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Securities and Exchange Commission  
100 F St. NW  
Washington, DC 20549-9303  
[Rule-comments@sec.gov](mailto:Rule-comments@sec.gov)

Re: Use of Derivatives by Registered Investment Companies and Business Development Companies; Required Due Diligence by Broker-Dealers and Registered Investment Advisers Regarding Retail Customers' Transactions in Certain Leveraged/Inverse Investment Products

File No. S7-24-15

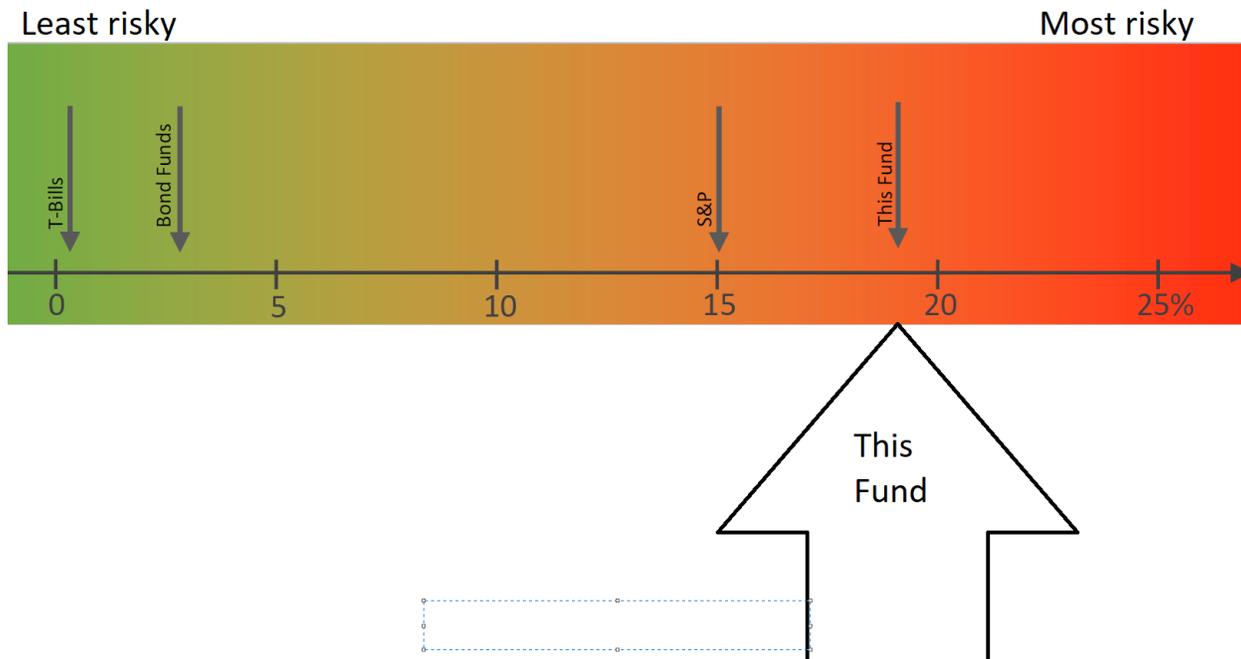
Dear SEC:

In summary:

- There is a better way to achieve the Commission's customer protection objectives to make sure that consumers understand the riskiness of their funds: All funds should disclose their risk in a simple graphic similar to EPA fuel economy:

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<sup>1</sup> All opinions are strictly my own and do not necessarily represent those of Georgetown University or anyone else.



- Leveraged/inverse products are useful investing tools and should not be unduly restricted. They are less complicated and less risky than many popular stocks and far less complicated and less risky than options. Option trading rules are not good precedents for leveraged/inverse funds.
- The broker-dealer requirement for advance approval before customers can trade leveraged/inverse products is a useless paperwork exercise as most investors are “capable of evaluating the risks.” The proposal’s logic would require BDs and RIAs to make sure investors are capable of understanding all products, not just leveraged/inverse products.
- The proposed VaR limit would not have prevented the meltdown at LJM Preservation and Growth as its historical VaR was well within the proposed 150% limit. The fund was brought down by a 14.3 sigma event. Such extreme events are not captured well by VaR models.
- The requirement that investment adviser **clients** have to be capable of understanding the risk of various products is a major change in the relationship between advisers and clients. Clients seek financial advisers precisely because they don’t necessarily understand the details of financial products.
- The legal basis for the proposed rules is questionable.

## Introduction

In a 456-page release, the Commission is proposing a series of extremely prescriptive regulations regarding the use of derivatives by investment companies and the purchase or sales of leveraged and inverse products.<sup>2</sup> Broker dealers will be required to individually approve customers before they can trade leveraged/inverse products. Likewise, investment advisers will be required to have a reasonable basis to

<sup>2</sup> See <https://www.sec.gov/rules/proposed/2019/34-87607.pdf>

believe that **clients** are capable of evaluating the risks of trading leveraged/inverse products. Investment companies that use derivatives will be required to have a risk management program, to have a maximum Value at Risk (VaR) of 150% of a benchmark reference index, and to look both ways before crossing the street. Plus, there is beaucoup paperwork to fill out that must be stored for eons. In short, this is a full employment act for compliance professionals, consultants, and regtech entrepreneurs.

