf of the data generators, while others involve direct dealings between generators and end-users.

6.18 The dual licensing structure, involving both downstream MDVs and upstream data generators, introduces several implications for users:

- **Complexity and coordination:** Users operating in the market data domain face the complexity of managing licences from both MDVs and data generators (trading venues, CRAs, benchmark administrators). Coordinating these licensing agreements adds an additional layer of administrative burden, as users need to navigate terms and conditions from multiple parties.
- **Differences in licensing terms:** The licensing terms and conditions may vary between MDVs and generators, leading to a diverse set of contractual obligations. Users must carefully negotiate and comprehend the terms of each licence to ensure they comply with their obligations.
- **Intermediary role of MDVs:** MDVs can act as intermediaries between users and data generators, administering certain licences on behalf of the generators. This intermediary role can simplify the licensing process for users but may also introduce complexities if there are disputes or changes in licensing terms. Data users and MDVs tell us that it has become increasingly common for data generators to require direct licensing.
- **Flexibility and customisation:** The licensing model in the market data industry allows for greater flexibility and customisation. Users can tailor their data access according to specific needs, choosing different datasets, delivery methods, and latency options. However, this flexibility comes with the responsibility of managing multiple licences.

6.19 In summary, the dual licensing structure involves a trade-off between flexibility and complexity. While users can benefit from the ability to tailor how they access the data they require, they also face the challenge of managing multiple licences with varying suppliers and with various terms, necessitating a sophisticated approach to data procurement and usage.

Our findings on market dynamics

Barriers to switching from a lack of credible alternatives

6.20 Barriers to switching can prevent, or deter, customers from taking their business elsewhere.

6.21 We asked users how easy it is to switch MDV, and if there are significant barriers to switching, what they are. Around 70% of respondents suggested switching was difficult or identified a barrier to switching. In a number of cases respondents suggested that there was a lack of alternative providers who could provide the same data coverage, quality or equivalent functionalities and services as their existing provider. This indicates that alternative MDV providers were not completely substitutable. However, 40% of respondents suggested they had switched, or partially switched, for example replacing the provider of a specific data product or enhancing their primary vendor's service with additional vendor services elsewhere.

6.22 Around 60% of users believe there are credible alternatives to their existing providers. Of those that felt there were no alternatives (around 40%), users highlighted that they were using the best providers for their requirements (product offering, market coverage and customer service) and that each provider fulfils a unique role that could not be substituted by an alternative in part or in full.

6.23 Around 80% of respondents to our user survey suggested network effects play a role in their choice of MDV, although many suggested their importance varied by product and service, and were often one of many considerations. Respondents identified network effects playing a prominent role in sales (gaining exposure and communicating with clients) and trading (communicating with clients and counterparties).

6.24 MDVs offer highly specialised and differentiated products, creating unique value propositions for diverse user needs. MDVs are not simply data redistributors but compete in a variety of markets offering highly differentiated products to users with different needs. MDVs have provided us with evidence of frequent product launches aiming to meet new user needs and/or improve the quality of their existing offer. Competition takes place on various differentiating factors, including data coverage, pricing, customer service, reputation, fee structure and restriction of data usage, among others.

6.25 Product differentiation can imply a low degree of substitutability between products and services, which grants suppliers a certain degree of market power.

6.26 Where a credible alternative provider was identified, a number of respondents suggested significant transition costs would offset any cost savings from using an alternative provider and make switching uneconomic. The switching costs that users identified included operational risk, the technology and development costs associated with changing system, processes and workflows to integrate the new MDVs (including remapping of data), contract termination clauses including notice periods and requirements to purge historic data, data validation and testing.

6.27 Even when users do not switch, they can obtain better deals by negotiating with their existing suppliers. We therefore examined the factors that could provide users with a degree of bargaining power. Most users suggested the ability to negotiate varied across providers, or on specific services, for example negotiation was more likely with new entrants and smaller providers, or where there are multiple providers and competition is high.

Barriers to entry and consolidation

6.28 Barriers to entry in the MDV space can be high as they include the establishment of technological infrastructure as well as the acquisition and licensing costs of data from generators. Smaller MDVs have told us they do not possess a client base large enough to penetrate certain segments, which constitutes a key barrier to expansion. Some MDVs also highlight the increasing complexity of licensing data from data generators as a barrier to entry an expansion.

