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Passive Activity: Millennials and Financial Advisory

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Introduction

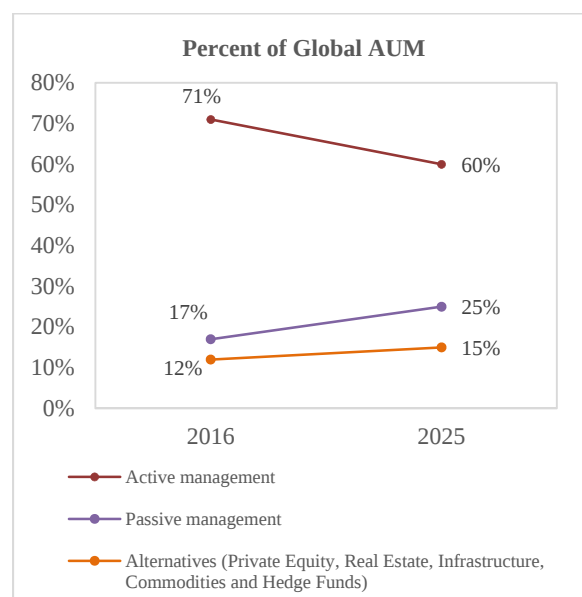
Burton Malkiel's *A Random Walk Down Wall Street* began a tug of war between active and passive investment that has become especially relevant in recent years (Malkiel, 1975). Active management, which is driven by fund managers making investment decisions, is currently a far more common way to invest than passive management, which involves less frequent trading and often tracks indexes (Investopedia). As of 2016, 71% of global assets under management (AUM) were actively managed and 17% were passively managed, with “alternatives” (which include Private Equity, Real Estate, Infrastructure, Commodities and Hedge Funds) accounting for the remaining 12% (see Figure 1).

The average equity fund fairly consistently lags behind the S&P500, with the latter having outperformed by 2.24% from 1983 to 2003 (Malkiel, 2005). More recently, a study of active managers in 2016 concluded that 90% of them had failed to meet their benchmarks during the one-, five-, and ten-year time periods leading up to the study (Soe & Poirier, 2016). The study took into account the fees charged to investors, which are lower for passive funds in part due to the use of algorithms (Soe & Poirier, 2016). Overall, an average investor would have improved his/her return by 0.67% by investing in a solely passive portfolio from 1980 to 2006, again taking the fees

of active management into account (French, 2008).

In part due to these factors, PricewaterhouseCoopers projects that passive funds will account for 25% of total global AUM by 2025, up from 17% in 2016 (see Figure 1). Consequently, active management's share is projected to decrease from 71% to 60% by 2025. Alternatives are projected to increase from 12% to 15% by 2025.

Figure 1: Global assets under management by type



Source: PricewaterhouseCoopers, 2017

Within passive funds lies robo-advisory, which involves very little human interaction and instead makes use of initial investor preferences and automated digital activity (Jung et. al, 2018).

Exchange Traded Funds (ETFs) are generally classified as part of this group (Jung et. al, 2018). Robo-advisors offer more advanced interfaces to keep their customers in the loop, compared to earlier online investment service providers (Jung et. al, 2018). This involves an emphasis on automated, technology-based communication, including smartphone push notifications and regular online updates (Jung et. al, 2018).

Millennials may be a noteworthy target market with relation to passive financial advisory due to their unique financial and cultural profile, including post-recession risk aversion, high student loans, notable tech-savviness, low social trust, and resilient future-looking optimism. Millennials are defined as those born between 1981 and 1996 (see Table 1):

Table 1: Generational groups

	Birth Year	Age in 2018
Silent Gen.	1928 – 1945	73 to 90 years
Baby	1946 – 1964	54 to 72 years
Generation X	1965 – 1980	38 to 53 years
Millennials	1981 – 1996	22 to 37 years
Generation Z	1997 and later	21 and younger

Source: Pew Center

In the U.S., Millennials account for one third of the working population after recently overtaking Generation X's first place spot (Pew Research Center, 2015a). This representation is in part because older generations are retiring, but also

because more immigrants coming to the U.S. belong to the Millennial generation than to any other age cohort (Pew Research Center, 2015a). In fact, from 2010 to 2015, more than half of the immigrants to the U.S. who came to join the workforce were Millennials (Pew Research Center, 2015a). As this generation continues to grow and take on more financial responsibilities, their habits, lifestyles, and preferences are becoming increasingly relevant to the modern economy. Each new generation has made its own mark on the world, but in this flourishing technological era, Millennials have the potential to be the most disruptive group yet. It is currently an open question as to how Millennials will embrace passive investing, and that is what has inspired this study. Do Millennials show different tendencies regarding passive financial advisory and robo-advisory than other generations do?