It is quite odd, that, while the Commission is elsewhere proposing to modernize the MD&A with a more principles-based approach, the Commission is going in the extreme other direction with this extremely prescriptive approach.<sup>3</sup> Unfortunately, these proposed rules would do little to protect investors. There are far better means to achieve the desired goal of investor protection. The Commission does not clearly discuss what investor problem it is trying to solve. I note that the word “problem” is used only three times in the proposing release, and none of the uses of the word problem in the proposal refer to an existing problem that the Commission is attempting to remediate.<sup>4</sup>

### **“Investor protection” does not mean bubble-wrap investors to remove all risk.**

The proposing release does refer to vague “investor protection concerns” 24 times. But what is the Commission trying to protect investors from? The overwhelming thrust of our financial laws is to protect investors from fraudulent activities and to make sure that investors have enough information to make their own investment decisions. Our laws are not intended to prevent investors from taking on any risk. Indeed, our economy depends upon investors taking on risky investments in order to grow. We also depend upon risk-taking investors to bring information to the market through their trading decisions and thus facilitate the price discovery necessary for fair and orderly markets. Furthermore, our financial markets provide useful risk transfer tools so that market participants with less risk bearing capacity can diversify or transfer risk to market participants with more risk bearing capacity.

The Commission notes the meltdown of the LJM Preservation and Growth Fund in the proposing release. The fund was essentially short volatility, and when volatility spiked upward at an unprecedented speed in 2018, the fund incurred catastrophic losses. The main problem with the fund is that it was misnamed, as the strategy it was following, a short strangle, had limited upside and a very large downside.<sup>5</sup> This was anything but a preservation strategy, and the fund was apparently in violation of §35 of the Investment Company Act of 1940 which proscribes materially deceptive or misleading investment company names.

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<sup>3</sup> See <https://www.sec.gov/rules/proposed/2020/33-10750.pdf>. The Commission is also looking at broadening the accredited investor standard. See <https://www.sec.gov/rules/proposed/2019/33-10734.pdf>.

<sup>4</sup> The first and second references are on page 122, referring to data problems in VaR estimation. The third and last reference is in footnote 268 referring to the problem of correlation breakdown with respect to the proposed VaR tests.

<sup>5</sup> See [https://www.slcg.com/pdf/workingpapers/Investors%20Strangled%20by%20LJM%20Preservation%20and%20Growth%20Fund%20\(LJMIX\).pdf](https://www.slcg.com/pdf/workingpapers/Investors%20Strangled%20by%20LJM%20Preservation%20and%20Growth%20Fund%20(LJMIX).pdf) for more details on what went wrong at the fund.

The problem with this one rogue fund is mostly an enforcement issue. It is not one that requires extensive prescriptive rulemaking to be paid for by the shareholders of the thousands of other funds that were not deceptively misnamed and did not melt down. As discussed in more detail below, the proposed rules would not even have prevented the meltdown of the LJM Preservation and Growth Fund as its VaR, calculated using the three-years of historical data as proposed by the Commission, would have been well within the proposed VaR limit.<sup>6</sup> What brought down the fund was a rare 14.3 sigma event, something not captured well in VaR models.

**Leveraged and inverse securities can be useful hedging tools. The big problem is the high cost of borrowing.**

I have personally traded inverse and leveraged ETFs. Such products can be quite useful in implementing specific investment views regarding a particular index. They are also useful for hedging purposes as well. Placing the proposed arbitrary restrictions on leveraged and inverse products will reduce the number of investors who can trade them, and thus reduce their liquidity. This will harm all of the investors who trade these products. Indeed, the biggest problem with these products is that many of them are hard to borrow and their high borrowing costs deter their use. The Commission should be looking at mechanisms to reduce frictions and improve liquidity in the stock lending market for these products.

**Many common stocks are far riskier than leveraged/inverse products.**

Leveraged/inverse products are not excessively risky when compared with other financial products. Their perceived risk does not warrant the proposed restrictions. Many leveraged/inverse products have far less volatility than individual equities. At a volatility of the S&P500 around 15%, a 3X leveraged product has a volatility of around 45%, which is easily within the range of typical common stocks. For comparison, note that Tesla has a volatility of 62%, Teva Pharmaceuticals 69%, and Twitter, 52%. We don't require brokers to go through any special hoops before allowing investors to trade these equities, nor should we.

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<sup>6</sup> Perhaps the Commission is also over reacting to the meltdown of VelocityShares Daily Inverse VIX Short Term Exchange-Traded Note (XIV). XIV was a favorite of those who wanted to short volatility. However, when volatility spiked on February 5, 2018, XIV plummeted in value, just as it was designed to and disclosed. It should be noted that XIV was an exchange-traded note (ETN) issued by Credit Suisse and not an exchange-traded fund (ETF). Credit Suisse exercised a provision in the ETN and redeemed the note, effectively locking in the losses. See <https://www.investors.com/etfs-and-funds/etfs/etfs-quake-under-volatility-spike-as-credit-suisse-redeems-note/>.

### Common stocks are more complicated than leveraged/inverse products.

It appears that the Commission is concerned that some investors don't understand leveraged products and the "unique risk" they represent.<sup>7</sup> As mentioned above, many, if not most, common stocks are riskier than inverse and leveraged ETFs. Common stocks are also more complicated than index-based products. The risks of leveraged products are actually simpler to understand than those of common stocks.

It is easy to see this from common asset pricing models such as the Capital Asset Pricing Model (CAPM). The return on an asset is just its exposure to the overall market (in the CAPM) or a set of fundamental factors (in more advanced multi-factor models) plus the unique or idiosyncratic return unrelated to any of the factors.

A leveraged or inverse product has no unique or idiosyncratic risk relative to its index. An investor who is evaluating the risk of a common stock must evaluate not only the risks of the underlying market index or factors but also its unique or idiosyncratic risk. An investor evaluating the risk of a leveraged/inverse product needs only to evaluate the risk of the underlying index. As there is no idiosyncratic or unique risk to the index by definition, it is a simpler product for risk analysis.<sup>8</sup>

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<sup>7</sup> From page 251 of the release "We believe the proposed sales practices rules would enhance investor protection by helping to ensure that investors in these funds are limited to those who are capable of evaluating their characteristics ... and the unique risks they present."