6.29 On the other hand, both small and large MDVs informed us that technological change is reducing entry costs. That is, potential entrants and challengers have now access to software tools that can reduce the cost of processing and distributing data. These include cloud computing, open-source software and machine learning and AI capabilities. Some MDVs explain that technological change not only reduces barriers to entry and expansion but allows data users to circumvent certain MDV products, with the potential of displacing existing models.

6.30 Thus, barriers of entry are high but not insurmountable, and we have indeed observed several instances of entry. However, no entrant has yet overcome the barriers to growth that would enable them to achieve significant market share. Furthermore, the MDV market has undertaken significant consolidation through mergers and acquisitions activity.

Vertical integration

6.31 Vertical integration is prevalent in the wholesale data value chain, with several MDVs being in the same group as data generators, trading venues, or CRAs.

6.32 Consolidation has been increasing in recent years along the value chain, with large firms entering the market through acquisitions.

6.33 Vertical integration can create efficiencies, and benefits to users, but can also enable foreclosure strategies when providers have market power. In such cases it may be appropriate to consider whether there are potential issues under the Competition Act 1998 (CA98).

Outcomes of these market dynamics

The market is concentrated, but there is potential for dynamic competition

Two providers within the UK market account for a large majority of revenue

6.34 When considering UK total revenues, in 2022, the aggregate revenues of the MDVs in our sample totalled over £12 billion globally, with over £3 billion generated from sales to UK-based customers. The UK MDV market is highly concentrated in terms of revenue generated, with Bloomberg and Refinitiv accounting for a large majority amongst the sample of firms from which we have collected data. Other firms' contribution to aggregate revenue is in the low single-digit percentage range.

6.35 We also asked users about the MDVs they use as part of our user survey. Well-established MDVs are used by a large proportion of our sample and some firms only employ these.

6.36 However, our sample of firms has focused on those MDVs that primarily license data from third-party generators and sell them to users as part of an aggregated offering. Additionally, MDVs may offer a variety of products and services. Some of these products and services may be specialised or focused on particular use cases, each of these may constitute separate niche markets.

6.37 Respondents to our user survey highlighted a number of market leaders or recognised specialisms amongst MDV providers, covering data services (for example asset class or geographical coverage) and add-on or complementary services and functionalities. Although respondents also highlighted that the same providers can be perceived as market leaders across multiple specialisms, many providers are continuing to expand their offerings through reinvestment or acquisition increasingly offering "one stop shops".

Quality can meet users' needs however there are concerns over costs

6.38 We asked users whether they felt the MDV market was delivering high-quality products at a reasonable price. Around 25% of respondents felt the MDV market was delivering high-quality products at a reasonable price, some suggesting the market is very competitive and quality and quantity of data and alternative data providers have increased in recent years.

6.39 However, around 30% of users suggested they did not think the market was delivering high quality at a reasonable price, and around 45% of users were generally positive about quality but raised concerns over pricing and the level of competition (or suggested quality and price varied across markets and providers).

Partial switching between providers takes place and most users multi-source

6.40 We have observed a degree of switching in the market. Around 60% of users believe there are credible alternatives to their existing providers, and around 40% have switched or partially switched providers in the past five years. Most of the respondents to our survey also multi-source. That is, they contract with various MDVs simultaneously for different services. Few firms use just 1 vendor, with the majority of respondents stating they use multiple MDVs, and a significant proportion of users suggesting they use a large number of MDVs (10 or more).

6.41 Of those that felt there were no alternatives (40%), users highlighted that they were using the best providers for their requirements (product offering, market coverage and customer service) and that each provider fulfils a unique role that could not be substituted by an alternative in part or in full.

6.42 MDV users are typically sophisticated firms with procurement teams (around 75% of our users) that review contracts periodically and analyse their switching options and other strategies that allows them to reduce costs. While a limited number users in our sample have switched providers in full, some are considering it or have considered it in the past. From the data that we gathered from suppliers we can also see instances of consumption reduction, product exit, and clients' switching.

There is evidence of entry and innovation, but also consolidation

6.43 We have observed several instances of market entry, including (more details are in Annex 4 – Market Data Vendors):

- Global Financial Information Services was founded in 2019 and provides market data, research and news, and fundamental data to customers.
- Databento was founded in 2019 and provides customers with both real-time and non-real time data across equities, FX, futures and options.
- Inven, which was established in 2022 and specialises in the application of artificial intelligence (including natural language processing and machine learning) to structure unstructured data sources.

