INTERVIEW

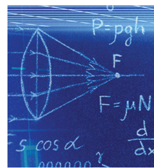
Researcher, Portfolio Manager, And Trader

A Conversation With Dennis Tilley

Dennis Tilley has traded securities for over 25 years. Since 1999, Tilley has been Director of Research and Chief Investment Officer at Merriman Wealth Management LLC, and is currently Director of Alternative Investments. Merriman is a Seattle-based firm with over $3 billion in assets under management. Tilley has extensive experience in asset class trading, portfolio management research, design, and implementation. He has a blog called "Asset Class Trading." Since 2001, he has also served as a portfolio manager engaged in tactical asset allocation trading. Before joining Merriman, Tilley was a nationally recognized expert in the field of electric propulsion. He holds master's degrees in aerospace engineering from the University of Washington and Princeton University.

STOCKS & COMMODITIES Contributing Writer and ETF Columnist Leslie N. Masonson spoke with Dennis Tilley on January 25, 2021 to discuss his trading career and portfolio management approach.

Discretion can be a highly adaptable advantage as long as you diligently keep track of results.



Dennis, with your impressive aerospace engineering background, how and why did you end up in the investment business after working 11 years as a rocket scientist?

It's a story of turning a hobby into a career, with a huge dose of good luck. In the late 1990s I was becoming highly interested in trading my own portfolio and testing all sorts of trading systems. In the meantime, I was extremely busy working as a rocket scientist, where I was an expert in a field that I loved. In the rocket science business, I used to publish papers, do R&D, and make presentations at national conferences. In late 1999, I was working on a new spacecraft propulsion system, when all of a sudden the effort kind of died as the telecom industry moved away from satellite constellations. The lull in work, and the late 1990s bull market, got me thinking about potentially changing careers. I wanted to stay in Seattle, so I looked around to see who in Seattle was in the money management business. Paul Merriman's name came up, so I gave him a call and after many interviews back and forth, I decided to change careers and work for Merriman. It was a nicely fortuitous win-win for both of us.

What experience did you have in investing or trading before joining Merriman?

I was doing quite a bit of my own research. When I finished graduate school back in 1991, I paid off my credit cards, and then started to have some money to invest. A friend of mine gave me a book on investing in mutual funds by Sheldon Jacobs. I just absorbed that book cover to cover. What most interested me were the mutual fund price charts in the back of the book. That really stirred my interest in doing trading-related research. My own research, part-time as a hobby, fed into my career change with Merriman.

How did you educate yourself regarding the market, technical analysis, and investing principles?

I read tons of books, worked with pricing data, and played around. One book I read was Martin Pring's *Technical Analysis Explained*. On the opposite side of the spectrum, I was also very impressed with Jack Bogle's books on mutual funds, which were more about investing than trading. I also began trading real-time for my own account and tracked results right away.

In your early years at Merriman, did you work with Paul Merriman on researching and backtesting market timing approaches and portfolios?

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Yes. We did a lot of market timing research when I first joined Merriman—that is, Paul and I, along with his son Jeff Merriman. We were the firm's first investment committee.

What were the results of your research as far as the validity and benefit of using a market-timing approach?

When I first started at Merriman, I was so excited to be working on this sort of research full-time rather than trying to squeeze in hours on the weekends and evenings. The first thing you think of is finding the "best trend-following models" or the "optimal parameters" for various systems. We performed a lot of work trying to determine if there was such a thing as an optimum trend-following model. We also did similar work with momentum ranking models, that is, looking at ranking funds by recent performance and holding the top-performing funds while avoiding the lowest-ranked funds. The conclusion of this work is that there is no best trend-following system. Once you control for risk and the "stale pricing" effect, no model is any better than any other. You can change the trade frequency without impacting performance by varying system parameters, but there is no logical way to say that one model will provide superior risk-adjusted returns in the future.

But do any of the models do better than buy & hold with less risk?

For stocks and bonds, the answer is no. Trend-following will always reduce returns and reduce volatility over the long run, without much improvement in the Sharpe ratio. Now, if you have a 10-year period like 2000–2009, which saw two major bear markets, you'll find that, yes, trend-following will outperform buy & hold.

But the last ten years have been a secular bull market for US equities, where cyclical bear markets have been shallow and brief. During the last ten years, trend-following has greatly underperformed buy & hold with a lower Sharpe ratio. Over a long time period (30+ years), trend-following will provide a risk-adjusted return similar to buy & hold. Anyone who shows superior trend-following backtested returns on pre-1985 price data is not properly accounting for stale pricing and the high transaction costs associated with trading during earlier decades.