<sup>8</sup> To see this mathematically, under the CAPM, the return on an asset  $R_i$  is just the sum of a so-called "risk-free rate" ( $R_f$ ) plus its exposure to market risk (beta or  $\beta$ ) times the market risk premium ( $R_M - R_f$ ) plus the specific return unique to the stock  $\varepsilon$ :

$$R_i = R_f + \beta(R_M - R_f) + \varepsilon$$

The risk of asset  $i$  (measured as variance)  $\sigma^2$  is thus the market risk  $\beta\sigma_M^2$  plus the unique or idiosyncratic risk of the stock  $\sigma_\varepsilon^2$ :

$$\sigma_i^2 = \beta^2\sigma_M^2 + \sigma_\varepsilon^2$$

Since leveraged and inverse products have no unique or idiosyncratic risk relative to their index, the  $\sigma_\varepsilon^2$  term drops out. Thus the risk is:

$$\sigma_i^2 = \beta^2\sigma_M^2 \text{ or}$$

$$\sigma_i = \beta\sigma_M$$

By inspection, this is a simpler risk to evaluate than the complex idiosyncratic risk of individual stocks.

**The issues with compounding daily returns do not justify the proposed restrictions.**

A well-known and well-disclosed feature of leveraged/inverse products is that their daily rebalancing means that, while they reliably deliver the promised multiple of return on a daily basis, the multiple delivered will deviate over time periods longer than a day.<sup>9</sup>

However, the funds are usually not that far off over slightly longer periods. Lu, Wang and Zhang (2009) document that over a month, the Ultra and UltraShort ETFs reliably delivered the advertised amount of leverage.<sup>10</sup> Even over a year, some funds come close to the target leverage. The 2X Ultra (SSO) delivered a beta of 1.8 relative to the S&P500 for a year, not far from the target of 2. The -2X UltraShort (SDS) delivered a beta of -1.9 relative to the S&P500, not far from the target of -2.

If the SEC is really worried about the impact of daily rebalancing, it should permit ETFs that rebalance at longer time intervals.

**There is no evidence that investors understand these products less than other products to the extent that would justify the proposed burdensome rules.**

The SEC seems to be concerned that some investors don't understand these products, and in particular, that the daily return products don't provide exact multiples over longer time periods. Indeed, page 288 of the proposing release "There is a body of academic literature providing empirical evidence that retail investors may not fully understand the risks inherent in their investment decisions and not fully understand the effects of compounding returns over time."

However, hidden deep in footnote 535 is the admission

"The literature does not address retail investor's inattention to investment risk or the unique dynamics of compounding of daily returns in the context of leveraged/inverse ETFs or other leveraged/inverse investment products specifically, but studies investor inattention to financial products more generally."

In short, investors get confused about lots of financial products. There is no evidence that investors have less understanding of the properties of leveraged funds than, say, the footnotes of Tesla's annual report, or the mysteries of Puerto Rico's bonds. The fact that some investors may get confused is no reason to prevent investors from using the products.

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<sup>9</sup> Here is an extreme but demonstrative example: If the index returns +10% on day 1 and -10% on day 2, the index return over two days is  $(1+.10) * (1-.10) = -1\%$ . A 2X daily rebalanced fund would have daily returns of +20% and -20%, leading to a two-day return of  $(1+.2)*(1-.2)-1 = -4\%$ , much different from 2X of the two-day return, 2%.

<sup>10</sup> Lu, Lei and Wang, Jun and Zhang, Ge, Long Term Performance of Leveraged ETFs (August 1, 2009). Available at SSRN: <https://ssrn.com/abstract=1344133> or <http://dx.doi.org/10.2139/ssrn.1344133>

**The requirement for advance approval before customers can trade leveraged/inverse products is a useless paperwork exercise as most investors are “capable of evaluating the risks.”**

The proposed rule requires broker dealers to prevent investors from trading leveraged/inverse products unless their account is approved for such trading. In particular:

“A broker or dealer may provide this approval if the broker or dealer has a reasonable basis for believing that the customer has such knowledge and experience in financial matters that he or she may reasonably be expected to be capable of evaluating the risks of buying and selling leveraged/inverse investment products.”

I love the reasonable/reasonably test twice in the same sentence. Let’s stamp out and abolish redundancy.

The risks of leveraged/inverse products are simple:

- You can lose lots of money real fast if the underlying index moves against you.
- It won’t track the index perfectly over a long time period and will drift more during periods of high volatility.

Investors who use leveraged and inverse products don’t need to worry about option expiration dates, multiple strike prices, strangles, ex-dividend date weirdness, or futures margin requirements.

Note that the rule only says “capable” of evaluating the risks. It does not say that they actually understand the risks or have already evaluated them. It is reasonable to believe that anyone who is capable of filling out an online brokerage account application is *capable* of evaluating these risks. Indeed, it is simpler to evaluate the risks of an index than it is to evaluate the higher risks inherent in a common stock.

It is far easier to evaluate the risk of the overall stock market or even a commodity like gold than it is to wade through the bowels of the footnotes of corporate financial statements. One needs a college education and more to understand the risks that are “disclosed” in the heavily lawyered doublespeak in a common stock 10-K.<sup>11</sup>

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<sup>11</sup> One finds by running the first paragraph of Tesla’s Risk Factors from its 10-K through a readability checker such as <https://readabilityformulas.com/free-readability-formula-tests.php>, that the risk disclosure has a Flesch-Kincaid Grade level of 20 years, meaning that one needs 20 years of education (e.g. college degree plus four years of grad school) to understand the prose. So much for disclosure. Under Linsear Write, it is 26.4 years. Similarly, the summary to this rule proposal scores 24.8 years on Flesch-Kincaid and 38 years on Linsear Write. So much for plain English.

Thus, this well-meaning rule requires nothing but redundant paperwork. Compliant firms will be required to have policies and procedures in place to evaluate each application for trading leveraged/inverse products. However, virtually everyone who ticks the box saying that they know what a stock is and that they can afford to lose some money will be approved. In practice, the requirement will be essentially meaningless.