6.44 These are just a few examples of start-up companies that have entered the MDV market. In addition data generators are increasingly acting as competitors to MDVs, either by selling data directly through feeds or by establishing themselves as vendors. We observe that no entrant has yet overcome the barriers to growth that would enable them to achieve significant market share.

6.45 Some respondents to our user survey suggested that no new entry had significantly managed to disrupt the market, while other respondents suggested there was evidence of entry and increased choice, in particular from FinTechs, new risk-free rate offerings, new Alternative Data, Crypto and ESG providers. A number of users highlighted that when a new/niche player comes into the market they can often be acquired by established large MDVs with the potential to limit competition. Respondents highlighted Morningstar's acquisition of Sustainalytics, Fitch buying Creditsights, Moody's acquisition of Vigeo ESG data and Ethical Investment Research, S&P buying ESG vendor Trucost and Shades of Green.

6.46 While some users have expressed concerns over lack of innovation in the market, we have observed a number of examples of innovation occurring in the market: eg desktop solutions have been made available without physical terminals and in some cases in mobile phones, Bloomberg is about to release BloombergGPT, Refinitiv has started a strategic partnership with Microsoft to integrate Teams, ChartIQ is being integrated in S&P IQ Capital. Some users suggested MDVs continuously develop innovative new functionalities and tools to provide users with an integrated service, thereby increasing their operational reliance on the MDV and increasing the costs of switching. A non-exhaustive list of new uses of data that have been facilitated by MDVs includes order management, post and pre-trade reporting and functionalities, algorithmic trading, integration of data feeds into firms' internal applications, portfolio management tools and visualization, and regulatory reporting MDVs also aggregate data from an ever-increasing variety of sources and consolidate it into user-friendly formats.

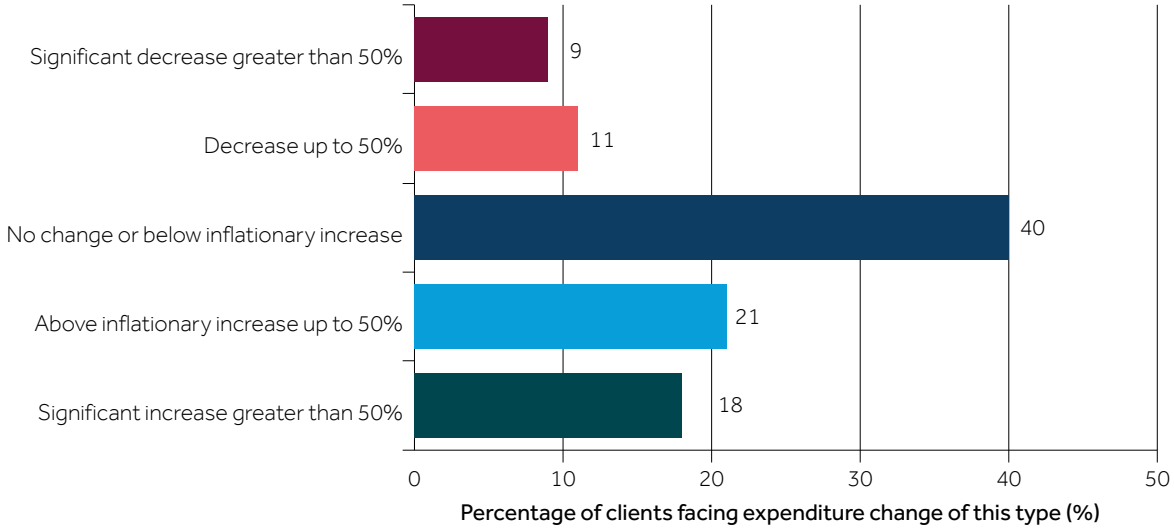
Market power enables MDVs to adopt potentially harmful commercial practices

Licensing fees are increasing

6.47 Many users have expressed concerns over double-digit yearly increases in MDVs' fees. Our transaction data analysis based on data supplied by MDVs on individual customers' contracts, found that total customer expenditure has generally been increasing, with many customers seeing an increase in total expenditure over the period 2019-2022. 43% of customers saw total expenditure increase more than the inflation rate for the period. For 22% of customers the increase was over 50%.

6.48 Some users explained that they experienced important cost increases following changes in contractual terms, eg when new licences are required for certain uses of data or when the pricing model is changed.

