

Strategic complexity in investment management fee disclosures

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Abstract

This article develops a measure of complexity of fee disclosures, based on previous work assessing the grade level of language, and validates that measure through a survey where students are asked to independently rate the complexity of fee disclosures. In addition, the article hypothesizes that high fee providers are more likely to engage in strategic complexity in fee disclosures than are low fee providers. We hypothesize that high fee providers use strategic complexity to take advantage of the lack of financial sophistication of many people, making it difficult for them to compare fees across service providers and to understand the level of fees they are paying. © 2016 Academy of Financial Services. All rights reserved.

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1. Introduction

While much attention has been given to financial education for pension participants and their lack of financial sophistication (e.g., Lusardi and Mitchell, 2007; McCarthy and Turner, 2000), less attention has been given to the quality of information they receive from financial service providers. Efforts by pension participants and other investors to learn about financial market products and services may be offset by efforts by financial

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service providers to obfuscate through complexity in fee structures and in financial disclosures concerning fees.

While transparency is widely viewed as desirable in financial disclosures and in the features of financial products, to take advantage of the lack of financial sophistication of their clients, some advisers may engage in strategic complexity. With strategic complexity, they structure their fees and fee disclosures in complex ways. For example, they may disclose important information in footnotes or use terminology that is not commonly understood by pension participants. Abeler and Jäger (2015) comment that there is growing evidence that people often do not respond optimally when they are faced with complex financial information.

Complexity is a multidimensional strategy that we hypothesize is used by some investment management or advisory companies to make it difficult to compare advisory services on the basis of fees, and to determine what level of fees a prospective investor would be paying. The strategy takes advantage of the lack of financial sophistication of many investors, but in some instances even sophisticated investors may not be able to make comparisons or obtain accurate fee information based on the disclosures provided on the Internet. “Financial sophistication” can come about through taking specific courses (e.g., finance class in college), life experience in making financial choices, and/or working in a position that requires financial decision-making. Strategic complexity presumably reduces competition based on fees in the market for advisory services and permits service providers to charge higher fees. Prices and fees are essential information in the functioning of the market for a product or service. Strategic complexity in the disclosure of fees is presumably designed to make a market less competitive to increase the income of service providers.

Strategic complexity raises search costs. It may explain in part the limited search that many people make when shopping for financial services and products because the complexity in fee disclosures reduces the benefits from searching. Data from the Survey of Consumer Finances provide information about the shopping practices of Americans for financial services. In 2010, based on a self-assessment of the effort made to shop for investments that offered the best terms, 55% of families reported making a moderate effort, 23% reported shopping a great deal for the best terms on investments, and 21% reported not shopping at all (Bricker et al., 2013).

2. This article

We hypothesize that low fee providers of advisory services use less complexity in their fee disclosures than high fee providers. Strategic complexity in fee disclosures makes it difficult for people who are not financially sophisticated to compare fees across service providers. The article develops analytical tools for analyzing complexity in fee disclosure. We do this by using an expanded metric of complexity in language to evaluate the complexity of a sample of disclosures, and then test this metric by asking college business students to compute hypothetical fees and to rate the complexity of the fee disclosures.

While fees are charged in a wide variety of ways, the traditional and most widely used approach is to charge fees based on a percentage of the assets being managed. This approach accounts for 85% of the fees received by advisory firms (Maxey, 2011).

We analyze fee disclosures for ongoing investment advisory or management services that are available over the Internet. Data from the Survey of Consumer Finances indicate that the Internet is used for information on investing by 80% of the population age 35 and younger (Bricker et al., 2012). A number of major companies do not disclose their fees for financial advisory services over the Internet, but instead require that the client contact them to obtain that information. For this reason, this analysis of fee disclosures is for a truncated sample, which is the sample of companies that disclose fees over the Internet.

The article begins by discussing related literature. It then examines the issue of complexity in fee disclosures by adopting a methodology that is used to assess the grade level of writing and expanding it to measure the complexity beyond simple sentence structure and word choice. It applies this metric to all of the 10 largest advisory companies that provide fee disclosures over the Internet, plus a sampling of other companies. Because many companies do not disclose their fees over the Internet and because of the time consuming nature of the process of finding the fees and then rating the associated disclosures, we have a small sample of fee disclosures ($n = 10$). To validate this expanded metric, we survey a sample of 618 college business students for an independent rating of the disclosures. Finally, the article presents concluding comments.

3. Literature review

This article on complexity in fee disclosures relates to several areas in the economic literature.

In related work in computational linguistics, Loughran and McDonald (2013) examine the readability or complexity of financial disclosures. More closely related to the hypotheses of our article, Li (2008) argues that business managers attempt to hide the poor earnings prospects of their firms by increasing the complexity of their written disclosures. He finds that when annual reports are harder to read, good news they contain is more transitory and bad news is more persistent in its effects on future earnings. Smith and Taffler (1992, 2000) find that when a firm's financial situation deteriorates, its accounting reports tend to become more opaque. Older research finds issues of readability and complexity in material presented in footnotes (Healy, 1977; Smith and Smith, 1971).

