Investor Protections and Stock Market Participation:

An Evaluation of Financial Advisor Oversight[*]

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Abstract

We examine a regulatory change in Canada that increased the oversight of financial advisors in five of its ten provinces. This increased oversight of mutual fund dealers reduced households' use of financial advice and their mutual fund holdings. In lieu of mutual funds, households increased their cash holdings. The results are consistent with a decline in delegated investing caused by a negative shock to the supply of advice. The estimates suggest that having a financial advisor is important in facilitating stock market participation. Investments and advisory channels not affected by the regulation—direct equity and bond holdings and advisors affiliated with banks—show no effects, reducing concerns about confounding economic and financial market changes.

1 Introduction

Does regulatory oversight of financial advisors increase households' participation in financial markets? The conventional view is that oversight is necessary to root out fraud, rent seeking and incompetence by financial intermediaries. These frictions act like taxes that raise the cost of delegated investing. Regulations that protect investors by eliminating these costs can therefore increase both delegation and market participation. Policymakers throughout the world have increasingly adopted this point of view. On the heels of the global financial crisis of 2008, many countries expanded oversight of financial advisors and strengthened investor protections with the aim of restoring individual investors' faith in financial markets.[1]

Economists, however, have been less sanguine than policymakers about the benefits of such interventions. Inderst and Ottaviani (2009) highlight the dual role of advisors in prospecting for customers and making investment recommendations. They point out that well-intended regulations governing advisors' recommendations can backfire by inefficiently reducing advisors' effort to locate new customers. Berk and Van Binsbergen (2017) caution that even uncontroversial rules aimed at eliminating fraud may reduce consumer welfare by muting competition for customers among the honest and skilled advisors who remain in the market. Further, there is the issue of industry self-regulation. Investor protections are commonly implemented through regulatory bodies formed and governed by industry participants themselves. Though advisors and brokerage firms argue that they are well-aligned with customers in eliminating bad behavior, a long literature in economics, beginning with Friedman and Kuznets (1945), urges skepticism. Occupational licensing and supervision can be used to restrict entry and diminish competition (DeMarzo, Fishman, and Hagerty

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[1]Burke and Hung (2015) summarizes the strengthening of protections between 2010 and 2015 in the United Kingdom, Australia, Germany, Singapore, and the European Union. In 2016 the Department of Labor issued it's "conflict of interest rule" aimed at strengthening fiduciary duty for advisors and brokers serving retirement investors.

[2005](), resulting in increased rents for incumbent firms at the cost of consumers. The common theme of these prognoses is that well-intended regulations can inefficiently reduce the supply of advice, resulting , in equilibrium, in too little client delegation and market participation.

Missing from both policy discussions and the economics literature have been serious empirical evaluations of how investor protections affect households' use of financial advice and participation in financial markets. RAND economists commissioned in 2015 to provide an independent review to the U.S. Department of Labor comment that "[d]espite sweeping regulatory changes in many countries after the financial crisis, there has been little rigorous research investigating the impact of these changes" ([Burke and Hung 2015]()). Our goal is to address this shortcoming by studying the advent of rules overseeing investment advisors and brokers in Canada in the early 2000s.

In 2001, five of the ten provincial securities regulators in Canada strengthened investor protections by recognizing the recently formed Mutual Fund Dealers Association (MFDA) as a self-regulatory organization. This recognition came with a mandate: all agents who distribute mutual funds obtain MFDA membership and follow its rules. The MFDA's self-stated objective was to: "regulat[e] the operations, standards of practice and business conduct of its Members and their representatives with a view to enhancing investor protection and strengthening public confidence in the Canadian mutual fund industry"[2] MFDA oversight had three key ingredients: 1) to establish new standards for business conduct; 2) to impose capital requirements, compliance protocols and client reporting and disclosure; 3) to create an regulator to supervise and enforce those rules, such as identifying, punishing and remedying fraud by its members. The MFDA membership requirement affected a significant share of the retail investment market, as more than half of Canadian households use mutual fund dealers for advice ([Mutual Fund Dealers Association 2012]()).

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[2]See https://mfda.ca/about/our-history/object/.

The differential adoption of MFDA regulation across provinces provides a unique natural experiment for measuring the causal impact of investor protections. Such regulations typically apply at the federal level and are often instituted in response to significant market downturns like the global financial crisis. Pre-post event studies of the regulations are therefore confounded with financial market developments. Likewise, cross-country evaluations pose the problem of disentangling the effects of investor protection policies from broader legal, institutional and cultural differences across countries. In the case of MFDA adoption, however, we are able to go a step further. We measure the changes in delegation and market participation in adopting provinces relative to the changes observed contemporaneously in non-adopting provinces. We implement this differences-in-differences analysis using data on more than 30,000 households from the Canadian Financial Monitor (CFM), a survey that provides information on households' asset holdings, use of financial advice, demographics, and economic circumstances.