Figure 15: Change in total expenditure for MDVs' customers who were part of the sample from 2019-2022



6.49 It is important to notice that the figures above do not represent prices but total expenditure. That is, increases in expenditure can reflect price increases but also quantity of products and/or data consumed (see Complex Licensing below).

6.50 From a profitability analysis perspective, we did not find evidence of consistently strong financial performance in the MDV market. We found that the average operating margin earned by sample firms throughout the 2017-2022 period was 15%, only 2 percentage points above that earned by S&P 500 constituents. However, it was significantly lower, by at least 8 percentage points, than that achieved in comparable sectors, such as Diversified Financials and Software & Services.

6.51 These levels of profitability contrast with the ones achieved by nearly all established benchmark administrators (56% average margins) and trading venues (average margins for those specialising in equities and derivatives above 40%), both consistently well above broader industry levels.

6.52 We found evidence of returns being consistently above cost of capital only for 2 firms throughout the 6-year period. Our results, whilst not highlighting a systemic trend of excessively high returns within the MDV market, suggest that competition may not be working as effectively as it could. Please refer to the Financial Analysis Annex for more details about the methodology of our profitability analysis and the relevant results.

Bundling practices

6.53 Users highlighted a lack of flexibility in vendors' pricing models, restricting their ability to limit their purchases to only the data they need, and being subject to price increases based on improvement in data elements they do not use. Some users suggested that this had a disproportionate impact on small customers and the market worked less well for them. Users also highlighted examples where previously bundled functionalities were unbundled and charged separately.

6.54 Bundles can include data bundles and functionality bundles, as in terminals. For example, an MDV could bundle trade data and reference data feeds together. If offered in discount, this could discourage a competitor that only provides reference data but not trade data. Enterprise level deals sometimes offer discounts for larger amounts of data consumption, thus making it harder to switch partially to a different provider. Similarly, a terminal/desktop product could contain different functionalities as trading applications and/or messaging.

6.55 Some of these bundles could deter entry, and users could potentially benefit from purchasing some of these applications on a stand-alone basis. However, bundles also offer benefits to users, and unbundling products could result in higher costs as well as higher complexity in licensing.

Contract exit terms

6.56 A number of users explained to us that MDVs impose onerous exit terms. Most notably, contracts generally require users to purge historical data from their systems. In some cases, MDVs allow users to keep the data for audit and regulatory purposes or negotiate a fee to keep using the data in an alternative manner. However, on the latter case, some users tell us that the costs, compared to the cost of maintaining existing access, can be prohibitive. Given that for certain activities it is crucial to maintain historical data, these clauses can constitute an important barrier to switching to a new provider.

Complex licensing

6.57 As explained above, the licensing of data on wholesale data markets typically occurs at 2 levels. Data is usually consumed via an MDV, but many users also need to obtain a licence from data generators, for example with trading venues.

6.58 When analysing the licensing models of MDVs, we have found both similarities and important differences with the trading venues. On the one hand, close to 25% of users we surveyed responded that they do not consider pricing structures of MDVs are complex and/or opaque. On the other hand, a similar percentage of users have expressed concerns. These include:

- multiple charges for a single use case
- expanding number of use cases
- significant usage restrictions
- significant fees to retain historical data upon contract termination
- non-standardised contract terms and presentation

6.59 Our analysis indicates that the restrictions contained in the licences that users have with MDVs can be the result of restrictions imposed by the data generators themselves. This relationship was highlighted to us both by MDVs and users. For example, 1 MDV explained to us that data generators are increasingly requiring information of users' data consumption and usage and demanding preapprovals on downstream products. Some users, including a trade association whose members include large asset managers, explained to us that they considered that data generators' contracting practices were the driver of the restrictions in users' licences, not the MDVs.

6.60 More generally, the licensing practices by MDVs largely reflect what we found in our Trade Data review regarding licensing practices by trading venues. In that report we highlighted the growing trend among trading venues to impose charges for various use cases, resulting in increased costs and administrative complexities for users. We stated that complicated licensing design and contract terms result from trading venues' lack of incentives to simplify these arrangements. This is because of the profitability of charging different prices to different users, by charging for how data is used, compared to uniform pricing (see paragraphs 3.11 – 3.18 above for discussion on when price discrimination can be efficient or harmful). We found that complicated licensing design and contract terms had implications that were not clear from the outset, making it difficult for users to monitor trade data costs and make effective choices between different trade data offerings. The licensing complexities create frictions for users when assessing their trade data needs, comparing prices across trading venues and predicting their overall expenditure.