All this has to be documented and stored. Yet the SEC and FINRA will have to expend scarce resources to monitor compliance with this useless paperwork exercise which will do nothing to protect investors. Our scarce regulatory resources should be deployed in more productive areas.

**The approvals required for options trading are NOT a good precedent as options are far riskier and far more complex than leveraged/inverse products.**

One could point to the rules for options trading as a precedent.<sup>12</sup> Options are, however, far more complicated than leveraged funds. Options come in various flavors (puts, calls, European, American) with numerous strike prices and expiration dates for each underlying asset. Indeed, there are often hundreds of separate options available on a given stock. They are often combined into various exotic combinations such as condors, straddles, and strangles as well as various spreads. Options traders need to be aware of the various “Greeks” such as delta, gamma, rho, theta, and vega.

Furthermore, the volatility of the various options on a given underlying can vary dramatically from one strike/exercise price to another. A very deep in-the-money call will have a volatility approaching that of the underlying asset, while a short-dated at-the-money option on the same asset can easily have a volatility of over 1,000% annualized.

Leveraged and inverse products are much simpler. They are available in a small number relative to a reference index and typically have integer multiples like 2 or 3. Their volatility, as pointed out above, is comparable to and often less than the volatility of many common stocks.

The Economic Analysis in the proposing release attempts to draw parallels between options and leveraged products in an unconvincing manner. It states:

Both leveraged/inverse investment products and options are therefore economically equivalent to a dynamically rebalanced leveraged/inverse or inverse leveraged/inverse position in the underlying asset or reference index.<sup>13</sup>

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<sup>12</sup> Brokerage firms do not automatically allow all customers to trade options, but must have a process to approve customers for various levels of option trading. FINRA Rule 2360 requires brokerage firms to deliver disclosure documents and to collect specified information before approving an account for option trading. See also [https://www.sec.gov/oiea/investor-alerts-bulletins/ib\\_openingoptionsaccount.html](https://www.sec.gov/oiea/investor-alerts-bulletins/ib_openingoptionsaccount.html).

<sup>13</sup> Proposing release, page 258.

This is just plain wrong. The faulty logic goes like this: One can replicate an option through a dynamic trading strategy that holds the underlying asset and borrows money, but that requires constant rebalancing.<sup>14</sup> The leveraged/inverse funds, because they are seeking to match the daily return on their underlying index, also have to rebalance daily. Therefore, the proposing release falsely concludes that options are “economically equivalent to a dynamically rebalanced leveraged/inverse or inverse leveraged/inverse position in the underlying asset or reference index.” The erroneous implication is that restrictions on the retail trading of options should be applied to the retail trading of leveraged/inverse products. The fallacious reasoning would say that beer cans and airplanes are “economically equivalent” because they are both made from aluminum. As discussed above, options and leveraged/inverse products are extremely different with regard to complexity, risk level, and time horizon.

Another faulty analogy on page 258 argues that as the holding period or leverage multiple increases for leveraged/inverse products, the possibility for gain or loss also increases just as it does for options.<sup>15</sup> But it also increases for common stocks as well! That is no reason to impose such draconian restrictions on their use.

The Commission should not let the lawyers write the economic analysis, especially lawyers who don’t understand the differences between options and ETFs.<sup>16</sup> Such a demonstrated lack of fundamental understanding of the economic substance of financial products presents a fertile ground for legal challenges and may give the courts further justification to water down Chevron deference even more.<sup>17</sup>

**The proposal’s logic would require BDs and RIAs to make sure investors are capable of understanding all products, not just leveraged/inverse products.**

The logic in the proposal is that, well, some investors get confused by leveraged/inverse products, so we will require broker dealers and investment adviser to approve customers in advance before they can use

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<sup>14</sup> Think of it as a formula for baking a cake in which one has to constantly change the temperature in the oven.

<sup>15</sup> And this is not even technically true for all options. As the holding period increases, an option gets closer and closer to expiration and thus there is less time and less likelihood for the option to make a significant move.

<sup>16</sup> Another glitch in the economic analysis on page 272 is that it assumes “for simplicity” a normal distribution of stock returns in order to calculate the tail probabilities. It is well known that financial distributions are NOT normal, and indeed suffer from excess kurtosis, meaning that the tail risk – the probability of extreme events – is much higher than one normally gets from a “normal” distribution. Nevertheless, their point that VaR doesn’t say much about the frequency or size of tail risk is a valid and extremely important point.

<sup>17</sup> Under the Chevron doctrine (*Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)), the Supreme Court ruled that courts should generally defer to a government agency’s interpretation of a statute as long as it was a permissible construction. In recent years the trend has been to narrow such deference. See <https://www.natlawreview.com/article/supreme-court-places-another-limitation-chevron-deference>

them. The same logic applies to virtually all financial products. Given the lamentably low level of financial literacy in this country, many people are confused by stocks, bonds, IRA accounts, and even basic checking accounts. However, nowhere in our financial laws has Congress put in a lack of confusion requirement. While the Commission has broad power to craft regulations within the intent of the statutes, Congress has never expressed an intent for the Commission to require broker dealers or RIAs to determine that investors are capable of understanding risky financial products. Instead, the entire thrust of our statutes is in the direction of full and fair disclosure. The clearly expressed Congressional intent in the '34 and '40 Acts is to prevent fraudulent practices and ensure full and fair disclosure – not customer approvals.<sup>18</sup>

### **The proposed regulation for investment advisers totally changes the nature of investment advising.**

The proposed rules required the following of investment advisers (with emphasis added):

“An investment adviser may provide this approval if the investment adviser has a reasonable basis for believing that the **client has such knowledge and experience in financial matters** that he or she may reasonably be expected to be capable of evaluating the risks of buying and selling leveraged/inverse investment products.”

People go to investment advisers specifically **because they lack** knowledge and/or experience in financial markets.<sup>19</sup> Thus this proposed regulation would effectively prohibit investment advisers from utilizing these products for many, if not most, of their customers.