Millennial Background

Millennials were between the ages of 11 and 26 when the most recent financial crisis hit, so the years-long event has had lasting effects on the generation's financial landscape. These effects include financial risk aversion, low home ownership, and increased difficulty in securing jobs (Malmendier & Nagel, 2007; Baker & Will, 2017; Goodman, Zhu, & George, 2015; Pew Research Center, 2017). Millennials also show a lower level of social trust than other generations, but they are still financially optimistic (Pew Research Center, 2014). These broad factors have

great potential to influence Millennials' financial decisions.

People who have experienced a climate of low stock returns tend to be more risk averse and less likely to participate in the stock market (Malmendier & Nagel, 2007). All current generations experienced the most recent financial crisis in some capacity, whether they suffered crashes in their personal retirement accounts, or watched their parents lose their jobs. What is unique to Millennials is that many of them were too young during the financial crisis to remember what the economy was like before it.

Another effect of the financial crisis has been that first-time home ownership metrics have lagged since then: from 2005 to 2015, home ownership among adults under 35 decreased from 43% to 31% (Baker & Will, 2017). This is in part because high levels of student debt decrease Millennials' chances of qualifying for home loans (Larrimore, Schutz, & Dodini, 2016). The average Millennial held \$25,000 in student loans as of a 2012 study, causing the magnitude of U.S. student loans to exceed that of U.S. credit card loans for the first time ever (Seppanen & Gualtieri, 2012). Because of the increasingly strong effect of higher education on income, and the especially high inflation of college tuition compared to other goods and services, young adults have little choice but to take on greater student debt than

their predecessors did (Seppanen & Gualtieri, 2012).

Regardless of student debt, Millennials also face a more difficult time securing home loans than Generation X did as young adults (Goodman, Zhu, & George, 2015). Lending standards in the years following the financial crisis became stricter compared not only to housing bubble levels, but also to 2001 levels (Goodman, Zhu, & George, 2015). This effect, compounded with affordability issues, has in part caused Millennials to get married and have children later than previous generations did, since home ownership is linked to these milestones (Baker & Will, 2017).

In addition to having a lower tendency to own homes, Millennials also switch homes far less frequently than past generations did at their age (Pew Research Center, 2017). This is in part due to a decrease in job opportunities, which has traditionally been a prime factor in how often young adults switch homes (Pew Research Center, 2017). As of a 2012 survey, 82% of respondents from the general population believe that "finding a job is harder for young adults today than it was for their parents' generation" (Pew Research Center, 2012).

A combination of high debt and 12.4% unemployment caused many Millennials to move

back in with their parents during the financial crisis, with 24% of them living with their parents in 2010 (Pew Research Center, 2015b). However, even as the economy has recovered, these metrics have persisted, and 26% of Millennials reported living at home as of 2015 (Pew Research Center, 2015b). This is consistent with low home ownership rates and delay of life milestones as discussed above, and it also affects how Millennials handle their financial planning (Bentley, 2016). Millennials who live with one or both parents tend to hold a greater percentage of their total financial assets as stocks, as compared to Millennials who live independently (Bentley, 2016).

Another factor in Millennials' financial decision-making is financial literacy. Financial literacy and traditional education show a positive causal link to wealth and retirement planning (Behrman, Mitchell, Soo, & Bravo, 2010). Level of income is also linked to financial literacy, in that a smaller percentage of Millennials with incomes less than \$25,000 tend to be "financially capable" than the general Millennial population (8% vs. 19%) (Friedline & West, 2016).¹ Policymakers have placed an increased emphasis on financial education in recent years (Behrman, Mitchell, Soo, & Bravo, 2010). This includes resources made available by The Financial Literacy and Education Commission, which was instituted in

2003 as part of a national effort to promote financial literacy (U.S. Department of the Treasury, 2018). However, there is evidence that efforts like these have not paid off, as Millennials are actually less financially literate than previous generations (Lamdin, 2014).