6.61 Complexity drives additional costs for users, such as operating a compliance team, that raises the cost base of wholesale financial markets. These costs may be passed on to UK retail investors and savers through the greater cost base of all the users of trade data involved in managing UK retail savings, although the impact may not be material. While we recognise that MDVs can introduce further restrictions that contribute to pricing complexity, we have also observed a degree of competition in the markets that constrains to some extent MDVs' ability to cause user harm. In particular, users acknowledge the significance of the licensing model when choosing MDV providers, considering different contract structures offered by MDVs, such as enterprise-wide agreements and user-based charges. Additionally, variations exist in data redistribution policies, with some MDVs offering more flexible conditions than others.

Impact of existing regulation

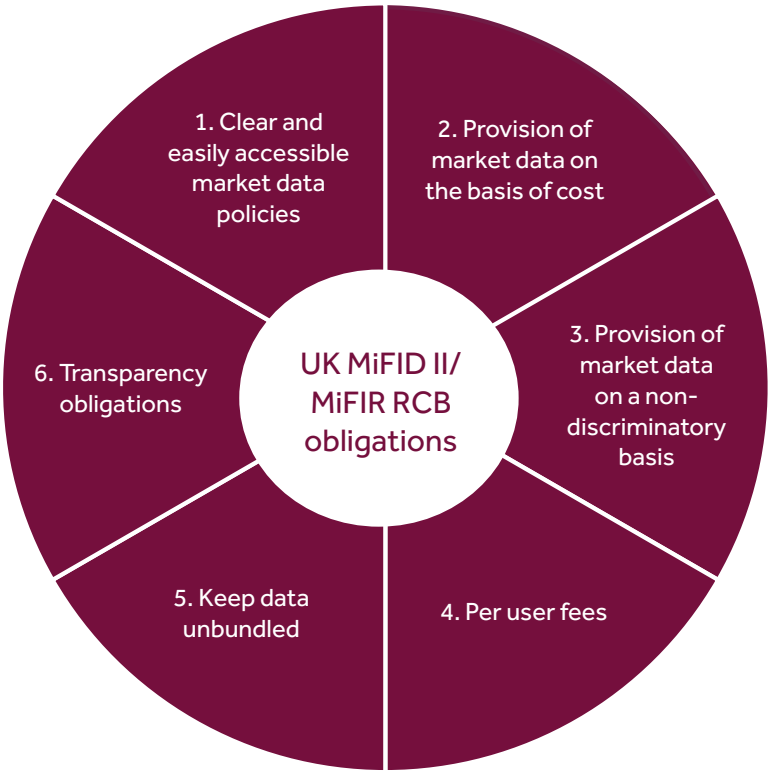
6.62 MDV activity is generally not within scope of the FCA's perimeter as set by Parliament and carrying on such activity does not therefore usually require authorisation from the FCA. This is to the extent that such activities do not fall within the scope of the regulated activity of arranging deals in investments or otherwise operating an approved publication arrangement, an approved reporting mechanism or a consolidated tape provider.

6.63 However, the reasonable commercial basis (RCB) framework under the Markets in Financial Instruments Directive (MiFID II) and Markets in Financial Instruments Regulation (MiFIR) does apply to the licensing practices of firms and activities which we do regulate, such as trading venues.

6.64 MiFID II is a collection of laws that regulate the buying, selling and organised trading of financial instruments. This EU legislation was introduced to improve transparency and increase trust in financial markets across member states of the European Economic Area. Following the end of the post-Brexit transition period in December 2020, the parts of EU MiFID II contained in regulations and technical standards were onshored into UK law.

6.65 The UK version of MiFID II requires market data providers to provide certain market data on a reasonable commercial basis (RCB). The providers include trading venues, approved publication arrangements (APAs), consolidated tape providers (CTPs) and systematic internalisers. The RCB framework sets out 6 broad principles as shown in Figure 16.

Figure 16: Obligations for market data providers under the MiFID II RCB framework



6.66 Data users have told us that the flexible interpretations of the RCB requirements allow trading venues to justify pricing data based on the value of the data to individual market participants rather than the cost of producing data. This feedback mirrors the findings in our Trade Data Review that requirements on pricing trade data on a reasonable commercial basis are designed to constrain pricing but give trading venues wide pricing latitude and don't appear to be a significant constraint on pricing.