Section 206 of the Investment Adviser’s Act clearly enumerates a number of prohibited transactions for investment advisers. These include fraud, manipulation, and self-dealing. Nowhere in Section 206 (or anywhere else) does the statute say that an investment adviser cannot undertake a transaction that the client doesn’t understand. Nor should there be, as investment advisers are often in situations where the ultimate client cannot understand the risks and returns of **any** financial products. For example, the beneficiary may be a minor, or otherwise mentally incompetent.

What is important is that the investment adviser, not the client, understands the product. Alas, nowhere in the Investment Advisers Act does it say that investment advisers actually have to have a good

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<sup>18</sup> The Securities Act of 1933 does recognize various castes of investors such as “accredited” investors and “qualified institutional buyers” (QIBs). Issuers are exempted from various disclosure rules if they are only selling to investors from a particular caste. In other words, our securities laws generally allow the selling of anything to anyone as long as proper disclosure has been made. The privileged castes are presumed to be sophisticated enough (or rich enough to buy sophisticated advice) that they do not need the additional disclosure required of the stuff that gets sold to the great unwashed masses. Note that the current distinctions between the various castes are based on wealth levels, not understanding of financial products.

<sup>19</sup> In addition, some people with experience and knowledge wisely use financial advisers for second opinions or specialized expertise.

understanding of what they are doing. Most of the regulation of RIAs is designed to keep bad actors out of the business, not assure quality advice. There is no education requirement to register as an investment adviser. The required exams such as the three-hour Series 65 require only a basic knowledge of investing and financial products.<sup>20</sup> There is no continuing education requirement for RIAs.<sup>21</sup> Once RIAs pass the required Series exams, they never need to take them again as long as they remain in the industry. Indeed, when the SEC gets around to its rare examinations of RIAs, it does not do effective quality checks on the quality of financial advice, but instead focuses on checking boxes to make sure that the RIAs actually have custody of customer assets and that they have written policies and procedures to document that they have written policies and procedures to follow their written policies and procedures.

### **A better approach is communication, not prescription.**

The SEC can better achieve its goal of investor protection with a principles based approach to make sure that investors can comprehend the risk levels of their investments. The basic principle should be:

An investment company shall reasonably communicate the risks of its products to investors. Such communication should include both graphic and quantitative information at least as prominent as information about performance.

The overall principle behind US financial regulation is to let informed investors make their own decisions. This rule proposal does little to communicate portfolio risk to investors. Indeed, today's required "disclosures" communicate very little information about the risk of a particular product. For sure, there is the parade of horrors in the heavily-lawyered mind-numbing prose in the prospectus, but little quantitative or graphic communication of just how risky a product is.

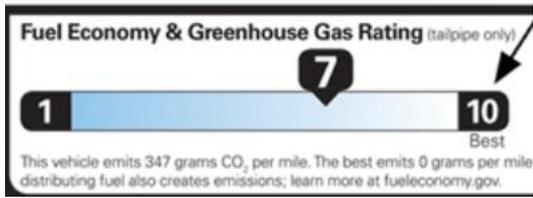
A far better approach to any perceived problems with leveraged/inverse products is to facilitate clear communication to investors. Notice that I say communication, not disclosure. A 456-page prospectus is NOT communication, it is obfuscation. Instead, funds should be required to communicate simple information about the riskiness of their offerings. The VaR should be in the prospectus and any fact sheets or other communication that contains performance information. In addition, funds should be required to show a simple graphic image of the risk of the portfolio.

One possible graphical approach would be similar to the required disclosures of automobile fuel economy and appliance energy efficiency that are proven communication methods. The risk spectrum for all products is shown, with an arrow pointing to the risk of the particular product.

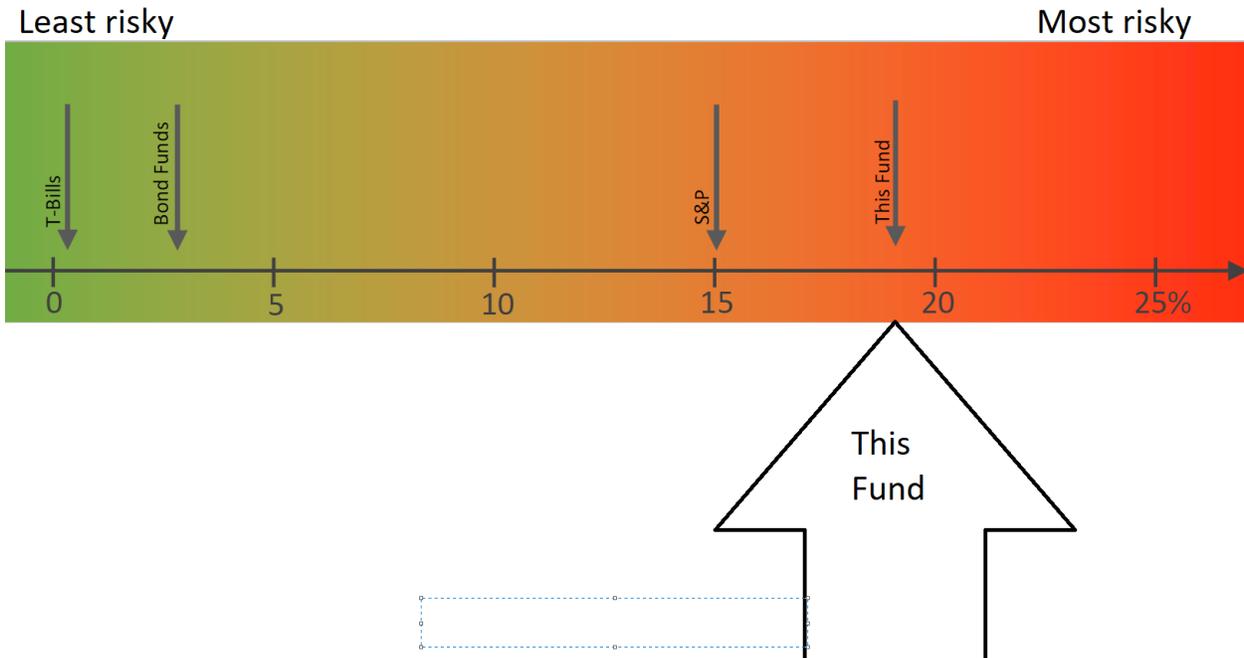
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<sup>20</sup> <https://www.nasaa.org/exams/study-guides/series-65-study-guide/>.