In the September 1998 issue of this magazine, you contributed an article titled "Moving Averages With Support And Resistance." What was your conclusion on combining those parameters?

Writing that article kicked off my thinking about potentially working in the field of investing. I also started working at Merriman about a year later in November 1999 near the peak of the internet bubble. It's interesting that I've come full circle now being interviewed by your magazine 20 years later, during what seems to me another highly irrational tech/growth stock bubble.

To answer your question, I think the SMARS system is still useful in reducing trade frequency. It can give you similar performance to a moving average system but at much reduced trading frequency. If trades are costly, then the system can add value. Nowadays, ETF trading is cheaper than it's ever been.

What is your overall view on the controversy of buy & hold versus market timing? Where do you come out on that?

For our hedge fund, I spend the majority of my research time identifying trades and trading approaches that deliver alpha to the portfolio.

As you know, at Merriman we manage both types of portfolios. We have clients in buy & hold strategies and clients in rules-based mechanical trend-following market timing strategies. I don't think there's any controversy. We like both programs.

The first thing a successful investor does is find the investment approach that provides the best psychological fit. If a client is someone who watches the market every day and is at high risk of selling their equities during a bear market, then trend-following is a fine investment approach for them. If a client is someone who doesn't pay attention to the market and is not at risk of selling stocks during bear markets, then buy & hold can work best for them.

It doesn't make sense to shoehorn a client into a buy & hold strategy with low equity exposure (to help them survive a bear market), when we can put them into a trend-following strategy and they will ultimately have a higher average equity exposure (and thus higher returns) over a market cycle.

I also want to emphasize that at Merriman, we use trend-following as our primary market timing approach. There are all sorts of other models that incorporate non-price information, such as what the Fed is doing, valuations, or market sentiment. We've done lots of testing on those models, many of which were written about in this magazine. We find that, ultimately, in real-time, they

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The last ten years have been a secular bull market for US equities, where cyclical bear markets have been shallow and brief.

don't add value. The complicated, multifactor timing models are no better than trend-following, and often, they are worse.

Trend-following also fits well with our clients' psyche. When the market is going down, no matter what the reason, we are shifting risk positions into cash. Trend-following is likely to have client accounts completely in cash during a devastating bear market, and that is very comforting. By the way, many of our clients use a combination of buy & hold and trend-following, which is what I do for myself personally.

Tell us about your responsibilities working at Merriman for 21 years.

Essentially, I was responsible for all our investment programs at Merriman, including research, design, improvement, and implementation. I had a few titles along the way including Director of Research, Director of Alternative Investments, and Chief Investment Officer. Our buy & hold program is called MarketWise and our trend-following program is called TrendWise. Both programs have long track records going back 25+ years.

A few years ago, I officially transferred those responsibilities to Kristi de Grys (our current CIO) who is also a former rocket scientist. She is now my boss, and she's brilliant. My primary responsibility now is managing our hedge fund, which has also been around since 1995. I have to say that managing this hedge fund is what I enjoy the most at Merriman.

What is your typical portfolio turnover in the MarketWise and TrendWise portfolios, approximately?

For Trendwise, our models trade about 1–2 roundtrips a year. Turnover is 100–200% in TrendWise. Some years the turnover is less and other years it's more. For MarketWise, the turnover is much lower. We take a 30-year view in designing the MarketWise program. We think about long-term risk premiums rather than choosing what asset classes we think will outperform in the future. Pragmatically, it's an efficient market view in portfolio design. But changes are made over time, and there's tax-loss harvesting, so turnover is probably something like 10–20%. We also tilt our equity portfolios to value, small-cap, and high-profitability companies. These portfolios have about a 20% turnover with respect to the underlying equity holdings.

Do you purchase ETFs in any of these portfolios?

We definitely use ETFs in TrendWise and in our hedge fund. We are also starting to use more ETFs in MarketWise because of their tax advantages and because our preferred equity asset managers Avantis and Dimensional Fund Advisors are joining the ETF ranks.

What type of research do you perform to improve these strategies over time, if any, or do you feel your current strategies are solid and aren't going to change very much?

We are always looking to improve our programs over time. For MarketWise, the focus is to develop personalized custom portfolios to provide the best forward-looking, after-tax, after-fee, risk-adjusted returns. The process involves sorting through all the new investment product that comes out every year. Every day I get emails and phone calls from vendors, of which I screen out 99% immediately. I don't even have time to respond to them. Occasionally, there's a new strategy or approach that looks interesting. With these few ideas, we perform extensive research and due diligence to determine if it can lead to a portfolio change. An example of such an idea might be the evaluation of a new alternative asset class such as reinsurance, direct lending, or commodities.