6.67 Over the course of the market study, we received representations from data users which:

- mentioned the need to strengthen the RCB framework to help deliver better outcomes
- suggested that MDVs should also be subject to the RCB requirements

Next steps

6.68 We have highlighted how certain licensing practices by data generators are passed through the value chain and can negatively impact how well users of MDV services can effectively monitor and manage their data costs. We also noted that the strong market position held by certain MDVs may enable the anti-competitive use of bundling practices.

6.69 We want data users to be able to access clear and simple licensing terms and have reasonable certainty of their overall expenditure over a given period.

UK Consolidated tape

6.70 We will use the findings from our market study to inform our ongoing work on developing consolidated tapes for bonds and equities. The FCA is progressing work to develop a consolidated tape for bonds which is expected to start operation in 2025. The consolidated tape (CT) aims to address the issues that have arisen from the highly fragmented fixed income market where many trades occur between parties away from venues.

6.71 In our July 2023 consultation paper on developing a CT, we also discussed some of the main issues relating to a framework for a CT for equities. We noted that the bonds market structure is significantly different from equities and the market for trading data – the market from where the complex licensing concerns we have identified largely arise from. A CT for equities could potentially challenge existing UK equities data providers to increase the value of their own product offerings through pricing and licensing terms that are more favourable to data users. In 2024 we expect to publish an update on our next steps in respect of a consolidated tape for equities.

MiFID II/MiFIR – Reasonable Commercial Basis framework

6.72 We think it is most appropriate to address the licensing practices at the source, ie data generators. Addressing the practices at earlier stages of the data supply chain may also generate and sustain improved market outcomes.

6.73 As highlighted in paragraph 6.66-6.67, we received feedback from market participants that the RCB requirements have not delivered on its objectives, and we received representations from data users which either called for the FCA to reform the RCB framework or for MDVs to also be subject to the RCB requirements.

6.74 The RCB framework in MiFID II/MiFIR presents a potential route for addressing the licensing practices we are concerned about that relate to data generators.

6.75 We will explore potential changes to the RCB framework to help address the issues identified in relation to data generators. This could include:

- Amending our rules via FCA Handbook: Strengthening the RCB framework with more prescriptive requirements to address complex licensing practices by data suppliers.
- Publishing guidance: Publish guidance to allow more uniform application of the RCB obligations by firms.

6.76 We will examine the impact of our work on consolidated tapes on the issues identified in this market study before deciding whether any potential changes to the RCB framework are necessary and proportionate.

6.77 Additionally, as part of the Smarter Regulatory Framework, the Treasury and the FCA have identified relevant policy changes to make UK markets more efficient, reducing the cost of trading and streamlining reporting obligations. In December 2023 we began consulting on proposals to improve the transparency framework for the bond and derivative markets in the UK (CP23/32). The proposals include transferring the RCB provisions relating to trading venues into the FCA Handbook. We also confirmed in our Policy Statement (CP23/33) for a UK consolidated tape framework that the transfer of RCB rules for APAs and transfer and removal for CTPs are due to take effect in April 2024.

6.78 Any future work to update the RCB framework will firstly require that the relevant provisions are transferred into the FCA Handbook as agreed with the Treasury.

6.79 Finally, we will continue to examine whether anti-competitive conduct or agreements underpin any competition issues, and if so, whether action using our CA98 powers would be appropriate.

6.80 Our approach set out above aims to address issues identified in the MDV market in a holistic and proportionate way by considering the wholesale data supply chain as a whole and also our wider regulatory work in this sector. We currently do not consider a more interventionist approach on pricing is suitable, especially in a market where the quality of data is not of concern, and which could lead to unintended negative consequences.

Chapter 7

Our decision on a market investigation reference

Introduction

7.1 As set out in our update report, under the Enterprise Act 2002 we have the power to make an MIR where we have reasonable grounds for suspecting that a feature or combination of features of a market or markets in the UK prevents, restricts or distorts competition.

7.2 Our market studies guidance (FG15/9), explains that in determining whether to make an MIR we will consider whether it is appropriate in the circumstances when judged against the criteria set out in the Competition and Markets Authority Market Investigation References guidance (OFT511), as detailed below. We expect to make an MIR where all of the following criteria are met:

- It would not be more appropriate to deal with the competition issues identified by applying the CA98 or using other powers available to us.
- It would not be more appropriate to address the problem identified by means of undertakings in lieu of a reference (UIL).
- The scale of the suspected problem, in terms of its adverse effect on competition, is such that a reference would be an appropriate response to it.
- There is a reasonable chance that appropriate remedies will be available to the CMA.