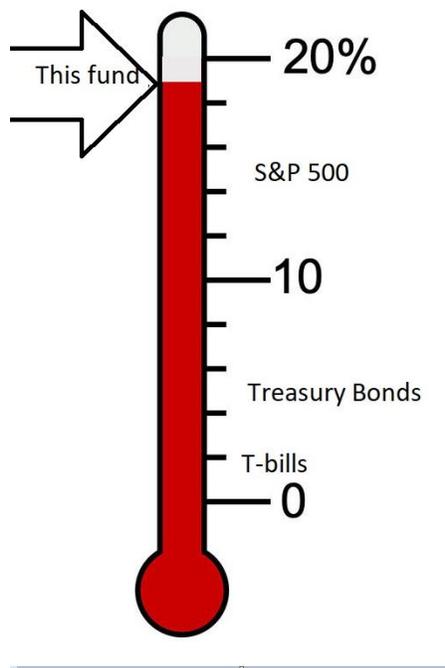
<sup>21</sup> There is a continuing education requirement for those who hold the Certified Financial Planner (CFP®) designation.



One possible embodiment might look like this, with the risks of various asset classes shown along with the risk of the fund in question:



Alternatively, a risk thermometer can get the point across:



**The proposed 150% relative VaR test demonstrates a lack of serious analysis.**

The logic behind the relative 150% VaR test is that it purports to match the impact of the senior security restriction in Section 18 of the Investment Company Act. According to the proposing release, leveraging to the maximum allowed in the Act would lead to a volatility of 150% of the unleveraged portfolio, so the Commission is selecting 150% of some reference index VaR as its relative limit. That is very different.

Note that there is absolutely no discussion, let alone real economic analysis, as to the benefits or costs of this limit. Should the limit, if any, be 125% or 250%? These are not among the alternatives discussed.<sup>22</sup> Likewise, there is no real economic analysis as to why 15% would be the optimal absolute VaR limit for funds that do not identify a relevant benchmark index.<sup>23</sup> A better approach would be to identify the problem being addressed and evaluate various solutions. Yet in all 456 pages, the proposing release never clearly identifies a problem that requires heavy-handed prescriptive regulations.

<sup>22</sup> To be fair, question 98 on page 113 of the proposing release does ask whether the limit should be different. The Commission should have thought about this before putting out the proposal.

<sup>23</sup> The logic appears to be that the 15% limit is about 50% more than the historical VAR of the S&P500. Question 104 asks whether a different number should be used.

### **Backward looking VaR is, well, backward looking.**

One example of the overly prescriptive nature of the proposed rule is that it would require the VaR test to be based on “at least three years of historical data.” It thus requires a backward looking model based on historical data. It is possible to do better. It is well known that option prices are based on estimates of future volatility. It is quite easy to back-out the market based volatilities revealed by option prices. For example, the well-known VIX index of volatility is derived from the market prices of approximately one-month options on the S&P500 index. Forward looking models based on real market prices for volatility should provide much better estimates of VaR than a backward-looking model. The Commission should not be so prescriptive in its approach to the VaR model.<sup>24</sup>

### **The proposed cap on VaR is pro-cyclical and could exacerbate market turmoil.**

By placing a hard cap on the VaR with a short three-day window to get back under the cap if it is exceeded, the rule will force firms to trade during periods of market turmoil and thus exacerbate market volatility. Here is an example: The GoGetter Fund has taken an aggressive long position on futures and is close to its VaR limit. Something big happens, the market drops, and market volatility goes way up, increasing the VaR above the limit. The fund is thus forced to liquidate its positions by selling futures during a time of market panic. Thus, the impact of the proposed rule will be to increase pressure on markets at times when they need support, not panic. Needless to say, the economic analysis does not take this into account. If you must put in a limit, allow there to be more time to get back into compliance if the limit is breached.

### **The proposed VaR limit and required risk management program would not have prevented a meltdown like the LJM Preservation and Growth Fund.**

The proposal is quite prescriptive on how a derivatives risk management program should operate. Do we really need this level of specificity in the rule? Such micro-managing will lull compliance officers and examiners into a “check the box” mentality. If the boxes are checked, the risk management is OK and no further thinking is needed.

Would the proposed rule have prevented the LJM Preservation and Growth meltdown? Probably not, for two reasons. First, as the Commission notes in the proposing release, VaR does not estimate the loss

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<sup>24</sup> It is also possible to back out higher moments such as skewness, kurtosis, and more. See Gormsen and Jensen, Higher Moment Risk, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3069617](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3069617).

from extreme events, only the probability of a loss greater than some amount over a given time period.<sup>25</sup> The VaR estimate could have been within the Commission’s 150% limit and there still could an extreme meltdown due to the extreme nature of the events of February 2018.

For example, using the proposal’s three years of historical data for a VaR estimate, LJM had a daily historical volatility of 0.58% through January 31, 2018, which is about 9.20% annualized.<sup>26</sup> This is less than the historical S&P500 daily volatility over the same time period of 0.76% (12.09% annualized). If one assumes that the basic portfolio strategy did not change much over the previous three years, then a VaR model based on historical data would likely have come up with a daily standard deviation of around 0.58%. Thus, based on a historical estimate the VaR would have been well within the relative VaR test using three years of historical data.