In TrendWise we don't spend time optimizing timing systems. We still use the same trend-following models that were used 20 years ago. There's not much to be gained by fiddling with parameters to find a performance improvement. Yet, we can still search for improvements, such as reduced trading costs or introducing a new asset class into the mix.

Can you tell us a little about your hedge fund strategy?

The hedge fund strategy was started by Paul and Jeff Merriman in 1995. I took over management of it in January 2001. I basically went to Jeff and told him that I thought I could do a great job managing the portfolio. He agreed, and that's how I got started as a hedge fund manager.

The core discipline of the hedge fund is essentially TrendWise with leverage. The fund is highly diversified with varied exposure to stocks, bonds, commodities, and currencies. We have an equity benchmark, and of course the goal is to beat that benchmark over time.

Implementing a leveraged equity trend-following approach with ETFs and a margin account is relatively

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straightforward. Expected returns over the long term are about 1–2% higher than buy & hold, but at about 140% of the volatility. We aim to do better than that return profile—enhancing returns and reducing volatility to about 100% of benchmark volatility.

To do this, you need some sort of special sauce or alpha. For our hedge fund, I spend the majority of my research time identifying trades and trading approaches that deliver alpha to the portfolio. Many of the approaches we use involve discretionary decision-making. Our hedge fund is the only program we offer that uses manager discretion. Discretion can be a highly adaptable advantage as long as you diligently keep track of results.

How do you determine when to enter or exit a position?

We enter trades to buy securities or asset classes when we expect it will outperform our benchmark. For instance, we like to hold asset classes that are experiencing heavy inflows from price-insensitive buyers. We like to avoid asset classes facing outflows. We exit trades when the trade is not working (we were wrong with our assessment) or if the trading edge is no longer a tailwind.

Of course, the trend-following overlay is there all the time. When risk assets are selling off, no matter how strongly I feel about a trade, we sell when the mechanical trend-following models trigger sell signals. That's our core investment discipline.

Most of our trading edges involve putting ourselves in the shoes of other market participants and making educated guesses about what they are buying and selling and why. For instance, investment advisors generally sell their losers to capture tax losses near the end of the year. This sort of selling can push prices below where an asset class should be trading, and usually we see prices recover by the end of January.

Any motivated buying or selling events, where the actions are being driven by non-investing reasons, attract our attention. The shift to socially responsible investing has perhaps pushed MLP prices too low. On the flip side, a short squeeze such as the recent GameStop price spike would be investigated for a possible short trade.

At Merriman, we use trend-following as our primary market timing approach.

I'm also attracted to any trade or trading pair that is uncorrelated with stocks. Even if the trade has a lower return potential than our equity holdings, adding such a trade can improve portfolio risk-adjusted returns. We've traded municipal bond ETFs and closed-end funds at various times throughout the years.

What type of technical indicators do you use in managing the hedge fund? And how do you use them?

As I mentioned earlier, we have a mechanical trend-following overlay on essentially all our holdings. But I also look at charts all the time. I think any trader should be able to quickly look at a chart and know whether the price is in an uptrend, downtrend, or sideways pattern on any timescale. A peak-valley assessment is simple and straightforward: Is the most recent peak above the previous peak? Is the latest valley above the previous valley? None of this is predictive, but a picture is worth a thousand calculations in telling you what is happening with the market action.

I also like using a relative strength line of the price action versus a benchmark, which provides a quick picture of whether a security is beating its benchmark. I don't use any oscillators or other mathematical price derivatives. I have never found them to be useful in providing new information.

So which do you find to be more difficult: a buying or selling decision?

This is a curious question. I'm pretty level-headed about trading. I don't usually struggle with either buy or sell orders. I've made tens of thousands of trades in my career on all sorts of timescales. If I put a trade on, and it's not working, it doesn't bother me to just get out and say, "Okay, I was wrong" and move on to the next trade.

Occasionally, I can tell I'm psychologically having issues buying a security that has already had a great run. It never matters what the purchase price is. If there's a current trading edge tailwind, then it's a buy. If I bought the security near the beginning of the run, I have no trouble holding. But if I missed the move, I sometimes struggle with the buy. Owning or buying bitcoin these days could easily fall into this quandary.