7.3 A further key factor is whether we foresee the need to implement remedies affecting firms that we do not regulate.

7.4 We received 4 representations in response to our market study notice that we should make an MIR to the CMA. As a result, we had a statutory obligation to consult by 1 September 2023 on a proposal on whether to make a market investigation reference at the conclusion of this study.

7.5 We published our update report on 31 August 2023, which set out our provisional decision not to refer any of the 3 markets to the Competition and Markets Authority for a market investigation. We consulted on this provisional decision and gave stakeholders until 29 September 2023 to provide views. We are grateful for the responses we received, which we have considered carefully.

7.6 Our view remains unchanged, and we are not referring any of the markets to the CMA for investigation at this stage. This chapter explains the rationale for our decision.

The consultation on our provisional decision

7.7 In our update report, we explained that we believed there were reasonable grounds for suspecting that some features of the benchmarks, credit ratings data and MDV services markets prevent, restrict or distort competition. We therefore believed the statutory test for a market investigation reference under section 131 of the Enterprise Act 2002 was met.

7.8 Our consideration of whether to propose an MIR therefore turned on whether an MIR would be the most appropriate way to address the competition issues we identified. Our provisional view was that an MIR was not the appropriate course of action for all 3 markets at that stage because:

- As a sector regulator, we are in a strong position to lead on shaping potential remedies to ensure holistic market regulation. Our supervisory role over market participants and our strong understanding of firms' operations will play a key part in developing remedies that will promote effective competition while also maintaining market integrity and protecting consumers. We also acknowledged that any intervention should not be developed in isolation, but rather considered alongside other related policy work as part of the wider Wholesale Markets Review.
- We have concurrent powers to enforce against suspected breaches of CA98. We will continue to examine whether anti-competitive conduct or agreements underpin persistent competition issues, and if so, whether action using our CA98 powers would be appropriate.
- While the outcomes of the market study focus on improving competition issues within the UK, we recognise the international nature of these markets. If appropriate remedies will require cooperation between international regulators to effectively tackle any harm we identify, we would be better placed to do this. We benefit from established relationships with international counterparts. We also contribute to the work of standard-setting organisations to help shape and implement international standards.
- There are firms within scope of this market study that we do not regulate. Where there are limits to our legal powers to tackle certain harms identified, it may be appropriate for the Treasury to extend our regulatory perimeter. We would be able to make the case for this as effectively as the CMA. Additionally, if it is appropriate for the Treasury to extend our powers, this recommendation could be made at an earlier opportunity by us following this market study than by the CMA following a market investigation.

7.9 We committed to continue assessing these factors alongside our analysis of competition in the 3 markets in reaching our decision on whether to make an MIR.

Summary of responses to the consultation

7.10 We received 17 responses to our update report. Of these 7 explicitly referred to our provisional decision not to make an MIR. These responses came from a mix of wholesale data suppliers and industry associations. We have published these responses on our website alongside this report.

7.11 We received 2 responses disagreeing or indicating concerns with our provisional decision. This was primarily because stakeholders felt there was sufficient evidence contained in our update report to demonstrate a range of competition concerns. These included complex licensing terms, selling products as packages, unreasonable termination requirements, price discrimination and limited ability to switch providers. Both respondents were, however, supportive of the holistic approach to regulation we set out in our update report as one reason why we were not proposing an MIR for any of the markets.

7.12 We also received 5 responses supportive of our provisional decision. These came from suppliers from each of the market we looked at. This was broadly because respondents thought competition is working well in these markets or that the scale of competition concerns was too limited to warrant a market investigation. One respondent agreed we were best placed to tackle issues identified in these markets, including for the reasons set out in our update report.

Our decision

7.13 We continue to believe that the statutory test for making an MIR is met. This report shows there are features of these markets in the UK that prevent, restrict or distort competition.

7.14 Our assessment of whether to make an MIR is therefore based on whether this would be the most appropriate way of addressing the concerning features we have identified. Our view remains unchanged since our update report. We do not think an MIR would be the most appropriate way to address the competition problems we have identified. We believe that the reasons set out in our update report, and stated in paragraph 7.8 above, still remain valid. We note that while 2 respondents disagreed with the provisional decision, they also supported our view that a holistic approach to tackling competition concerns in these markets is needed. Our view remains that we are well placed to develop an appropriate and proportionate approach to addressing issues identified in the market study. We have set out in this report our planned further work. We will use this to identify any areas we will take forward. As we progress this work, we will also keep under review our ability to tackle any issues we have identified and whether we need to consider alternative approaches.