What brought down LJM Preservation and Growth was an extreme event. This was a classic “peso problem” – an investment strategy that seems to work most of the time, but suffers very rare but very extreme losses. Over the previous three years, the standard deviation (sigma) of daily changes in the VIX estimate of market volatility was 8.07% for the three years ending January 31, 2018. The jump of the VIX on February 5, 2018 was 115.6%, a 14.3 sigma event.<sup>27</sup> To get a sense of how rare such an event is with a normal distribution, look at the following table. A 10 standard deviation event would occur approximately once every 524,900,000,000,000,000 years. The age of the universe is estimated to be only 13.8 billion years old, or 13,800,000,000 years. The repeated occurrence of high sigma events in our financial markets is an artifact of the highly non-normal distribution of financial market returns.

**Table 2: Probabilities of High Sigma Events**

<i>k</i>	Probability in any given day	Expected occurrence: once in every
10	7.620e-022 %	5.249e+020 years
15	3.671e-049 %	1.090e+048 years
20	2.754e-087 %	1.453e+086 years
25	3.0570e-136 %	1.309e+135 years

Source: Dowd et al., How Unlucky is 25 Sigma?

<https://arxiv.org/ftp/arxiv/papers/1103/1103.5672.pdf>

<sup>25</sup> From page 271 of the proposing release: “In other words, the proposed VaR tests would not capture the size and relative frequency of losses in the “tail” of the distribution of losses beyond the measured confidence level.”

<sup>26</sup> Daily return data for the LJM Preservation and Growth Fund were obtained from WRDS. The annualization is done here by multiplying the daily standard deviation by the square root of 252, the number of trading days in a typical year.

<sup>27</sup> Using all of the VIX data from 1990 through January 2018, the result is a 17.6 sigma event.

Second, the required stress testing may not predict or prevent events as extreme as a 14-sigma move in an underlying risk factor. The proposed rule calls for stress testing at least weekly “in response to extreme but plausible market changes.” The vague wording of “extreme but plausible” leaves much to interpretation. How extreme should it be? The highest one-day jump in the VIX in September 2008 was 34.5% on September 29, 2008. The February 5, 2018 jump of 115.6% was more than three times the most extreme daily event of September 2008. Even if the stress test revealed serious damage to the portfolio from a rare event, the rule does not require the fund to scale back on risk. Human managers and their boards are likely to ignore stress test results that are based on unlikely events that are perceived to be too implausible. After all, we all hope that September 2008 was a once-in-a-lifetime event.

Thus, it is not clear that the proposed rule would have done any good if it had been enacted earlier. It is highly likely that even with the proposed VaR limit and the proposed risk management requirements in place that the LJM Preservation and Growth Fund would still have melted down.

### **Other Concerns**

#### **The text of the usage of VaR is confusing with respect to the required time horizon.**

The text of the proposed rule defines VaR using a 99% confidence level and a time horizon of 20 trading days, which is approximately one month.<sup>28</sup> However, the backtesting requirement calls for a one-trading day time horizon. Does this mean that funds have to calculate VaR over both daily and monthly horizons? This is confusing.

#### **A multiple could be 0.5 or 1.0, and thus the wording of the leveraged definition needs fixing.**

The proposed rule defines leveraged/inverse vehicle as follows (**with emphasis added**):

*“Leveraged/inverse investment vehicle means a registered investment company (including any separate series thereof), or commodity- or currency-based trust or fund, that seeks, directly or indirectly, to provide investment returns that correspond to the performance of a market index **by a specified multiple**, or to provide investment returns that have an inverse relationship to the performance of a market index, over a predetermined period of time.”*

Note that a multiple need not be an integer greater than one. Indeed, a deleveraged product offering half the return would be caught up in this definition. Even worse, most index funds have a multiple of 1.0 relative to their index. Thus, under this definition every index fund would technically fall under the definition of a leveraged/inverse investment vehicle. Although I favor scrapping this proposal altogether, if the Commission decides it must persist in this madness it must fix this definition to avoid unintentionally requiring every brokerage firm to certify every customer who trades an index fund.

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<sup>28</sup> 18f-4(a)

### **The reverse repo part is spot on.**

The proposal would treat reverse repo transactions as debt for purposes of the §18 capital structure requirements. While I think that the rest of the proposal should be scrapped, the treatment of reverse repo actually makes good sense. Such transactions really are the equivalent of borrowing and should be treated as such.

### **Three cheers for at least looking at what some other jurisdiction do!**

I have often criticized proposed SEC rulemakings on the grounds that they do not consider what other jurisdictions do, which is a general violation of procedural requirements to consider alternative approaches. The United States is not the only jurisdiction that deals with these issues. This proposal does at least mention the EU UCITS rules. While I don't necessarily agree with the VaR limits in UCITS, it shows that the Commission is realizing that we do not have to re-invent the wheel and we can learn from the experience of other countries. It is good to see progress.

### **The legal basis is questionable.**

The Commission's legal argument for the basis of the restrictions on the use of derivatives stems mostly from Section 18 of the Investment Company Act of 1940. Section 18 discusses the *issuance*, not *purchase*, of senior securities by investment companies, but is silent on derivatives. Derivatives such as futures did exist at the time of the passage of the '40 Act.<sup>29</sup> Options are explicitly included in the '40 Act's long list of instruments classified as securities, but futures contracts and swaps are conspicuously absent from the list.<sup>30</sup> Derivatives have likewise existed during the many updates to the '40 Act. Congress was well aware of the existence of derivatives and their interactions with securities as it passed numerous laws regarding commodities trading, including the Commodity Futures Modernization Act of 2001. Congress had numerous opportunities to address the use of futures and swaps by investment companies and chose not to.