Using consumer search models, Ellison and Ellison (2009) use the term obfuscation to describe marketing practices where firms make price comparisons complex or confusing. Obfuscation can lead to reduced consumer learning about prices. Carlin (2009) and Wilson (2010) also present models of strategic obfuscation where firms intentionally increase the search costs of consumers. Carlin (2009) finds that when some consumers are unsophisticated, firms can use complex pricing and price obfuscation to charge supracompetitive prices. Ellison and Wolitsky (2011) present a search model where it is rational for firms to increase the search costs of consumers. Prices and firm profits increase as search costs increase. Price dispersion occurs in markets where consumers are differentially informed

(Ellison and Wolitzky 2011). Thus, price dispersion may occur in the market for financial advisers because of heterogeneity in the level of financial sophistication of clients. Ellison and Wolitzky (2012) find in some theoretical models that higher price mark-ups are associated with greater obfuscation. They note that obfuscation is bad for consumers both in that it raises the prices they pay and that it increases their search costs. Their model is based on obfuscation increasing the amount of time it takes for consumers to discover prices. The analysis in our article differs in that it focuses more on factors that make it difficult for consumers to understand the fees that they would be charged, given that they have done the search required to find that information.

This article, which focuses on advisory fee disclosures over the Internet, also relates to literature on use of the Internet as a search mechanism. Ellison and Ellison (2009) argue that the ease of search over the Internet has caused some firms to increase the obfuscation concerning the disclosure of price and quality of products.

In an analysis of fee disclosures, the Government Accountability Office (U.S. Government Accountability Office [GAO], 2013) reviewed fee disclosures online for 10 large providers of Individual Retirement Accounts (IRAs). It finds that fees often are disclosed in ways that make them difficult to understand. The lack of transparency involves a number of different aspects of the disclosures, which may suggest a strategy of lack of transparency in fees. GAO finds that fee information is generally scattered across the providers' websites in ways that make it difficult to find all the applicable fees. The results of the U.S. GAO (2013) non-generalizable survey suggest that IRA fees are often disclosed in ways that imply that fees are not important. The fees are sometimes located in difficult-to-find places. One example is fees provided in the last section of a 49-page document. That section uses small font type to disclose the information, another implicit message that the information is not important. Fees are often located in footnotes in small font type. Footnotes generally are viewed as being reserved for technical information that is not of interest to general readers. Further obfuscating the fee disclosures, often the word "fee" is difficult to find.

Black et al. (2002) argue for comprehensive personal financial planning, but express concern that such planning services may lead to less transparency in fees. Hung et al. (2008) conduct a study for the Securities and Exchange Commission (SEC). Their main purpose is to provide the SEC with a factual description of the investment advisory and brokerage industries to assist the SEC in its evaluation of the legal and regulatory environment concerning investment professionals. In their survey of investors, they find that many investors find the disclosures provided by financial advisers to be difficult to understand.

Starr (2010) examines issues relating to fees in 403(b) plans in the public and nonprofit sectors. Mazzoli and Nicolini (2010) investigate determinants of the financial adviser's choice relating to the transparency versus opaqueness of pricing policy for financial advice using Italian data. They do not include the level of fees as a factor explaining the degree of opaqueness of the fee structure. They measure opaqueness by a binomial variable that is categorized as opaque if the advisory fee is not charged as a separate element but is part of other fees. Thus, they do not measure degrees of opaqueness for advisers who charge fees as a percentage of assets, but consider all disclosures of that type of fees as transparent. Almost all investment advisers charge fees based on assets under management, and thus their fee

disclosures are considered to be transparent. Lachance and Tang (2012) find that trust is a factor in the use of financial advisers. It may also be a factor in the use of financial advisers who have opaque fee disclosures.

A study of consumers' shopping strategies for Medicare Part D policies finds that insurers profit when consumers fail to shop around for the best priced products (Ho, Hogan, and Morton 2015). We argue in our article that some mutual fund providers encourage that result by making information on fees difficult to find and difficult to understand.

4. Complexity in language

In 1998, the Securities and Exchange Commission adopted rules on plain English disclosure in financial reports. The underlying argument behind the rules is that (1) firms could use vague language to hide adverse information, and (2) the average investor may not understand complex disclosures, which could reduce the efficiency of financial markets (Li, 2008).

A possible alternative motivation for the use of complex terminology in disclosures is that it may impress some clients as to the sophistication of the service provider and the difficulty of the subject. The client may view the apparent difficulty of the subject as the barrier to comprehension, rather than viewing the barrier as being because of strategic complexity in choice of language and expression.

Complexity can take the form of increasing the amount of time it takes to find fee information. It can also take the form of increasing the amount of time it takes to understand fee information, which would reduce the likelihood that fee information will be understood. This section focuses on complexity that reduces the likelihood that fee information will be understood.