We present two key findings. First, MFDA adoption leads households to reduce their use of financial advisors. We estimate a 3-percentage-point reduction in the likelihood of using a financial advisor, a substantial decline relative to the baseline rate of 35% prior to the regulatory change. This estimated decline is specific to non-bank advisors, who were subject to the MFDA membership requirement. In a placebo test, we estimate a substantially smaller and statistically insignificant decline in the use of bank advisors, whose regulatory oversight did not change through this period. Second, we find that MFDA adoption leads to lower rates of financial market participation. We estimate a 2.3-percentage-point decline in the probability of holding mutual fund investments following the regulatory change. In lieu of mutual fund investments, the affected investors invest in low-risk assets like checking and savings accounts or savings bonds, but do not exhibit any change

in direct stock investments. The latter null finding fits with the nature of the regulatory change, as MFDA oversight affects brokers of mutual funds but has no direct bearing on brokers of stock investments. The net effect on asset allocation is a 1.7-percentage point decline in equity share for the average household.

Our interpretation is that the MFDA investor protections caused a negative shock to the supply of advice. Public comments submitted to securities regulators and media coverage at the time suggested that the registration requirement would significantly reduce the supply of financial advisors and leave existing advisors unwilling to serve low-wealth clients. This inward shift in the supply of financial advice leads fewer households to use advisors. Without advice, these households become less likely to take risk, leaving their savings in low-risk accounts rather than purchasing mutual funds. Consistent with the view espoused by Gennaioli, Shleifer, and Vishny (2015), our findings imply that advisors are crucial to inducing households to take risk. If we combine the estimated changes in equity share and the use of advice as in a Wald estimator from two-stage least squares, we infer that being advised increases the marginal households' allocation to equities by 50%.

We analyze a sample of households who maintain the same advisor before and after the MFDA membership change to further explore this mechanism. For this set of households we observe no change in risk-taking. Ostensibly, their confidence in their advisor and willingness to take risk does not change as a result of the MFDA regulations. Rather, it appears that the marginal households who go without advisors are the ones for whom risk-taking changes. The key economic mechanism therefore appears to stem from a change in the likelihood of being advised and not from a change in behavior conditional on being advised.

Our study relates most directly to three recent papers that also evaluate the regulatory oversight

of financial advisors. Charoenwong, Kwan, and Umar (2019) show that misconduct complaints increased when the oversight of some investment advisors transitioned from the Securities and Exchange Commission (SEC) to state regulators with fewer resources in 2012. Their findings suggest that fraud and other forms of advisor misconduct increase when regulatory supervision and enforcement weaken. Their analysis sheds important light on how regulatory supervision affects misconduct, but does not consider broader impacts on investors' willingness to delegate to advisors and participate in financial markets, as we do. Both Bhattacharya, Illanes, and Padi (2020) and Egan, Ge, and Tang (2020) show that advisors recommend higher quality annuities when subject to fiduciary duty. Bhattacharya, Illanes, and Padi (2020) also find that imposing fiduciary duty caused the exit of broker-dealers but no change in overall sales volume. Using a calibrated model they conclude that fiduciary duty improves welfare by raising the quality of advice without causing significant declines in the quantity of advice. Our findings on mutual fund industry oversight differ from their findings for participation in the annuity market. There are two contextual differences worth noting. It may be that oversight improves the quality of advice more for complex and opaque annuities than it does for mutual funds. Second, the incremental compliance costs may differ between the addition of fiduciary obligation and the broader regulatory change we examine.

Our study also contributes to the literature on investor protections and financial market development started by La Porta, Lopez-de Silanes, Shleifer, and Vishny (2000). This literature focuses on the protections granted to investors through corporate and bankruptcy law, but does not examine rules governing individual investors' interactions with advisors and brokers. Studies of financial advisors have documented misconduct and evaluated specific frictions affecting the supply of advice such as conflicts of interest. Finally, studies of stock market participation highlight a variety of indi-

vidual factors impacting market participation. For example, Guiso, Sapienza, and Zingales (2008) highlights the importance of trust in financial markets and institutions. Our analysis suggests that delegation is also important to participation.

2   Financial Advisor Oversight in Canada

Canada's oversight of investment sales and brokerage is decentralized, with each province maintaining its own securities commission and regulations. Similar to the regulatory landscape in the U.S., Canada's provincial regulators leave some industry policing to two self-regulatory organizations formed and governed by industry participants. The Mutual Fund Dealers Association (MFDA) oversees firms that exclusively distribute mutual funds and the Investment Industry Regulatory Organization of Canada (IIROC) oversees firms distributing a broader range of investments, including stocks, bonds and options as well as mutual funds. MFDA-registered advisors are an important component of retail investment distribution in Canada. Its 90 members employ more than 78,000 advisors and handle accounts worth nearly C$600B, or nearly 50% of retail investment assets.