Glossary of terms used in this document

Asset class	A group of financial assets which share similar characteristics and are subject to similar laws and regulatory requirements. Asset classes include equities, fixed income and derivatives.
Benchmark	An index used within the scope of the UK BMR, as set out in UK BMR article 3(1.)(3)
Consolidated tape/feed	A continuous electronic live data stream providing price and volume data of bids and offers, and/or executed trades in financial instruments taking place on trading venues and bilaterally
Credit ratings	Opinion on the creditworthiness of an issuer or security, issued by CRAs
Credit ratings data	Dataset including credit ratings and related information, that may be supplied by CRAs (or their affiliates) or through market data vendors.
Critical benchmark	A 'critical benchmark' as set out in article 3(1.)(25) and (25A) of UK BMR
Index	The BMR defines an index as a figure that is published or made publicly available and is regularly determined, either entirely or partially by applying a formula or other method of calculation, or by an assessment; and on the basis of the value of one or more underlying assets or prices (including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or surveys)
Investment Grade	An issuer, or a security, rated BBB/Baa and above by a Credit rating Agency
Latency	The time that elapses from when a signal is sent to when it is received. Lower latency means lower delays in transmission
Market data vendor (MDV)	An entity that provides desktop or web-based products with content from third parties. It may also provide content owned or developed by themselves.
Non-significant benchmark	A 'non-significant benchmark' as set out in article 3(1.)(27) of UK BMR
Pricing and valuation data	End of day equity pricing or pricing for illiquid/non-transparent securities such as fixed income or derivative instruments.
Reference data	Static data by which financial instruments and entities can be referenced and categorised, including the terms and security identifiers (eg, instrument classification, sale information), end of-day pricing, the terms of the security (such as dividends, interest rate and maturity on a bond), and any upcoming corporate actions (such as stock splits or proxy votes) related to the security. Examples: entity and instrument identifiers like LEI, UPI, ISIN, MIC, CFI.

Regulated-data benchmark	a 'regulated-data benchmark' as set out in article 3(1.)(24) of UK BMR
Significant benchmark	A 'significant benchmark' as set out in article 3(1.)(26) of UK BMR
Trade data	Trade data means the data trading venues, systematic internalisers (SIs) and approved publication arrangements (APAs) have to make public for the purpose of the pre-trade and post-trade transparency regime. Therefore, trade data includes the details set out in MiFID RTS 1 and MiFID RTS 2
UK BMR	UK version of Regulation (EU) no 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014
UK CRAR	UK version of Regulation (EU) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies
Wholesale data	Information (including, but not limited to, quantitative values and measurements in structured formats) generated, distributed and used by market participants in wholesale financial markets, such as: • trade data • pricing and valuation data • reference data • credit ratings data • benchmarks and indices • other products such as news, company information, research, analytics.
Wholesale market	A financial market which allows companies, financial institutions and public sector organisations to raise capital. It covers lending, equity, debt, derivatives, foreign exchange and commodities markets

Abbreviations used in this paper

Abbreviation	Description
AI	Artificial intelligence
API	Application Programming Interface
AuM	Assets Under Management
BMR	Benchmarks Regulation
CA98	Competition Act 1998
CAGR	Compound Annual Growth Rate
CFI	Call for Input
CMA	Competition and Markets Authority
CPI	Consumer Price Index
CR	Credit Rating
CRA	Credit Rating Agency
CRAR	Credit Rating Agency Regulation
CT	Consolidated Tape
CTP	Consolidated Tape Provider
DRSP	Data Reporting Services Regulations
EA	Enterprise Act
ESG	Environmental, Social, and Governance
ESMA	European Securities and Markets Authority
ETF	Exchange-Traded Funds
FSM	Financial Services and Markets
IOSCO	International Organization of Securities Commissions
IP	Intellectual Property

Abbreviation	Description
MDV	Market Data Vendor
MiFIR	Markets in Financial Instruments Regulation
MIR	Market Investigation Reference
PRV	Price, Reference, and Valuation data
PTF	Principal Trading Firms
RFI	Requests for Information
SFTP	Secure File Transfer Protocol
TOR	Terms of Reference
Treasury	His Majesty's Treasury

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