Linguists have studied complexity in language and have developed empirical measures of complexity. These measures rate written documents as to the grade level of education required to understand them. These measures generally take into account sentence length and the difficulty of the vocabulary used. Longer sentences are viewed as increasing the complexity of language. Use of jargon or specialized terminology is one aspect of the difficulty of the vocabulary used.

One commonly used measure for assessing complexity in the English language is the Dale-Chall readability score (Dale and Chall, 1948). The formula that produces that score is

$$\text{score} = (0.1579 \times \text{PDW}) + (0.0496 \times \text{ASL}) + 3.6365 \quad (1)$$

where PDW is percentage of difficult words and ASL is average sentence length.¹ In using the formula, 10% for PDW would be entered as 10. The score is then translated into a grade level (see Table 1). Any word above the school grade 4 level (age 10) is rated as a difficult word. The percentage of difficult words has a much larger effect on grade level of the writing than sentence length. For example, a sentence can be 27 words long and still be rated at grade level 4 if it has no difficult words, while if it has three difficult words, it would be rated at a grade level 7–8.

This formula differs from some other readability formulas in that it assesses word difficulty based on a subjective assessment rather than on counting number of letters or

Table 1 Converting raw score to grade level using the Dale-Chall readability score

Raw score	Grade level
0 to 4.9	4 or below
5.0 to 5.9	5 to 6
6.0 to 6.9	7 to 8
7.0 to 7.9	9 to 10
8.0 to 8.9	11 to 12
9.0 to 9.9	13–15 (college)
10.0 and above	16 and above

Source: Dale and Chall (1948).

syllables in words. The Dale-Chall approach uses a list of 3,000 words that are considered the vocabulary of non-difficult words. A calculator is available on the Internet that checks text against the list of 3,000 words (Readability Formulas, 2013b).²

A simple example demonstrates the use of the Dale-Chall approach for evaluating financial disclosures. This analysis focuses on Fidelity Personalized Portfolios (Fidelity, 2013). Its fee disclosure is the following: “Gross annual advisory fee: Between 0.55% and 1.5% of eligible assets invested.” Using the Microsoft Word program to count the number of words, this sentence has 12 words. That word counter appears to count the spaces between strings of characters, so that 0.55% is counted as one word. Analyzing this disclosure as a sentence, the Dale-Chall readability score is grade 16 and above.

This example points out a weakness of the application of the Dale-Chall readability formula using their vocabulary list of 3,000 words for the purposes of analyzing financial disclosures. The following words are not included in the list and, thus, are counted as difficult words: annual, advisory, assets, invested. While these would be difficult words for many fourth graders, they would presumably not be difficult words for pension participants reading fee disclosures.

Thus, just as Loughran and McDonald (2013) conclude that the Gunning-Fog measure, an alternative measure of language complexity, is not well-suited for analyzing financial disclosures, we conclude that the 3,000 word vocabulary associated with the Dale-Chall formula is too limited for the purposes of this article. We substitute instead a subjective assessment of which words are difficult words for 401(k) participants. To measure readability, the target audience needs to be taken into account.

The approach used in this article focuses on both difficult words and difficult concepts. For example, the words “eligible” and “assets” are not assessed as difficult words for users of financial advisory services, but the concept “eligible assets” is rated as a difficult or unclear concept when it is not otherwise defined or explained. Similarly, while the word “fee” is not a difficult concept, the phrase “gross fee” is rated as a difficult concept. In the above example difficult concepts would be “gross fee” and “eligible assets.” Thus, for a sentence of 12 words, with four difficult words, applying the Dale-Chall formula with our assessment of difficult words yields a rating of grades 13–15 (Table 1).

Long average sentence length is not the only aspect of sentence length that contributes to complexity. Long total length of a disclosure can add to complexity. Furthermore, having

a single long sentence in a disclosure with multiple short sentences can add to complexity. Both of these aspects of complexity are not measured by the Dale-Chall formula. For our analysis, we stick, however, with the traditional approach of focusing on long average sentence length.

Because we use a different assessment of difficult words than is used for the Dale-Chall formula, we use the following score formula in the remainder of the article. This formula uses the same parameter values as the traditional Dale-Chall formula for percentage difficult words and average sentence length. The formula differs only in that we use a higher constant because we use a more sophisticated vocabulary in measuring percentage difficult words. The higher constant is used to calibrate the formula so that it yields a score and grade level that is roughly comparable to what the Dale-Chall score would be if it used our vocabulary of difficult words.

$$\text{Adjusted Score} = (0.1579 \times \text{PDW}) + (0.0496 \times \text{ASL}) + 6 \quad (2)$$

In our formula, the percentage of difficult words is generally lower than for the Dale-Chall formula because of using an expanded vocabulary of acceptable words. Appendix 1 contains a partial list of the words found in disclosures that we rate as difficult. However, because of our calibration of the constant term, Table 1 is still used to convert the score to a grade level. The formula is specifically designed to rate complexity in documents that are designed for a more sophisticated reader than one with a low level of education. Because of the constant term, it cannot be used for rating documents for fourth graders.