After its establishment in June 1998, the draft rules and bylaws were originally posted for comment on June 16, 2000. An overview of public comments given by dealers and advisors reveals particular concern about the compliance costs associated with financial reporting and capital costs created by the minimum capital standards (Overview of Public Comments on MFDA Application for Recognition and MFDA Response). The MFDA was first recognized as a regulatory body by five of the ten Canadian provinces between February and November 2001. These "recognition orders" entail a legal mandate that all mutual fund dealers in those provinces become members

of the MFDA and abide by its rules. The provinces thereby implicitly adopted the MFDA rules when they issued a recognition order. As described below, we use the staggered and differential recognition of the MFDA across provinces as a natural experiment for studying changes in financial advisor oversight.

2.1 The Mutual Fund Dealers Association

The formation of the MFDA created a significant regulatory apparatus. The organization's by-laws and membership rules both exceed fifty pages. The by-laws lay out the organization's constitution and basic operating procedures, including its governance structure, membership application process, authority to conduct examinations, and disciplinary process. The institution conducts a full on-site compliance examination at each dealer every three years. It also has fairly broad authority to conduct targeted investigations, whether initiated by a client complaint, a request by a provincial securities commission or a Board of Directors decision. In 2019 the MFDA opened 450 enforcement cases. To support its activities, the MFDA collects membership fees, which amounted to C$33M in 2020.

2.1.1 MFDA Rules

The MFDA rules establish financial and operational requirements for dealer firms as well as standards of business conduct for dealers and their employees. For example, in terms of advertising and sales, mutual fund dealers should engage in "honest and accurate" advertisement. The financial requirements impose minimum capital levels ranging from C$25,000 to C$200,000, with greater requirements for firms that hold client cash. Firms must file unaudited financial financial reports monthly and audited reports annually. Operationally, the most substantive rules relate to proper

segregation of any cash and securities held on behalf of clients. Finally, firms are responsible for their employees' actions: they must have internal supervision via a compliance officer and must maintain insurance against loss through a dishonest or fraudulent act.

MFDA rules contain two main provisions regarding standards of conduct in giving advice. The "know your client" provisions require advisors' due diligence in learning essential facts about their clients' risk tolerance and investment objectives. They also require advisors to ensure the suitability of investments relative to the client's objectives and to update know-your-client information annually. The second set of provisions relates to advisors' duty to look after clients' interests. The rules do not impose fiduciary obligation—by which advisors must put client interests ahead of their own when conflicting—but instead require advisors to "deal fairly, honestly and in good faith with clients" and not engage in conduct detrimental to the public interest (Canadian Securities Administrators 2012). The constraints on advisor behavior in this dimension are therefore weaker than those imposed on registered investment advisors in, for example, the United States.

The MFDA rules do not allow discretionary trading by an advisor on his or her clients' behalf. Rather, the advisor takes orders from clients or makes recommendations on which the client has ultimate decision power.

3   Data

Our primary data source is the Canadian Financial Monitor (CFM), a household survey conducted by the survey and market research firm Ipsos-Reid. The survey began in January 1999 and was designed to provide information about households' personal banking, investments, credit and insurance choices. It collects data on roughly 12,000 households per year through monthly interviews.

The survey was designed for use as a repeated cross-section, though some households complete multiple interviews, typically at an annual frequency. We use the sample weights provided the CFM in our analyses to compute estimates for a nationally representative population.

In addition to providing a wealth of demographic information, each interview measures households' asset holdings, including checking and savings accounts, stocks, bonds and mutual funds (by asset class). Most importantly for our analysis, the survey collects also information on the use of financial advisors. We use the data from January 1999 through January 2004.

Table 1 displays descriptive statistics for Canadian households. In Panel A we report these statistics for all households; in Panel B we divide the sample based on the use of a financial advisor and report statistics related to asset holdings. The average household in the sample, by survey design, closely resembles the average Canadian household. The average individual is 47 years old; two-thirds are homeowners; and one-third have a financial advisor. The average household income is C\$49,384 and has assets totaling C\$61,992.

We examine households investment decisions in two ways. First, we measure the fraction of assets held in cash, bonds, and equity. Second, we compute the fraction of households that own mutual funds, stocks, bonds, and guaranteed investment certificates (GICs), and how many have either a checking or savings account. Mutual funds are the vehicles potentially affected through the increased oversight in the form of the MFDA. In Panel A's sample of all households, 36% own mutual funds, 18% own stocks directly, and 20% own bonds directly. Approximate a third of households own GICs, which are term deposits offered by banks. Almost all households report having either a checking or savings account.

In computing households' allocations into equity as a share of their assets, we count equity

mutual funds, direct holdings as equity, and 50% of balanced funds as equity. Bonds consist of bond mutual funds, direct bond holdings and 50% of balanced mutual funds. The average household has 50% in cash and approximate one-quarter each in bonds and equity.

Panel B shows that both participation decisions and asset allocations vary significantly with the use of advisors: allocations into cash decrease (from 51% to 33%) and those in bonds and equity increase when we move from the unadvised to the advised households. The average unadvised household allocates 24% to equity; this average is 36% for the advised households. Participation is higher across the board for advised households: advised households are more likely to hold not only mutual funds but also stocks and bonds directly along with GICs.