In addition, having grown up with the internet, Millennials are also more tech-savvy than other generations, even Generation X (Reisenwitz & Iyer, 2009). Although both generations avidly use technology to make everyday life easier, Millennials go a step further in their optimization, and are actually the first generation to use the internet more than television (Reisenwitz & Iyer, 2009).

Although less direct, trust levels may be another factor in how Millennials make financial decisions. Millennials are the least socially trusting generation as of a 2014 survey (Pew Research Center, 2014). When asked "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?", only 19% of Millennials (aged 18–33) said they were trusting of most people, compared to 37% of those from the Silent Generation (aged 69–86) and 40% of Baby Boomers surveyed (aged 50–68) (Pew Research Center, 2014). This is not a function of age at the

¹ In the study by Friedline and West (2016), being financially capable is defined as having a savings account and some level of financial education.

time of the survey, as the Silent Generation and the Baby Boomers have shown trust levels hovering around 40% since 1987 (Pew Research Center, 2014). Lower trust levels among Millennials may be attributed to the increased racial diversity in the generation, as racial minorities generally show lower levels of social trust (Pew Research Center, 2014).

Regardless of the obstacles they currently face, Millennials are actually staunch optimists when it comes to their financial futures (Pew Research Center, 2014). Over 80% of Millennials surveyed in 2014 reported that they “currently have enough money to lead the lives they want” (32%) or “expect to in the future” (53%) (Pew Research Center, 2014). None of the older generations surveyed showed such optimism at the time of the survey (Pew Research Center, 2014). However, this may be attributed to younger people generally being more optimistic, as Generation Xers responded similarly hopefully when they were the age that Millennials are now (Pew Research Center, 2014).

The prevalence of high debt levels, low financial literacy, low social trust, and tech-savviness among Millennials suggests that robo-advisory

may have a special potential to take off with this generation. There is not much literature yet on the popularity of this innovation among Millennials specifically, but the issue will likely be very relevant to the financial industry moving forward.

Data

The approach to addressing questions about Millennial passive advisory use was to employ a unique anonymous survey tool to collect information about financial decision-making with specifics on passive financial advisory and robo-advisory. In the survey, passive financial advisory and robo-advisory combine as one umbrella term to avoid confusion among survey respondents. For the purposes of this paper, these will be jointly referred to as passive financial advisory.

The survey follows Cornell University Institutional Review Board protocols.² The research required a sample that is fairly representative of the U.S. population, and responses were solicited from adults 18 years and older through Amazon Mechanical Turk.³ Respondents were compensated \$0.25 each for a survey taking under 6 minutes on average. During the period spanning March 17–19, 2018, the

² IRB Protocol #1802007762

³ It is possible that some results in this study are specific to the sample taken. Because survey responses were collected through Amazon Mechanical Turk, they may not be fully representative of the general U.S. population. In particular, respondents found through Amazon Mechanical Turk tend to be younger and more educated than the general U.S. population (Berinsky, Huber, & Lenz, 2012). These samples also tend to include a greater percentage of Asian respondents and a lower percentage of Black and Hispanic

respondents compared to the general U.S. population (Berinsky, Huber, & Lenz, 2012). In addition, survey respondents may be more tech-savvy than average if they seek out online surveys regularly. Adding on, the survey was sent out people who are available to take surveys during typical working hours and may have different characteristics than the general population.

survey collected 663 responses, resulting in 631 fully completed responses.

Survey questions collected data on: U.S. region of residence, age, gender, ethnicity, race, income, education level, employment status, marital status, number of children, financial education level, household financial decision-making status, home ownership, tech-savviness, savings frequency, retirement account types, investment/brokerage account types, and asset holdings. “Age” is one of the key questions and is used to categorize respondents by generational group. Questions regarding passive financial advisory understanding, attitudes, and usage, are the primary focus of the analysis. Skip logic used in the survey ensured that respondents were only asked questions that applied to them based on their previous answers. Within the sample taken, 67% are Millennials, 19% are in Generation X, 10% are Baby Boomers, 3% are in Generation Z, and 0.3% are in the Silent Generation (see Table 2). The two respondents from the Silent Generation have been grouped with the Baby Boomers for analysis.