In measuring the grade level of fee disclosures, a natural question is what should be the grade level at which documents are written? According to one commentator on health communications, “Health communications professionals generally recommend designing adult targeted public education print materials for about a fifth- or sixth grade reading level, to accommodate individuals who read at lower levels” (Sanner, 2003). The Joint Forum of Financial Market Regulators (2004) in Canada has proposed that disclosures be written at a fifth grade level.

5. Other elements of complexity

While we focus on complexity in language, the concept of complexity used in this article is broader than just complexity in language. It is based on the idea that anything that increases the difficulty that unsophisticated investors have in understanding how much they pay in fees is part of the complexity in the presentation of fees. Complexity in fee disclosures can be achieved in a number of different ways. Developing these complex approaches imposes higher search and comprehension costs on users of financial advisory services.

This section discusses other ways in which fee disclosure can be made complex. A later section provides examples of actual disclosures demonstrating these issues.

One strategy that financial advisers use is to provide an apparent disclosure that is simple to understand, while the actual disclosure, often provided in a footnote, is difficult to

understand. The apparent disclosure may contain information on the level of fees, but sometimes it does not. The apparent disclosure may be primarily a marketing tool. It differs from the actual disclosure in that either it does not contain information on the level of fees or the actual disclosure contains information that substantially modifies it. The actual disclosure may incorporate the apparent disclosure, or it may be a separate disclosure that contradicts in some respects the apparent disclosure.

The fee structure can be complex. It can require multiple calculations. It can involve multiple fees for different aspects of a service. It can involve different ways that fees are charged, with it being unclear as to which way would apply to the investor, or when there is choice, which way would be most advantageous to the investor.

Some companies make it difficult to understand the asset base against which fees are being charged. They may use terms such as “eligible assets,” “gross assets,” or “net assets.”

Complexity can be increased by placing disclosures in places that would signal that the information is not important, such as footnotes. An example of complex disclosure is placing the disclosure at the end of a lengthy segment of text, such as at the 28th line of footnotes. Complexity can also be increased by disclosing fees in areas where they would not be expected to be disclosed, such as under a different heading from where the apparent disclosure occurs.

While most fee disclosures are short, some are lengthy. Sometimes length is because of the addition of worked examples, or supplementary information to assist in understanding the fees. We do not include worked examples and supplementary information as part of the basic fee disclosure when we count sentence length.

Complexity can be increased by indicating a degree of uncertainty or ambiguity as to actual fees, with use of the word “may” to indicate that actual fees may be greater or less. Often this involves listing factors that may affect the level of fees, but not disclosing by how much fees would be affected.

Some disclosures provide information that may mislead unsophisticated investors. For example, Edelman (2013) provides the following statement: “you never pay any commissions, brokerage fees or trading costs.” What this statement presumably means is that the client does not pay these fees or costs as part of their advisory fee to Edelman. The client does, of course, pay trading costs relating to the underlying investments. An unsophisticated investor is not likely to see this distinction.

Complexity can be increased by making it more difficult to find fee information. One measure of difficulty is the number of clicks it takes to get from the initial web page describing advisory services to the page providing fee information.

With nondisclosure, it is impossible to obtain information as to level of advisory fees because that information is not provided. A number of major financial service providers do not disclose information about their fees on the Internet, but instead require that a potential client talk to an adviser.

Complexity can involve not disclosing information about the fees charged by the investment products that the adviser recommends. In practice, rarely do disclosures provide information as to the range of fees or typical fees of the investment products they recommend. While that is not an aspect of the compensation of the adviser, it is an aspect of the cost to the client.

6. Empirical analysis rating fee disclosures

In this section, we examine the fee disclosures of a small number of firms. Because we individually code the complexity of the fee disclosures, the sample size is small. This empirical analysis is intended to demonstrate the use of the analytical tools we develop, but also to provide suggestive evidence as to the relationship between level of complexity of fee disclosure and level of fees. We argue that complexity is a multidimensional (or complex) strategy.

Our small sample of fee disclosures is limited in several ways. First, it is limited to firms that disclose their fees over the Internet. Second, it is limited to firms that do not also receive compensation through commissions. Part of the fee paid by the participant may be hidden in the form of higher expense ratios on the investments to offset the commissions the mutual fund companies pay directly to the adviser. Third, the sample is limited to firms with a minimum asset level for advice of no more than \$500,000. We pick that figure because it is the minimum used by a number of companies. Arguably, investors with higher amounts would tend to be more sophisticated and thus more likely to be able to understand complex fee disclosures. Furthermore, a limit above that amount would exclude most people.

In rating grade level of the text of the disclosures, we apply the adjusted Dale-Chall readability formula (Eq. 2), but instead of using their vocabulary list, we apply our own subjective assessment as to which words would be considered difficult. Computer analyses of texts can have difficulty determining sentence length because not every period denotes the end of a sentence. That problem is not an issue in the analysis in this article, where we visually count sentence length.