Do you subscribe to any outside services, such as Market Smith, DataTrek, Ned Davis Research, CFRA, FactSet, or others, for their input? If so, which ones do you find the most useful?

We use Ned Davis Research. We've been subscribers for a couple of decades. I really love the service. I use it more for information and charts rather than for trade ideas, but I'm always interested in what they have to say on the trading side. Morningstar

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is another tool we use constantly. We still get our end-of-day dividend-adjusted price data from Investors FastTrack, and I use Refinitiv Eikon for real-time prices and charts.

What software and trading platforms do you use for your trading and testing? Or did you develop your own?

We use Microsoft Excel for all of our trading systems and research. Just give me the data, and we'll build the models in Excel.

For trading, we use the various platforms associated with brokerages Charles Schwab, Interactive Brokers, and Fidelity.

What investment mistakes do you try to avoid as a portfolio manager and individual investor?

For an average investor, I think the biggest mistake is chasing performance. The amateur investor is attracted to what has worked over the past 3, 5 and 10 years. Even for institutional investors, portfolio changes naturally have a bit of performance chasing or capitulation in them. I'm often attracted to the asset classes that have the worst ten-year performance, at least as a starting point for consideration.

For me, I just try to slowly get better over time and learn lessons. When I make a mistake, I try to learn from it and avoid making that same mistake again. The feedback on investing can be very long, even decades, so I think reflecting on the past over multiple time periods is needed to get better.

As far as young analysts or portfolio managers are concerned, I think the primary mistake they make is to believe the numbers too much. Charlie Munger, Warren Buffett's sidekick, has a quote that I've always liked: "People calculate too much and think too little." I think young folks coming out of school, and I was the same way, want to start calculating and get the spreadsheets going, but ultimately they end up with the wrong conclusions because they haven't asked the right questions or made an assessment of the uncertainty associated with the calculated result. Experience certainly helps, but some people have a clear knack for doing excellent research, and many do not.

Also, it's easy to come up with all sorts of rational and logical explanations of why something in the financial markets is happening, but that doesn't mean it's true. Finding the true causes takes lots of skill and great judgment. I have a great track record, but I still make mistakes. Quickly and humbly owning up to those mistakes leads to better performance over time.

What changes in the markets have you observed since 1999, as far as investment opportunities, volatility, regulations, and client knowledge?

One change is the growth of ETFs and indexing. I used to feel these megatrends had no impact on the market, but I'm now wondering if the lack of active portfolio managers is starting to impact market pricing. Index funds and growth-tilted ETFs do not sell a stock no matter what the price is. If, say, TSLA is owned by zealot retail investors and index funds, who's going to sell the stock? For that reason, I could see TSLA remaining at an excessive valuation for many years, much like the few closed-end funds that trade at 50% premiums for years, even though it seems so illogical.

Another change was the explosion of hedge funds during the 2000 to 2010 period where assets managed went up by a factor of 10. When too many portfolio managers are doing the same thing in the financial markets, it stops working for everybody. For us, we had to modify how we managed our hedge fund to account for that. One example was that we deemphasized the use of momentum to select asset classes because it's too easy to implement with ETFs nowadays.

You have a blog called "Asset Class Trading." What is the purpose of that blog?

The purpose of my blog is to help me get "next-level" better in my trading and investing. It's all about the mastery process. Writing down your logic, especially for everyone to see, can help greatly with clarifying thoughts about what works in trading and why. Writing is such a critical part of doing good research.

My intention is to have each blog entry be as timeless as possible, so that someone can read them even 5 to 10 years from now and hopefully learn and get better.

It has been a year since my last entry, mostly because of all the market chaos in 2020, but I hope over time to keep writing entries as I learn. Many of the trading edges used in our hedge fund are discussed in this blog.

Writing is not the only part of the trading/investing mastery process. For me, the lifelong mastery process includes keeping yearly notebooks going back 25 years to record my thinking at the time. I record my rationale for every investment and large allocation change. I carefully track

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my personal portfolio performance versus a Vanguard portfolio benchmark. I perform a lessons-learned process every year, and occasionally over longer timeframes. I read a lot of history and I read any book written by highly successful traders and investors. You need to be obsessed about the whole process to compete in this business.

Where can we find that blog?

It's at www.assetclasstrading.com.

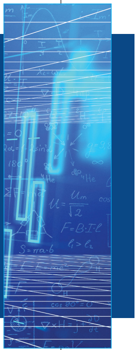
You've been following the markets for over 20 years. What are three key lessons you've learned?