These summary statistics indicate that advised households shift their portfolio allocation away from cash to riskier equity and fixed-income assets. However, given that advised households can differ from unadvised households in many dimensions, it is unclear to what extent these differences arise due to client preferences or advisor input. Risk-taking in financial markets may depend on the same (unobserved) household characteristics that influence the demand for advice.

4   Identification strategy

We identify the effect of increase oversight of financial advisors by using a regulatory change in the early 2000s that reduced the supply of financial advisors. Specifically, as of February 2001 mutual fund dealers and their agents, such as financial advisors, in Ontario, British Columbia, and Saskatchewan were required to register with the Mutual Fund Dealers Association of Canada (MFDA) and follow the rules and regulations of the MFDA. This requirement expanded to Alberta in April 2001 and to Nova Scotia in November 2001. The remaining five Canadian provinces

remained free of this (or comparable) regulation until February 2004 when Quebec created its own regulatory authority. Figure 1 shows the five provinces that introduced the MFDA requirement in 2001, and the five provinces that remained free of comparable oversight. Because the regulatory change did not apply to dealers and advisors outside the five provinces, we can use the residents of the other provinces as a comparison group that was not affected by the registration requirement.

The introduction of the MFDA registration requirement meant that dealers who wished to remain in business were now subject to more stringent regulatory standards, including minimum capital levels as well as audit and financial reporting requirements. These changes appeared to reduce the supply of advisors, and in that way constitute a shock to households' use of advisors that is unrelated to their demand for advisory services.

We assess the impact of the registration requirement through the following differences-in-differences model:

$$y_{ipt} = \alpha + \beta \text{ MFDA Required}_{pt} + \gamma_p + \delta_t + \boldsymbol{\eta}\boldsymbol{X}_{it} + \varepsilon_{ipt}, \tag{1}$$

in which subscripts i, p, and t index households, provinces, and months between January 1999 and January 2004, respectively, and γ_p and δ_t denote province and time fixed effects. We set the dependent variable y_{ipt} to measure either the households' use of financial advisors (Section 5.1) as well as their participation and allocation decisions (Sections 5.2 and 5.3). The variable *MFDA Required* is an indicator variable that takes the value of zero in all provinces that do not implement the MFDA requirement before January 2004, zero in the provinces that implement this requirement up to the date of the implement, and one in these provinces for dates after the implementation. This implementation date is February 2001, April 2001, or November 2001 depending on the province.

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This coefficient on this variable measures the impact of the registration requirement over time. The vector $\boldsymbol{X}_{it}$ contains household-level controls for income, home ownership, education, age and retirement status.[3] In some versions of the model we include province and month fixed effects to control more flexibly for differences over time and across provinces. To estimate the model we use weighted least squares, incorporating survey weights from the CFM to provide regression estimates that reflect a nationally representative sample. We cluster the observations by province in calculating Huber-White standard errors.

5 Results

5.1 Use of Financial Advisors following the MFDA Regulation

We first estimate the impact of the registration requirement on households' use of financial advisors. Table 2 reports the regression estimates from three models in which the dependent variable is an indicator for whether the household uses a financial advisor. In the first two regressions we consider the use of *any* financial advisors; in the third regression, we limit the analysis to the use of bank advisors. This regression constitutes a falsification test because advisors affiliated with banks were not affected by the MFDA registration requirement.

The unconditional probability of using an advisor is 34.7%. The estimates in the first two regressions suggest that the registration requirement had a statistically and economically significant effect on the use of financial advisors. The point estimates, which differ in the inclusion of the household controls $\boldsymbol{X}_{it}$, place the marginal effect of the MFDA requirement between -2.7% and

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[3]Ipsos-Reid codes household income as a categorical variable, and we use indicator variables that represent these categories as controls. We control flexibly for the age of the head of household with indicator variables for 16 five-year age bins covering ages 20 to 100. We code education based on the maximum level of education of the head of household and spouse, and include indicators for each of four categories: high school diploma or less, some college, college degree, and graduate degree.

-3.2%. The point estimates translate into a proportional decrease of roughly 10%. In each case, the coefficient is statistically significant at the 1% level.[4] The substantial increase in R^2 induced by the inclusion of these controls shows that income, home ownership, education, age and retirement status substantially correlate with the demand for advisory services.

The estimate in the third regression at -0.7% is closer to zero and statistically insignificant. The introduction of the MFDA requirement therefore did not significantly alter the use financial bank-affiliated advisors. This finding is consistent with these advisors falling outside the increased regulatory oversight brought on by MFDA.

The MFDA registration requirement plausibly reduced the supply of financial advisors. We emphasize that the use of advisors could have remained unchanged despite this reduction in supply: the advisors remaining in the market following the increase in oversight could have picked up the slack and taken in more customers. The estimates in Table 2 suggest that they did not: the *use* of advisors in the affected provinces fell following the introduction of the registration requirement.