The 10 largest mutual fund companies in the United States are Vanguard, American, Fidelity, T. Rowe Price, PIMCO, Franklin Templeton, BlackRock, Oppenheimer, JP Morgan, and Columbia (Roth, 2012). The top three companies—Vanguard, American, and Fidelity—controlled \$2.6 trillion in assets in 2008 (Vohwinkle, 2008). We examine fee disclosures for all of these companies. Not all of these companies, however, provide on-going investment advisory services. Oppenheimer, for example, does not appear to provide an advisory service for ongoing financial advice. Of these 10 mutual fund companies, we were able to find on their Internet websites information about fees for ongoing financial management or advice for three: Vanguard, Fidelity, and T. Rowe Price. Perhaps as important as fee disclosure is fee nondisclosure. While it appears that some of the companies do not provide ongoing advisory services for individual clients, some companies describe those services but do not disclose their fees at their website. For example, a search of the website for BlackRock Managed Accounts did not yield any information concerning fees (BlackRock, 2013).

Because of our inability to find information on the Internet about fees for most of the largest companies, we supplement the information for those companies that is available with information from a convenience sample of companies that do provide information about their fees on the Internet. Because the sample is small, and it is a nonrandom sample, the sample cannot be used to statistically test our hypothesis. The companies in the sample are included based on their providing a fee disclosure on the Internet. The companies range in size from

Table 2 Description of fee disclosures

Adviser company	Apparent disclosure		Actual disclosure		Fees on first dollar (minimum investment)
	number of words (mean per sentence)		number of length (mean per sentence)		
	Mean	Total	Mean	Total	
1. Edelman Financial Services (2013)	5	5	58	58	2.0%
2. Edward Jones (2013)	–	–	28	309	1.8% (\$500,000)
3. Fidelity (2013)	12	12	13	65	1.5% (\$200,000)
4. West Financial Services	11	11	25	76	1.25% plus \$250 an hour for financial planning consulting
5. Summit Financial Services (2013)	–	–	16	16	1.0% (\$500,000)
6. FBB Capital Partners	–	–	17	17	1.0% (\$500,000)
7. Vanguard (2013)	–	–	13	80	0.9% (\$500,000)
8. Zero Commission Portfolio (2013)	–	–	17	17	\$149 a month
9. BloombergBlack (2013)	–	–	11	11	\$100 a month
10. NestWise20 (2013)	–	–	8	8	\$250 initial fee and \$575 a year

Source: Authors' compilation.

Note: The average sentence length is in some cases an approximation because of the use of headings and tables. The total length of disclosures does not include a worked example, if one is provided. Providing an example adds to the length, but it would not be an aspect of complexity in presentation. The level of fees is the fee charged on the first dollar of investments. When a range of fees is specified without other information, the highest fee is reported.

very large ones to very small ones. They include companies that also sell investment products and companies that only provide advisory services.

Table 2 provides some descriptive information about fee disclosure. Some companies provide information about fees in the apparent fee disclosure, but do not actually disclose the level of fees. We have not included those companies in this analysis. Many companies do not provide information about their fees at their websites, and those are not been included. The companies in Table 2 are thus a convenience sample of companies that provide actual fee disclosures on their websites.

A general pattern can be seen among the small number of advisor firms in Table 2. Firms charging higher fees are more likely to provide a simplified apparent disclosure along with an actual disclosure. For those companies, the actual disclosure tends have longer sentences and more total words, both indicators of complexity.

Table 3 rates both the apparent fee disclosure and the actual fee disclosure in terms of grade level. The apparent fee disclosure is at a considerably lower grade level than the actual fee disclosure when both are provided. The main finding from the sample in Table 3 is that the grade level of the actual disclosure is considerably higher in high fee companies than in low fee companies. Thus, while complexity is presumably a strategy, high fee providers can be identified solely based on the complexity of the language they use.

An alternative hypothesis is that high-fee providers have more complex disclosures because they provide a more complex range of services. While that may be true for some

Table 3 Rating fee disclosures

Adviser company	Grade level		Fee on first dollar
	Apparent disclosure	Actual disclosure	
1. Edelman	9–10	16	2.0%
2. Edward Jones (2013)	–	13–15	1.8%
3. Fidelity (2013)	9–10	13–15	1.5%
4. West Financial Services	7–8	11–12	1.25% plus \$250 an hour for financial planning consulting
5. Summit Financial Service (2013)	–	7–8	1.0%
6. FBB Capital Partners	–	7–8	1.0%
7. Vanguard (2013)	–	9–10	0.9%
8. Zero Commission Portfolio (2013)	–	7–8	\$145 a month
9. BloombergBlack (2013)	–	7–8	\$100 a month
10. NestWise (2013)	–	7–8	\$250 initial fee, \$575 annual fee

Source: Authors' compilation, based on a portfolio of \$425,000.

types of financial advisers, that hypothesis is rejected in our sample by examining the services provided. In all cases, the only service provided is advice for managing investments.