I think one lesson is that the markets are always changing. You must constantly adapt, especially if the goal is to add value over time. Even when I'm happy with my current portfolio, I'm always trying to figure out the next thing. When you see too many people using the methods you're using, or if new products are being introduced to exploit a market effect you've been working with, then it's time to move on and find new trading edges.

Another lesson I'm working on, after reflecting on the past ten years, is that no innovation or idea in finance, no matter how well thought out and academically founded, will work if too many people adopt the same view. Historically, small-cap value stocks have outperformed the market by 3–4% per year. The rationale is that these stocks are riskier companies, more likely to go out of business than S&P 500 companies. However, not everyone can buy small-cap value (SCV) stocks to improve returns. SCV stocks would become too expensive and large-cap stocks too cheap, and future returns would disappoint the SCV investors.

I think this is in part what happened to investors buying into smart beta ETFs ten years ago. The success of value investing up to 2007 led pension funds and advisory firms to build enormous exposure to smart-beta products. The same has occurred with hedge funds and CTAs over the past decade, but that was much more predictable, because these strategies are inherently capacity-constrained.

I think any trader should be able to quickly look at a chart and know whether the price is in an uptrend, downtrend, or sideways pattern on any timescale.



If there is portfolio groupthink, the groupthink will disappoint for an extended duration that is much longer than most investors' patience. Another example is the "stocks for the long run" mantra, which is usually correct, but became too popular in 1929 and 1999.

The third lesson is to fully engage in the mastery process, which I talked about already.

Do you plan on eventually writing a book about your investment experience and observations for the benefit of investors?

I'd like to. I always wanted to write a book about something. Again, writing clarifies thoughts. My colleagues like to joke that if the book was ever written, it would only sell a dozen copies because my book would likely be very technical. I would love to write a trading/investing book that would be timeless in the sense that the concepts in it would have the potential to work 50 years from now. Most trading and investing books don't meet those criteria.

Right. What type of research ideas are you working on for 2021? And are many of them suggested by your firm's financial advisors?

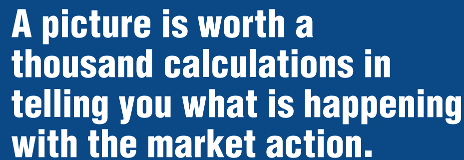
Yes, we definitely get ideas from our advisors. We survey them periodically to get their feedback on Merriman research department priorities. At this moment in time here in early 2021, for MarketWise, we are struggling with the idea that treasuries and municipal bonds will provide returns that are less than inflation for the next 10 to 15 years. I feel strongly that the Fed will keep short interest rates low and maybe even cap the 10-year yield at a rate that's below inflation.

In such an environment where bonds provide a negative real return, we need to find alternatives to bonds. By the way, extended periods of negative real interest rates have occurred throughout history in many countries. The last 40 years are a bit of an anomaly with respect to government bonds producing real returns of 2–3% per year.

In such an environment, stores of value like gold, bitcoin, and collectibles are one potential solution. Another possibility is to replace bonds with equity trend-following.

How do you go about hiring and training research and portfolio managers?

If an organization is large and prestigious, it will tend to hire a bunch of candidates, all super smart and qualified, and then weed out the ones who don't work out. We are a small firm so for us, hiring talent is much more difficult. Our hiring process is extensive, and after hiring, we invest an enormous amount of time training new research talent. I think with respect to doing great research, some people have a knack for it, but



it's hard to know ahead of time who will succeed. Before graduate school, I was very book smart, but I didn't know how to do research. After some painful lessons, it was basically a eureka moment for me when I finally figured it out.

I had a chance to ask Howard Marks that question. He's a billionaire value investor with an abundant talent pool to tap into. And even so, he still indicated that people just seem to be born with a knack for this sort of judgment. He used the basketball analogy that "you can't teach height."

I will say that we are always looking for talented individuals to join our research department and hedge fund. Perhaps the resurgent interest in stock trading during this current stock market bubble will inspire a few more career changes, just like it did for me 20 years ago.

Thank you, Dennis, for sharing some of your expertise and insights with us. We greatly appreciate it and we wish you good luck and much success in the future.

Leslie N. Masonson is president of Cash Management Resources, a financial consulting firm that focuses on ETF strategies. He is an active ETF trader, and the author of Buy—Don't Hold: Investing With ETFs Using Relative Strength To Increase Returns With Less Risk*; and* All About Market Timing*, as well as* Day Trading On The Edge. *He writes a subscription-based monthly blog. For more information, he can be reached at lesmasonson@yahoo.com.*

Further reading

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