Table 2: Generation distribution

Generation	Obs.	Percentage of Total
Silent Generation	2	0.3%
Baby Boomers	66	10.5%
Generation X	119	29.6%
Millennials	425	67.4%
Generation Z	19	3.0%
Total	631	100.0%

Within the survey sample, 62% of Millennials are male. A significantly smaller proportion of Millennials surveyed are White (50%) compared to Generation X (76%) and Baby Boomers (87%), and a larger percentage are Hispanic, Asian, or non-White and non-Asian. This is not surprising given that there are more racial minorities in the Millennial generation than in previous generations (Pew Center, 2014). Millennials in the sample are less likely to have above-average household incomes than Generation X (32% vs. 47%). This is also not surprising, as people’s incomes generally increase over the course of their careers. While regional distribution of survey respondents is relatively even, a larger percentage of Millennial respondents live in the Midwest compared to Generation X (31% vs. 18%).

A significantly higher proportion of Millennials have achieved a Bachelor’s degree as their highest level of education (50%), compared to Generation X (38%), Baby Boomers (37%) and Generation Z (21%). This is consistent with the significant effect of higher education on income, which makes achieving higher education more attractive (Seppanen & Gualtieri, 2012). This is also in line with the especially high levels of student loan debt among Millennials (Seppanen & Gualtieri, 2012).

A significantly lower proportion of Millennials surveyed have children and own their homes

(47%, 50%) compared to Generation X (76%, 66%) and Baby Boomers (78%, 81%). In addition, Millennials are less likely to be married (50%) than Generation Xers are (68%). Many Millennials are still in their twenties, so these results are not surprising. This also may be related to Millennials' overall delay in achieving life milestones after the financial crisis (Baker & Will, 2017).

In addition, Millennials show significantly higher levels of tech-savviness than Baby Boomers do, measured by frequency of smartphone usage, software self-installation comfort, and keyboard shortcut usage. Millennials also show higher rates of using keyboard shortcuts often compared to Generation X (57% vs. 32%). This is consistent with findings that Millennials are savvier with technology than previous generations are, because they have developed comfort with technology from a young age (Reisenwitz & Iyer, 2009).

Further, Millennials show higher rates of financial education in undergraduate courses (40%) than Generation X does (29%), while they show lower rates of financial education in high school courses (27%) than Generation Z does (63%). This may be because of the increase in efforts to promote financial literacy in recent years (U.S. Department of the Treasury, 2018). In addition, of those who are the financial decision-maker of their household, Millennials are less

likely to have dependents (36%) than Generation Xers are (63%). This makes sense because a smaller percentage of Millennials have children compared to older generations. Millennials are also less likely than Generation Xers are to contribute to a savings account once a month or more (54% vs. 68%).

A greater percentage of Generation X (34%) and Baby Boomers (44%) have individual retirement accounts compared to Millennials (18%), but there is no significant difference in defined contribution or defined benefit plan holdings between Millennials and older generations. In addition, Millennials are more likely than Generation X to have active financial advisors (22% vs. 10%), and less likely than Baby Boomers to choose their own investments (25% vs. 40%).

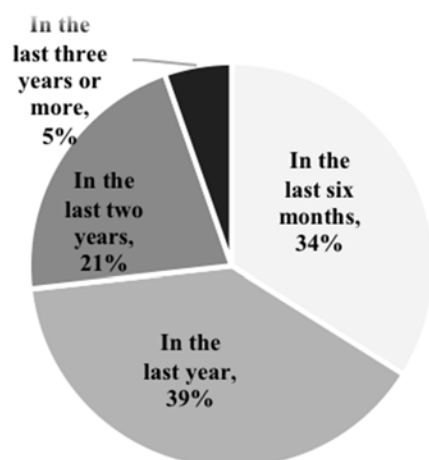
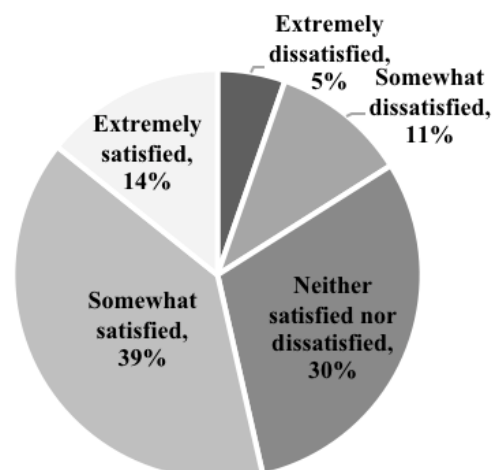
The distribution of passive financial advisor usage by generation is shown in Table 3. There is a significantly higher rate of passive financial advisory usage among Millennials than Generation X (13% vs. 6%), but there is no significant difference in passive financial advisor usage between Millennials and Baby Boomers.