A further hypothesis is that any person doing comparison shopping for a financial management firm would tend to choose one with low fees and an understandable disclosure. Similarly, anyone initially choosing an adviser with high fees, would tend to change to a lower fee adviser over time. Those hypotheses assume rational, well-informed behavior, and would argue against the existence of high-fee and low-fee providers providing similar services, which is actually what is observed in the market.

7. Survey of college students: validation of our rating tool

In the previous section, we note several dimensions of complexity—complexity in language, complexity in computations, complexity in finding relevant information. In the remainder of the article, we focus on the dimension of the complexity of language. We make that choice because we believe that dimension is an important dimension of complexity, and also because we want to narrow the scope of our research so as to be able to focus on one aspect of the issue.

To validate our rating tool as a measure of the difficulty of understanding fee disclosures, we surveyed 618 students in the Seidman College of Business at Grand Valley State University, a midsize university in Allendale, MI. While all of the students were taking business classes, and most of the students in the sample are business majors, 27% of the respondents are not business majors, including 16% who are studying mathematics intensive majors, such as engineering, but are not business majors (Table 4). While the sample of students is selective in some respects, it is less selective than the sample used by Choi, Laibson, and Madrian (2010), where the sample consisted largely of students from Harvard and Wharton, and the SAT scores averaged in the 99th and 98th percentiles, respectively. The survey was voluntary and administered online by the school Blackboard site in October

Table 4 Summary statistics for survey sample

Characteristic	Percentage of sample
Male	54
Female	46
Age 25 and under	88
Age over 25	12
English is first language	96
English is not first language	4
Non-business majors	27
Non-math intensive	11
Math intensive	16
Business majors	73
Accounting	20
Economics	5
Finance	12
Management	14
Marketing	14
General business	6
MBA	2

Source: Authors' tabulations, based on a survey sample of 618 students.

Note: Non-business, non-math intensive majors would include, for example, education or sociology majors. Non-business, math intensive majors would include, for example, engineering and statistics majors.

2014. The goal was to present the students with two actual fee disclosures that we have rated: one that we rated as “simple” and one that we rated as “complex,” using our adjusted readability formula (Eq. 2). We did not identify in the survey which disclosure was simple and which was complex. The students would then compute the fee charged, as well as rate the complexity of the disclosure on a scale from 1 to 10. The full survey is found in Appendix 2.

Summary statistics for the sample are found in Table 4. A little over half of respondents are male, and 73% of the students are in some type of business major. Nonbusiness majors comprise 27% of the sample, with 11% having a non-math intensive major such as education or sociology, and 16% having a math-intensive major such as engineering or statistics. Additionally, 88% are age 25 or under, with the remaining 12% being nontraditional students or individuals pursuing their MBA. Ninety-six percent of respondents list English as their first language.

Some characteristics of our sample may bias the results either upwards or downwards with respect to the population of those reading financial disclosures. The literature suggests that age is positively related to financial knowledge, so given that most of the respondents are under age 25, the age of the respondents in our sample would bias the results downward, meaning they would be more likely to rate a disclosure as complex. For example, Lusardi and Mitchell (2011) find that financial literacy tends to have an inverted-U pattern with respect to age, being lowest among the young and the old. However, the literature also shows that individuals with business degrees make more sophisticated financial decisions (Allgood et al., 2011), biasing the results upwards. Given that we do not have sufficient information to determine the degree of bias either way, we should keep this in mind when extrapolating the results to the general population.

Table 5 Student responses to questions calculating the amount of fees, in percentages

Response	Simple disclosure (percent)	Complex disclosure (percent)
Can't tell from information provided	14.8	10.2
Answer given, correct	49.8	15.0
Answer given, incorrect	11.3	29.8
Don't know	24.1	45.0
Total	100.0	100.0
Number of responses	576	618

Source: Authors' tabulations from survey. Simple disclosure is question 5a; complex disclosure is question 6a (see Appendix 2).

In Table 5 we present the answers the students gave when asked to compute the fee from both the simple and the complex disclosure (questions 5a and 6a, respectively; see Appendix 2). The results clearly show that the students had a more difficult time with the complex disclosure. While half got the correct answer to the simple disclosure, only 15% computed the fee correctly for the complex one. In addition, while only 24% answered "don't know" for the simple disclosure, 45% gave this answer for the complex one.

The results in Table 6 confirm the findings in Table 5—the disclosure we rate as complex is more difficult than the one we rate as simple. While 40% of students rated the simple disclosure as very easy (1–3 on a scale from 1 to 10), only 24% rated the complex disclosure as such. Furthermore, while approximately 10% rated the simple disclosure as a 9 or 10 (most difficult), 18% rated the complex one as such. Thus, our findings are consistent with earlier studies finding heterogeneity in the ability of people to deal with complexity in financial issues.