5.2 Participation in Financial Markets

In Table 3 we estimate reduced-form regressions to assess the effect that the MFDA requirement has on financial market participation. (In Section 5.4 we estimate similar regressions as two-stage least squares to assess the economic magnitudes of the effect of increased regulatory oversight.) The dependent variables is these regressions are indicator variables. In the first regression, for example, the indicator variable takes the value of one if the household owns any mutual funds and zero otherwise.

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[4]Clustering with relatively few groups (Canada has ten provinces) provides noisy estimates of standard errors and may lead to overstating the statistical significance of regression coefficients. When we correct for this potential issue by using the wild cluster bootstrap procedure proposed by Cameron, Gelbach, and Miller (2008), we estimate similar, in fact slightly tighter, confidence intervals around the point estimate for β.

The MFDA requirement, which only affects advisors affiliated with mutual fund dealers, should have a direct effect only in the ownership of mutual funds. That is, because the affected advisors do not directly advise on direct stock and bond investments and do not offer GICs, the participation in *non*-mutual fund segments of financial markets provides another falsification test.

The introduction of the MFDA requirement significantly reduces participation in financial markets through mutual fund ownership. The point estimate is -2.3% for all mutual funds, but almost all of this effect is due to equity mutual funds for which the point estimate is -2.2%. Both of these estimates are statistically significant at the 1% level. The estimates suggest that the increased oversight, by limiting the use of financial advisors, feeds to decrease participation in financial markets. Although this change affects investments in *all* mutual funds, the effect is more pronounced for equity mutual funds. The reason is that advised investors to hold significantly more equity mutual funds than bond mutual funds (Foerster, Linnainmaa, Melzer, and Previtero 2017). Increased oversight of advisors affiliated with mutual fund dealers therefore reduces *stock market* participation as well. We assess the economic magnitude of this effect in Section 5.4.

Similar to how bank-affiliated advisors remain outside the scope of the MFDA requirement, so do the investment products offered by these bank advisors. The estimates in the non-mutual funds columns of Table 3 show that the introduction of the MFDA has no statistically significant effect outside mutual funds. Even after the MFDA requirement is introduce, households participation in financial markets through the direct ownership of stocks and bonds remain unchanged. Although there could be a substitution effect—an advised household could sell all its direct stock holdings and replace them with equity mutual funds—the estimates suggest that such a substitution effect is at best weak.

5.3 Allocation Decisions

Table 4 shows that the MFDA requirement significantly affects households' portfolio composition. In Panel A we examine the proportions households have in cash and invested in bonds and equities. These categories are the same as those reported in Table 1. In Panel B we measure differences in log-dollar amounts.

Panel A shows that the MFDA registration requirement significantly alters households' asset allocations: the equity shares decrease by an average of -1.7% in provinces affected by the regulation vis-à-vis those unaffected. This estimate is statistically significant at the 1% level. This 1.7%-decrease is offset by increases in cash (1%) and bond (0.7%) balances. The estimates indicate that even though the MFDA requirement pertains only to mutual fund holdings, the resulting changes in investments significantly alter investors' portfolios.

Panel B shows that the effect on the equity holdings, as measured in log-dollar amounts, is significant at the 10% level. As in the analysis of proportions, the decreases in equity holdings are offset by increases in the cash and bond holdings although, in this specification, the point estimates for these categories are not statistically significant at the 10% level.

5.4 Two-stage Least Squares and the Economic Magnitudes

In Tables 3 and 4 we estimate the average treatment effect (ATE) of the oversight regulation. In this section we estimate the average effect of the treatment on the treated (ATT) to assess the economic magnitudes of an increase in regulatory oversight. To identify the ATT, we need to rely on the assumption that the regulation affects only the financial decisions of those individuals that

at the margin will end up not using financial advice[5]. We estimate a two-stage least squares in which the key explanatory variable is the household's use of financial advisor, instrumented by the regulatory change:

$$\text{Use Advisor}_{ipt} = \alpha_1 + \beta_1 \text{MFDA Required}_{pt} + \gamma_{1p} + \delta_{1t} + \boldsymbol{\eta}_1 \boldsymbol{X}_{it} + \varepsilon_{1ipt}, \tag{2}$$

$$y_{ipt} = \alpha_2 + \beta_2 \widehat{\text{Use Advisor}}_{ipt} + \gamma_{2p} + \delta_{2t} + \boldsymbol{\eta}_2 \boldsymbol{X}_{it} + \varepsilon_{2ipt}. \tag{3}$$

Each regression includes both household-level controls as well as province and month fixed effects. The first-stage regression is the same regression as that reported in column 1 of Table 2. It provides an estimate of each household's predicted probability of using an advisor ($\widehat{\text{Use Advisor}}_{ipt}$), allowing for variation due to the MFDA Required$_{pt}$ instrumental variable. The second-stage regression uses this predicted probability to provide an estimate of advisors' impact on financial decisions.