Table 3: Passive investment usage by generation

	Have passive financial advisor	Obs.
Millennials	13.4%	425
Generation X	5.9%*	119
Baby Boomers	8.8%	68
Generation Z	10.5%	19
Total	11.4%	631

* Significant difference from Millennials at the 5.0 percent level

Satisfaction among those who use passive financial advisory skews positively. Of the 56 Millennial users, 53% are at least somewhat satisfied, while only 16% are somewhat dissatisfied or worse. The remaining 30% are neither satisfied nor dissatisfied (see Figure 2). In addition, 73% of Millennial passive financial advisory users started using it in the one-year period prior to the survey (see Figure 3).

Figure 2: Satisfaction with passive financial advisory/robo-advisory among Millennials (if applicable)**Figure 3: Start of passive financial advisory usage among Millennials (if applicable)**

Among respondents who do not report using a passive financial advisor, how open they are to the idea is another area of interest. This information could provide a future-looking context for the industry rather than only focusing on investment behavior at a specific point of time. Of Millennials who do not report using a passive financial advisor, 41% are at least somewhat open to it, and the most common response is “Unsure” at 37% (see Table 4).

Table 4: Openness to passive financial advisory

Openness to passive financial advisory	% of Millennials	% of Generation X	% of Baby Boomers	% of Generation Z
1: Not at all open	9%	6%	18%	0%
2: Not open	13%	8%	18%	30%
3: Unsure	37%	51%	29%	30%
4: Somewhat open	37%	32%	32%	30%
5: Extremely open	4%	3%	3%	10%
Observations	285	72	34	10

Empirical Analysis

This study tests four main hypotheses:

- H1) A person's generational group affects whether he/she has a passive financial advisor,
- H2) A person's generational group affects whether he/she has heard of passive investing,
- H3) A person's generational group affects whether he/she knows what passive investing is,
- H4) A person's generational group affects how open he/she is to passive investing if he/she does not already have a passive financial advisor/robo-advisor.

Regression (probit) models are used to test each hypothesis. Because each dependent variable is binary, the marginal effects reported indicate both the direction and magnitude of the effect of generation on investing behaviors. The main independent variables for Hypotheses 1 through 4 are generation dummy variables, with these dummy variables categorized according to the Pew Center generation classification (see Table 1).⁴

For Hypotheses 1 through 4, the following equation measures the relationship between the outcome of the passive financial advisory dependent variable (Y_i) and the independent variables. X represents each non-omitted generation variable, while Z contains the control variables.

$$Y_i = \alpha + \sum_{j=1}^3 \beta_j X_{ij} + \sum_{k=4}^{34} \gamma_k Z_{ik} \quad (1)$$

U.S. region of residence, race, ethnicity, education, income, employment status, marital status, and whether one has children are included as standard demographic control variables. U.S. region is categorized as Midwest, Northeast, South, and West, using the United States Census Bureau Regions and Divisions classification system.⁵ Race is categorized as Asian, White, or Other, due to the relatively small number of respondents who identified as non-Asian and non-White.⁶ Ethnicity is categorized as Hispanic or non-Hispanic. Income is categorized as above or below the average U.S. household income of about \$59,000 per year (United States Census Bureau, 2017).

The model also controls for tech-savviness, using the following variables: smartphone usage (throughout the day vs. less frequently), software installation habits (usually self-installed vs. usually with help), and keyboard shortcut usage (often vs. less frequent). Tech-savviness may affect how comfortable someone is with robo-advisory and other forms of passive financial advisory because these tools often utilize technology-driven communication in lieu of person-to-person interaction.