8. Logit analysis

We also ran logit regressions to examine what characteristics of the student were correlated with a correct fee calculation for the simple fee disclosure and for the complex

Table 6 Rating the difficulty of financial disclosures

Student rating of the complexity of the fee disclosure	Simple disclosure		Complex disclosure	
	Percent	Cumulative percent	Percent	Cumulative percentage
1–3	40.4	40.4	23.5	23.5
4–5	24.1	64.5	20.5	44.0
6–8	25.7	90.2	38.3	82.3
9–10	9.8	100.0	17.7	100.0
Total	100.0	–	100.0	–
Number of responses	618	–	611	–

Source: Authors' tabulations from survey. Ratings range from 1 (easiest) to 10 (most difficult). Simple disclosure is question 5b; Complex disclosure is question 6b (see Appendix 2).

Table 7 Logit analysis

Characteristic	Low fee—correct answer	High fee—correct answer
Age over 25	.04 (.07)	.06 (.05)
Male	.01 (.05)	.08 (.03)**
Native English speaker	.19 (.10)	.03 (.05)
Major: Accounting	.30 (.07)**	.33 (.15)*
Economics	.14 (.11)	.07 (.14)
Finance	.25 (.08)**	.23 (.15)
Management	.09 (.09)	.11 (.12)
Marketing	.02 (.10)	.13 (.13)
General business	.07 (.10)	−.01 (.10)
MBA	.29 (.11)*	.51 (.21)**
Non-business/math	.18 (.10)	.17 (.14)
<i>N</i>	575	617

Source: Authors' calculations from survey.

Note: The estimates above are marginal effects. The category *Non-business/math* refers to non-business majors whose major include a significant amount of math (e.g., engineering). The omitted major category is a non-business major in a concentration with little to no math (e.g., elementary education, sociology).

* $p < 0.05$, ** $p < 0.01$.

disclosure. This analysis provides insights as to the effect of complexity on the ability to correctly determine a price, which is the fee charged for financial advice. The marginal effects are reported in Table 7 for both regressions.

In both models, age and whether the student is a native English speaker are both statistically insignificant. For the simple fee disclosure, men and women are equally likely to provide the correct answer. However, for the complex disclosure, men are 8% more likely to correctly compute the fee than were women. Other studies show that women tend to have lower financial literacy than men (Lusardi and Mitchell, 2008).

We are especially interested in whether the student's major has an effect on whether he or she answered the question correctly, as courses related to financial decision making are one of the ways a person can develop financial sophistication. Hence course major can serve as a proxy of financial sophistication. Accounting and finance majors are the most likely group to have specifically studied fee disclosure. In addition, MBA students are also exposed to higher-level accounting and finance material that may aid them in answering the questions. MBA students tend to be older and have had experience in financial decision making, so they may be even more financially sophisticated than the undergraduates. However, since we are not able to disentangle the effects of this aspect of sophistication from the knowledge they gain in the MBA program, we cannot assume that the MBA variable is a proxy of only coursework. The remaining business majors—marketing, management, and general business—have had exposure to business terminology and may have had accounting or finance classes, but not studied fee-disclosure type problems extensively. Economics and nonbusiness majors with math-intensive concentrations (e.g., engineering or statistics) may not have had the exposure to business terms, but may have the mathematical capability to compute the fees. The last group—and omitted category in the regression—is students who have a nonbusiness, non-math intensive major (e.g., elementary education or sociology). These

students would be the least likely to be able to correctly compute the fees, as their exposure to business terminology and mathematical computations is most likely minimal.

For the most part, the marginal effects with respect to major are consistent with what is learned in the classroom. For the simple disclosure, accounting and finance majors are 30% and 25% more likely, respectively, to compute the correct answer than are students with a nonbusiness, non-math intensive major. MBA students are also more likely to compute the correct answer.

Generally, it might be assumed that most people would understand the simple disclosure, while people who were more sophisticated in terms of financial literacy would be more likely to understand the complex disclosure. However, while there is still a large, statistically significant effect for MBA students, for accounting and finance majors the effect for the complex disclosure was less statistically significant or insignificant, respectively. So there is some evidence that financial sophistication helps, but helps to a lesser extent with the more complex fee disclosures.

9. Policy analysis

Clearly, some fee disclosures are written at a high grade level. Whether that is done to purposely obscure the disclosure, as argued in this article, or for other reasons, a public policy response could be to have readability requirements for fee disclosures. American Plain English Statutes in some states require that legal text be written below a specified grade level (Stumpff, 2013).

10. Conclusions

While much attention has been given to financial education for pension participants, less attention has been given to the quality of information they receive from financial service providers. This article hypothesizes that some financial advisers take advantage of the lack of sophistication of their clients by disclosing fee information in complex ways.