We report the estimates from this analysis in Table 5. We first investigate the effect of financial advisors on participation. Financial advisors increase the likelihood of owing any mutual funds by 72.4 percentage points (SE = 18.1%). This economically large effect is not entirely unexpected: MFDA regulation targets mutual fund dealers and, therefore, if it reduces the use of financial advisors, the effect should be the most pronounced in the ownership of mutual funds. Because of the large magnitude of this effect, and because many mutual funds are equity mutual funds, the use of advisors also has a causal effect of stock market participation. As in Table 3, our measure of stock market participation includes not only the mutual-fund channel affected by the MFDA requirement,

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[5]In untabulated analyses, we test the effect of the MFDA regulation for a large sample of clients of three mutual fund dealers. We do not find any change in financial risk-taking for these clients that were advised (and stay advised) after the regulation.

but also direct stockholdings (a channel unaffected by the MFDA requirement). Advisors increase stock market participation by 43.9 percentage points (SE = 21.3%).

We also investigate the effects of financial advisors on asset allocations. Having a financial advisor increases the share of risky (equity) assets by 52.3 percentage points (SE = 16.4%). This increase in risky assets comes from similar reductions in all the safer assets, cash and bonds. Financial advisors in fact reduce investments in cash and equivalent assets by 31.3 percentage points (SE = 14.0%) and in bonds by 21.1 percentage points. These estimates and their statistical significance are consistent with the reduced-form estimates reported in Tables 3 and 4; the incremental information in the IV estimates is that the IV estimates measure the marginal effect of having an advisor rather than the marginal effect of MFDA regulation.

We report the ordinary-least squares estimates next to the IV estimates. The difference between the IV and OLS estimates measures the extent to which the use of financial advisors is endogenous. For example, if the use of financial advisors is independent of all household characteristics and preferences, the IV and OLS estimates should, on average, be close to each other. The main endogeneity concern that we address with the IV regression is that the households who are more likely to participate in the financial markets are also more likely to seek financial advice. That is, these households would participate more with or without financial advisors. If so, we would expect the OLS estimates of the marginal effect to overstate the causal effect of advisors on participation.

The estimates in Table 5, however, indicate that for both participation decisions (mutual funds and equities) and for the share of assets invested in equities, the IV estimate is *larger*, not smaller, than the OLS estimate. The difference between the two estimators suggests that advisor use indeed correlates with the error term in the OLS regression but that the direction of the effect is

the opposite from that hypothesized above. The downward bias in the OLS estimate suggests that individuals who are comfortable holding mutual funds and risky assets even when left on their own appear to be less likely to solicit an advisor's input. Or, in other words, financial advisors appear to be key in getting households to take financial risks. It is the households who are reluctant to enter financial markets on their own who are disproportionately more likely to enter the market *only* when accompanied by an advisor. This evidence is consistent with the model of financial advisors as money doctors who mitigate clients' anxiety in Gennaioli, Shleifer, and Vishny (2015).

In the context of the MFDA oversight regulation, this evidence suggests that the effects of losing an advisor could be more severe exactly for those clients who might need advisors the most to overcome their reluctance to invest in risky assets.

6   Conclusions

Using Canadian provinces' 2001 adoption of new rules governing mutual fund distributors, we study the effect of investor protections on households' financial market participation. Households residing in the five provinces that adopt the regulations reduce their holdings of mutual funds and the use of financial advice compared to households in other provinces with unchanged investor protections. Our estimates are consistent with regulatory costs causing a negative shock to the supply of advice, leading to fewer delegated purchases of mutual funds. In lieu of mutual funds, households in provinces adopting the investor protections hold larger balances in low-risk, low-return bank deposits and savings bonds.

Viewed together, our findings imply that advice is important in facilitating financial market participation and risk-taking. Households' low rate of stock market participation has, of course,

been a puzzle due to the significant return premium that non-participants miss out on. Our analysis suggests that burdensome regulation can exacerbate underparticipation, particularly for lower-wealth clients that become unprofitable to serve net of regulatory costs. The use of financial advisors appears to have an economically large causal effect on stock market participation: the difference between having and not having an advisor translates to a difference of 44% in the stock market participation rate. Much of the literature on the stock market participation puzzle adopts the viewpoint that households have full agency over their participation decisions; this literature looks for variables and economic mechanisms such as education, IQ, wealth, lack of stock market awareness, and non-standard preferences to explain why many households choose not to assume equity risk.[6] Our results suggest that a large part of nonparticipation may stem through frictions related to the delegation channel: if we reduce the supply of financial advisors, a household is less likely to use a financial advisor, and those left without advice are less likely to enter the markets on their own. Importantly, it is the households who are less likely to enter the markets on their own who are, all else equal, disproportionately more likely to seek financial advice. This explanation for nonparticipation has starkly different policy implications than the explanations that place full agency on the households and ignores the delegation channel.