⁴ Baby Boomer is the omitted variable.

⁵ Northeast is the omitted variable.

⁶ White is the omitted variable.

Financial situation is another major consideration. The model controls for these financial situation-related factors: types of formal financial education received (high school course(s), undergraduate course(s), financial certification or degree), financial decision-making status in the household, and home ownership. These are included as controls because a person's financial situation may affect his/her financial priorities and how he/she makes investment choices. Financial decision-making status is categorized based on whether a person is the financial decision-maker of the household.⁷ Saving and investing habits are also taken into account as control variables, because how someone handles one aspect of his/her finances may have a relationship with other aspects. These variables included saving frequency (at least monthly vs. less often), types of retirement saving accounts held (defined contribution, defined benefit, and individual retirement account (IRA)), types of advisory used for investment/brokerage accounts (active financial advisor and choosing one's own investments), and types of assets held within these investment/brokerage accounts (individual stocks, individual bonds, and index/mutual fund shares).⁸

Results

In the full probit model shown in equation (1), Generation Z shows a 35.5% higher likelihood of using passive financial advisors (H1) (see Table 5).⁹

Table 5: Marginal effects of generation on passive financial advisory

	H1 Have passive fin. Adv.	H2 Know what passive fund mgmt is	H3 Have heard of what passive fund mgmt is	H4 Open to passive financial advisory, if not already using it
Mill.	0.049 (0.024)	0.103 (0.089)	0.148* (0.068)	-0.006 (0.104)
Gen Z	0.355* (0.212)	0.251 (0.119)	0.094 (0.051)	0.058 (0.197)
Gen X	0.000 (0.036)	-0.076 (0.096)	0.036 (0.052)	-0.056 (0.110)
Demo. Controls	Yes	Yes	Yes	Yes
Tech- Savvy Controls	Yes	Yes	Yes	Yes
Financial Controls	Yes	Yes	Yes	Yes
Obs.	631	631	631	401
R²	0.3919	0.2651	0.3097	0.0742

More broadly, how well people understand passive fund management/robo-advisory is another relevant consideration. Respondents selected the most applicable of four statements describing their understanding, ranging from “I am very familiar with it,” to “I have not heard of it and I don't know what it is.” Of Millennials, 59% know at least somewhat about it, and 80% have at least heard of it. For the probit models shown in Table 5, two cumulative variables are created based on these answer choices: knowing

⁷ Not being the financial decision-maker is the omitted variable.

⁸ No variables are omitted here as none of the options are mutually exclusive.

⁹ Baby Boomer is the omitted variable.

what passive fund management is (H2), and having heard of it (H3).

There is no relationship between the generation dummy variables and knowing what passive fund management is (H2). In terms of having heard of passive fund management, Millennials show a 14.8% higher chance than Baby Boomers. However, given the lack of significant difference between the two groups' usages of passive financial advisors, recognition does not necessarily translate into actions. According to the results shown in Table 5, openness to passive investing (H4) does not have a significant relationship with generation.

Conclusion

The tug of war between active and passive funds is as strong as ever. Lower fees and more consistent returns make passive financial advisors attractive to investors, especially as robo-advisors harness new technology to deliver information. The purpose of this research is to study whether generation group affects attitudes on and usage of passive financial advisory. The particular focus here is on the Millennial generation since factors including financial and cultural landscape, post-recession risk aversion, tech-savviness, high student loans, low social trust, and resilient future-looking optimism all play roles in Millennials' decision-making, extending to how they manage their finances.

Results show that Millennials are more likely to use passive financial advisory than Generation X is, but there is not a significant difference between Millennials and Baby Boomers. This suggests that Millennials may be a fruitful target market for passive financial advisors. In addition, active and passive financial advisors alike can benefit if they are able to meet a broad range of investor needs, making it unnecessary for investors to go to competitors. Because of Millennials' growing importance to the economy, active financial advisors may want to explore offering passive investing as well.

In terms of knowing what passive fund management is, Millennials show a significantly higher likelihood of having heard of passive fund management compared to Baby Boomers. There is no significant difference in openness to passive financial advisory by generation among those who do not use it. Passive financial advisors may want to explore how to bridge this gap between awareness and action among Millennials. With this in mind, the future of investment choices among Millennials will be a compelling area for further study.

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