Complexity is a multidimensional strategy that some investment management or advisory companies use to make it difficult, if not impossible, to compare advisory services on the basis of fees, and to determine what level of fees a prospective investor would be paying. We note several dimensions of that strategy—complexity in language, complexity in computations, complexity in finding relevant information—but in the end focus on the dimension of the complexity of language. We make that choice because we believe that dimension is an important dimension of complexity, and also because we wanted to narrow the scope of our research so as to be able to focus on one aspect of the issue. The strategy takes advantage of the lack of financial sophistication of many investors, but in some instances even sophisticated investors may not be able to make comparisons or obtain accurate fee information based on the disclosures provided on the Internet. This strategy presumably reduces competition in the market for advisory services and permits service providers to charge higher fees, raising their profits.

Our article develops a hypothesis concerning strategic complexity in fee disclosures, develops a measure of complexity in fee disclosures, collects a small sample of fee disclosures, notes the simple correlation between complexity in fee disclosure according to our measure and level of fees, and collects a substantial sample to validate our measure of complexity of fee disclosures. Our nonscientific sample of 10 fee disclosures is only suggestive of the relationship between complexity in fee disclosures and level of fees. Our larger sample validates our measure of complexity. It indicates that people who are more financially literate (based on college studies) are better able to understand complex fee disclosures, but that even people with the presumption of a relatively high degree of financial literacy are not all able to decipher complex fee disclosures.

This article develops analytical tools for measuring complexity in fee disclosures. It presents suggestive evidence, based on a small sample (10 advisory companies), that higher-fee advisers use more complex disclosures than lower-fee advisers. It also finds that complexity in disclosure in one dimension is generally accompanied by complexity in disclosure in other dimensions, suggesting use of strategic complexity in disclosures. In particular, higher-fee advisers tend to use more complex language and longer sentences, present important information in footnotes, and have more complex fee structures. However, it is possible to identify high fee providers solely on the basis of the complexity of the language they use. The article rejects by the use of counterexamples the argument that complexity is inherent and that simple fee disclosures involve a tradeoff against completeness.

While financial education has been recommended by a number of commentators as the solution to dealing with lack of financial sophistication, with strategic complexity in fee disclosure, financial education may be of little use. For some fee disclosures, the complexity of language is beyond that that would reasonably be understood.

The issue of strategic complexity in fee disclosures may exist in other aspects of financial services. For example, future studies could explore this issue concerning credit card fees, fees for financial products, fees for mortgages and other loans, fees for insurance products, and banking fees. The structure of products in all these areas has become increasingly complex. Further research could explore those areas and test whether in those areas higher-fee providers also tend to use more complex fee disclosures.

Notes

- 1 A different version of the formula only includes the constant 3.6365 if the PDW is five percent or greater, which is generally for reading at grade 3 or lower.
- 2 We examined two other options for rating complexity of language, and found both to be inappropriate for evaluating fee disclosures. The Fog index, sometimes called the Gunning-Fog index, developed by Robert Gunning (1952), bases readability on sentence length and the proportion of words with more than two syllables. In an analysis of the use of that index for measuring the readability of financial disclosures

Loughran and McDonald (2013) conclude that it is not well suited for measuring the complexity of financial disclosures because words with two or more syllables, such as “corporation,” are common in financial disclosures. The Flesch Reading Ease test is also based on sentence length and the average number of syllables per word (Readability Formulas, 2013a).

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Appendix 1: Difficult words and concepts in financial disclosures

The following is a list of words or concepts that appear in financial advisory fee disclosures that are subjectively rated as difficult in terms of their effect on understanding the fees that a person would pay.

eligible assets, gross assets, net assets, gross fees, net fees, 12b-1 fees, transfer fees, SEC fees, wrap fees, net assets, load, may.

Appendix 2: Survey

Understanding fees for financial products and services

Please answer the following questions. you may use a calculator.

Demographic questions

1. Please indicate your gender M or F
2. What is your age? _____
3. Is English your native language? Y or N
4. What is your major/intended major? _____

Fee disclosures for financial advice

5. “Start with a free 60-day trial, then pay \$100 a month.”

a. Based on that fee structure, how much would you pay the first year for an investment account that averaged \$500,000 over the year? Check one.

Can't determine from the information _____.

The amount would be _____.

I don't know _____.

b. On a scale of 1 to 10, with 1 being easy and 10 being impossible, how difficult was it to answer question 5a? _____

6. "We feature a single annual fee, calculated and debited quarterly from your account. It appears directly on your statement. The annual fee schedule is shown below."

Amount invested	Fee
First \$150,000	2.00%
Next \$250,000	1.65%
Next \$350,000	1.25%
Next \$250,000	1.00%
Next \$2 million	0.75%
Next \$7 million	0.60%
Next \$15 million	0.50%
Above \$25 million	Negotiable

a. Based on that fee structure, how much would you pay the first year for an investment account that averaged \$500,000 over the year? For simplicity, assume the account balance is \$500,000 each quarter. Check one.

Can't determine from the information _____.

The amount would be _____.

Don't know _____.

b. On a scale of 1 to 10, with 1 being easy and 10 being impossible, how difficult was it to answer question 6a? _____

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