We emphasize that our analysis does not provide a welfare evaluation of Canada's investor protections. We cannot conclude whether households benefit, on net, from greater oversight. In particular, we do not have the data necessary to identify regulatory benefits such as a reduction in fraud or an improvement in the suitability of advisors' recommendations. Nevertheless, we believe it is noteworthy that a policy aimed at strengthening public confidence in the mutual fund industry

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[6]See, for example, Christiansen, Joensen, and Rangvid (2008) (education), Vissing-Jørgensen (2003) (wealth), Grinblatt, Keloharju, and Linnainmaa (2011) (IQ), Hong, Kubik, and Stein (2004) (lack of stock market awareness) and Epstein and Schneider (2007) and Dow and Werlang (1992) (Knightian uncertainty and ambiguity aversion).

led to a decline in participation in that market. In that way, our findings highlight a difficult trade-off regulators face—the regulatory burden that goes along with eliminating bad practices may well reduce the supply of advice and households' financial market participation.

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Figure 1: **MFDA Registration Requirement in Canada, 2002.** Mutual fund dealers and their agents in five Canadian provinces were required to register with the Mutual Fund Dealers Association of Canada (MFDA) and follow the rules and regulations of the MFDA. This requirement went into effect in February 2001 in Ontario, British Columbia, and Saskatchewan; in April 2001 in Alberta; and in November 2001 in Nova Scotia. The other five provinces had neither MFDA requirement nor any comparable oversight until February 2004.

Table 1: Descriptive statistics from survey data

This table reports summary statistics from the Canadian Financial Monitor survey of Canadian households conducted by Ipsos-Reid. The data are the monthly surveys from January 1999 through January 2004. All the statistics are reported using survey weights. In Panel A we report information for the entire sample. *Age* is that of the head of household. *Education* is the maximum level of education of the head of household and spouse. The indicator variable *Retired* takes the value of one if the head of household is retired and zero otherwise. In Panel B we report financial information delineated by the household's use of financial advisor.

Panel A: All households

Variable	Mean	Std. Dev.
Age	46.6	15.3
Education (%)		
HS diploma or less	30.9	46.2
Some college	22.7	41.9
College degree	36.8	48.2
Graduate degree	9.6	29.4
Retired (%)	13.9	34.6
Homeowner (%)	66.0	47.4
Use financial advisor? (%)	34.7	47.6
Income ($)	49,384	34,160
Assets ($)	61,992	149,307
Asset allocations (%)		
Cash	50.8	42.1
Bonds	25.1	32.5
Equity	24.1	33.7
Participation decisions (%)		
Mutual funds	36.3	48.1
Stocks directly	18.2	38.6
Bonds directly	19.6	39.7
GICs	30.9	46.2
Checking or savings account	97.8	14.8

Panel B: Households with and without a financial advisor

Variable	With Advisor		Without Advisor	
	Mean	Std. Dev.	Mean	Std. Dev.
Asset allocations (%)				
Cash	32.7	36.7	51.1	42.2
Bonds	31.1	32.0	25.4	33.1
Equity	36.2	35.4	23.5	33.8
Participation decisions (%)				
Mutual funds	57.5	49.4	33.5	47.2
Stocks directly	29.4	45.6	18.7	39.0
Bonds directly	27.5	44.7	19.8	39.9
GICs	42.7	49.5	30.7	46.1
Checking or savings account	98.7	11.5	97.5	15.5

Table 2: Change in the Use of Financial Advisors following the MFDA Regulation

This table reports results from a regression of financial advisor usage on an indicator variable *MDFA required.* This variable is equal to one in the provinces adopting the MFDA regulation in the months following the adoption. In columns 1 and 2, the outcome variable is an indicator variable that takes the value of one if the household uses any financial advisor and zero otherwise. In column 3, the outcome variable is an indicator variable that takes the value of one if the household uses a bank-employed financial advisor and zero otherwise. The estimates are computed using CFM survey sampling weights. All analyses include province and year fixed effects. In columns 2 and 3 we also include household controls for retirement status, homeownership, (categories of) age, education, and (categories of) income. The monthly survey data from CFM begin in January 1999 and ends in January 2004. Robust Huber-White standard errors are clustered at the province level.

| | Dependent Variable: Indicator for Using an Advisor | | |
	Any Advisor		Bank Advisor
MFDA Required	-0.027^{***}	-0.032^{***}	-0.007
	(0.007)	(0.006)	(0.012)
Observations	56,303	56,303	56,303
R-squared	0.01	0.07	0.09
Province and year FEs?	Y	Y	Y
Household controls?	N	Y	Y

Clustered standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3: Participation in Financial Markets following the MFDA Regulation

This table reports results from a regression of asset ownership on an indicator variable *MDFA required*. This variable is equal to one in the provinces adopting the MFDA regulation in the months following the adoption. In column 1, the outcome is an indicator variable equal to one if the household owns any mutual funds and zero otherwise. In column 2, the outcome variable is an indicator variable for ownership of equity mutual funds. In column 3, we investigate ownership of direct equity investments (individual stocks). In column 4, we analyze if the household owns any equity investment; we classify equity mutual funds, balanced mutual funds, and direct stockholdings as equity investments. In columns 5 to 8, the outcomes variables capture ownership of bonds, guaranteed investment certificates or GICs (a form of term deposits), and checking or saving accounts. All analyses include province and year fixed effects, and household controls for: retirement status, homeownership, (categories of) age, education, and (categories of) income. The monthly survey data from CFM begin in January 1999 and ends in January 2004. Robust Huber-White standard errors are clustered at the province level.