Given the extensive and granular definition of security in the '40 Act, and Congress' repeated reluctance to include futures and swaps in the definition, it is not clear that the Commission has the authority to extend Section 18 to the use of futures and swaps. Furthermore, given that Section 18 explicitly refers to

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<sup>29</sup> Indeed, Congress had earlier enacted various laws regulating commodity exchanges, such as the Commodity Exchange Act of 1936. Thus, many of the same legislators who worked on the '40 Act had gained prior experience on the Commodity Exchange Act.

<sup>30</sup> See §2(a)(36) of the Investment Company Act for the definition of security.

the *issuance* or sale of senior securities, it is not clear at all that its limitations would apply to the *purchase* of securities such as options.

The flawed logic apparently driving Commission's approach appears to be that many derivatives such as futures and swaps contain embedded leverage and are therefore are sort of a senior security. The fallacy of this argument is easily demonstrated: Most companies borrow money, and thus most corporate equity securities also contain embedded leverage. The proposal's erroneous logic could thus be used to improperly classify all corporate equity securities as senior securities and place limits on their use.

Alternatively, the Commission could argue that derivatives are risky and therefore it is in the public interest to keep them away from investors who might hurt themselves. Well, so are individual securities (and especially in undiversified portfolios.) Our securities laws do not generally require that we keep risky products away from investors, only that issuers must properly disclose how risky they are.

Whether purchasing a particular derivative is deemed to be the same as issuing a "senior security" under the Act is something that will ultimately be decided by the courts.

Another area of questionable legal authority is the reliance on the SEC's broad authority under §913 of Dodd-Frank to regulate broker-dealer and investment adviser "sales practices." Given that major retail brokers no longer charge commissions for equity trading, it is questionable whether a broker-dealer is actually selling trading in inverse/leveraged products. Indeed, in a zero-commission world, brokers have a strong incentive to discourage investors from trading.<sup>31</sup> Investment advisers are selling advice, and it is quite a stretch to deem the advice they give as a sales practice, especially when there is no additional compensation for them to use a leveraged/inverse product versus any other financial product.

It thus remains to be seen whether the Commission really has the legal basis to promulgate these regulations. My hunch is that is that there won't be a successful legal challenge if the rules make good common sense and aren't constructing too much authority out of whole cloth. Alas, major parts of these proposed rules do not make good common sense, and the Commission is attempting to extend its authority with costly yet mostly useless rules. If the courts don't think the rules make good sense in these days of waning Chevron deference, they may well look for reasons to reject them. The weak statutory basis could provide just such a basis.

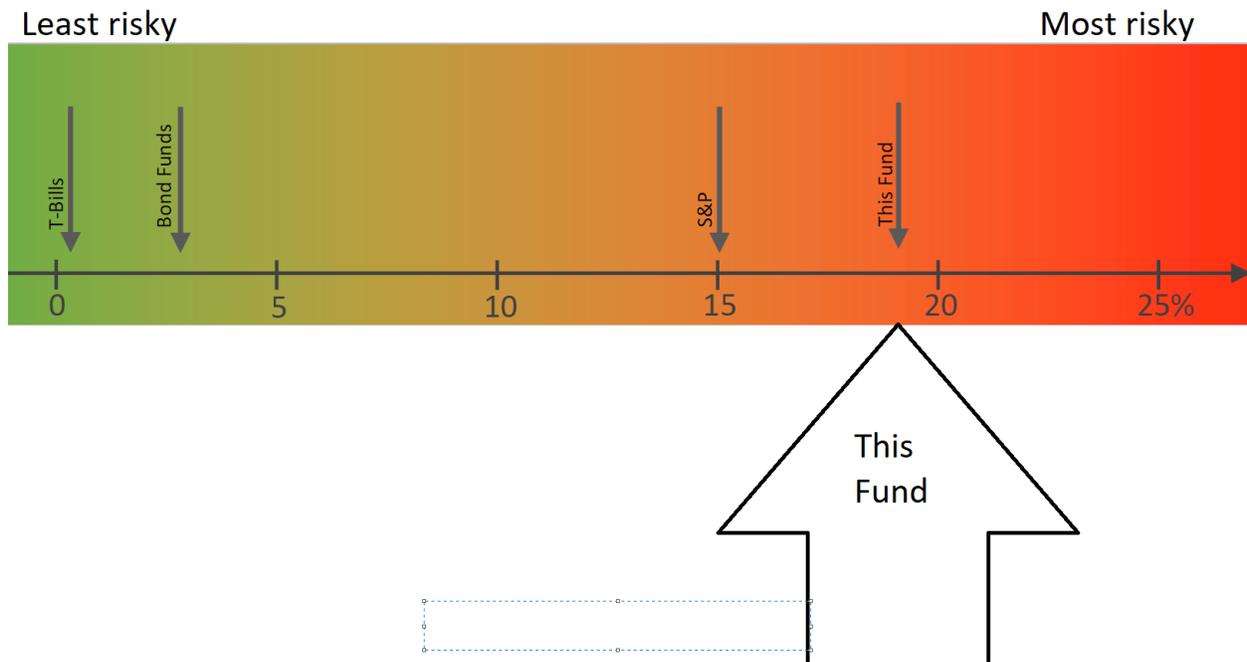
**Summary: Let's go back to the drawing board.**

The proposed rules on the use of derivatives by investment companies and the restrictions on the use of leveraged/inverse products by brokers and investment advisers are ill advised. They will do little to protect investors, yet they would impose a large regulatory costs that will be paid for by investors. The Commission should go back to the drawing board and come up with a more principles-based approach to

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<sup>31</sup> It appears that brokers have shifted to a business model similar to commercial banking: Customers deposit cash and securities, and the broker lends them out while trying to upsell other fee-generating business. Retail stock trading is a free service, much like on-line bill paying from bank accounts.

the use of derivatives by investment companies. It would be far better for the Commission to work on better means of communicating the risks of investment products to investors, perhaps through simple yet effective graphics:



Respectfully submitted,

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