	Dependent Variable: Indicator for Asset Ownership						
	Mutual funds			Equity,			Checking
		Equity		direct or			or
	Any	funds	Stocks	indirect	Bonds	GICs	Savings
MFDA Required	−0.023***	−0.022***	−0.003	−0.014*	−0.001	0.005	0.001
	(0.007)	(0.006)	(0.010)	(0.008)	(0.007)	(0.005)	(0.002)
Observations	56,303	56,303	56,303	56,303	56,303	56,303	56,303
R-squared	0.19	0.12	0.12	0.21	0.05	0.09	0.03
Province & year FEs?	Y	Y	Y	Y	Y	Y	Y
Household controls?	Y	Y	Y	Y	Y	Y	Y

Clustered standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: Allocation Decisions following the MFDA Regulation

This table reports results from a regression of asset allocation on an indicator variable *MDFA required*. This variable is equal to one in the provinces adopting the MFDA regulation in the months following the adoption. In panel A, we report results from fractions of total financial assets invested in specific asset classes. In column 1, the outcome variable is the fraction of cash assets (checking and saving accounts, and money market funds) over total financial assets. In column 2, the outcome is the fraction of bond assets (bonds, GICs, fixed income funds) over total financial assets. In column 3, the outcome is the fraction of equity assets (individual stocks and mutual funds) over total financial assets. In panel B, we repeat the same analyses using the total CND\$ amount of the investments in each category (cash, bonds, equity). All analyses include province and year fixed effects, and household controls for: retirement status, homeownership, (categories of) age, education, and (categories of) income. The monthly survey data from CFM begin in January 1999 and ends in January 2004. Robust Huber-White standard errors are clustered at the province level.

Panel A: Proportion of assets allocated

| | Dependent Variable: | | |
| | Proportion of Assets Allocated | | |
	Cash	Bonds	Equity
MFDA Required	0.010*	0.007**	−0.017***
	(0.005)	(0.003)	(0.005)
Observations	54,712	54,712	54,712
R-squared	0.19	0.07	0.17
Province and year FEs?	Y	Y	Y
Household controls?	Y	Y	Y

Clustered standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Panel B: Log-dollar amounts allocated

| | Dependent Variable: | | |
| | Log(1 + Dollar Amount Allocated) | | |
	Cash	Bonds	Equity
MFDA Required	0.051	0.058	−0.165*
	(0.033)	(0.057)	(0.073)
Observations	56,303	56,303	56,303
R-squared	0.17	0.16	0.25
Province and year FEs?	Y	Y	Y
Household controls?	Y	Y	Y

Clustered standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Measuring the Effects of Increased Regulatory Oversight: IV vs. Least Squares Estimates

This table reports results from ordinary least squares (OLS) and two-stage least squares (IV) regressions of financial behaviors on an indicator variable equal to one if the household uses a financial advisor. In the IV regressions we instrument the use of financial advisors with an indicator equal to one in the provinces adopting the MFDA regulation in the months following the adoption. Each row reports results for a different outcome variable. The first two regressions measure financial market participation. *Mutual funds* is an indicator variable that takes the value of one if the household owns any mutual funds and zero otherwise. *Equities (direct or indirect)* takes the value of one if the household owns any equity or balanced funds or has direct stockholdings and zero otherwise. The other three regressions measure effect on asset allocations. The outcome variables are the fractions of the total financial assets invested in cash, bond, or equities. We report the averages and definitions of these asset classes in the description of Table 4. All analyses include province and year fixed effects, and household controls for: retirement status, homeownership, (categories of) age, education, and (categories of) income. Robust Huber-White standard errors are clustered at the province level.

| | The effect of financial advisors | | | | Fixed effects | |
	OLS	IV	N	R^2	Province	Time
Participation (%)						
Mutual funds	0.151***	0.724***	56,303	0.21	Y	Y
	(0.011)	(0.181)				
Equities	0.140***	0.439**	56,303	0.23	Y	Y
(direct or indirect)	(0.008)	(0.213)				
Asset allocations (%)						
Cash	−0.133***	−0.313**	54,712	0.21	Y	Y
	(0.003)	(0.140)				
Bonds	0.062***	−0.211**	54,712	0.08	Y	Y
	(0.008)	(0.102)				
Equity	0.071***	0.523***	54,712	0.18	Y	Y
	(0.009)	(0.164)				

Clustered standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$