The Tactical Model Report

a Retirement Collaborative LLC Report

Dauphin County PA Deferred Compensation Plan
Quarterly Investment Report
2023 Q1

   

Asset Class	2022 Q4	2023 Q1	Action
Money Market / Short-Term Bond			Decrease Exposure
Bonds			Increase Exposure
U.S. Stocks			Increase Exposure
International Stocks			No Changes
Real Estate			No Changes
Materials & Natural Resources			Increase Exposure

This report contains the 2023 Q1 quarterly allocations for your retirement plan's tactical models. **As of this quarterly review, the U.S. equity trend indicator was negative, the international trend indicator was positive, and the Balance of Strength Signal was negative. The Bond Bull-Bear Indicator remains negative.**

Last year was an epically bad year in the financial markets. The S&P 500 index was down -18% including dividends. This ranks in the 5th percentile of all annual returns since 1962. The U.S. stock market traded higher on just 43% of the days in 2022, the second worst year since WWII (after 1974). The Nasdaq 100 was down over -30%, which is its worst year of underperformance since 2002. Typically, when stocks are down like this bonds are doing relatively well; however, this did not occur last year. Both stocks and bonds were down. The U.S. Treasury 10-year notes were down -16%, the worst return on record. The U.S. Aggregate Bond Index was down over -13%. 2022 will be one for the record books.

Looking at 2023, we anticipate a volatile year for the stock market. We think it is likely that there will be a 20% draw down in the S&P 500 index sometime during year, but if the Federal Reserve Bank would cut short-term rates in the third or fourth quarter, we think there is a good chance that the stock market could end slightly positive. That is our optimistic take. Looking at a negative take, should the Fed continue to aggressively hike rates and/or keep rates higher than expected, then we should see negative ramifications in the financial markets and economy. Also, if the war in Ukraine intensifies and pulls NATO forces into a declared world war, then there will likely be additional negative outcomes for the financial markets let alone the human toll of war.

On the flip side, we are feeling more positive on the bond market. The worse of the bond yield increases should be over. There should be some minor increases, especially on the short end should the Fed continue to raise the Fed Funds Rate; however, we do not anticipate the dramatic increases to yields on intermediate and long-term bonds rates like we saw in 2022. Once rates stabilize, bond owners will benefit from higher yields and if bond yields fall, they could benefit from capital appreciation of the bond portfolio.

Lastly, low risk assets, such as money markets, savings account, and Treasury Bills are actually paying a noticeable rate. Around this time last year, the Alerus money market fund was paying tenths of a percent, whereas now it is paying 3.8%. Quite a change. Still below inflation, but not as much as last year.

Starting in the second quarter, we will be adjusting the indicators we use in the tactical models and moving from a quarterly to a monthly review. This should allow us to fine tune our exposure to High Risk Category investments with the goal of making more money over a full market cycle than a typical buy-and-hold portfolio with less volatility. More information will come in the second quarter report.

Minor changes to the fund allocations will be made in January. All models will be increasing their stock and bond allocations; however, they are not that far from their minimum exposures. The new allocations are listed on the model pages.

If you are uncomfortable with your selected model maintaining its currently low High Risk Category exposure, we recommend that you look at other plan investment options or a more aggressive tactical model. You can also contact your investment advisor representative, Stephen Hetrick at Hetrick@retirementc.com or 717-545-1447 to discuss your concerns and alternative options. Feel free to jump right to the model pages or first read our model and market commentary. As always, if you have questions regarding these models, your deferred compensation account, or retirement planning; do not hesitate to contact us.

Market Environment

U.S. Markets: Most of the major U.S. stock indexes managed meaningful recoveries in the fourth quarter. The Dow rallied the most, rebounding 15.4%, but the NASDAQ composite ended the quarter down -1%. Large caps added 7.1%, while mid-caps rose 10.3% and small caps finished the quarter up 5.8%. Likewise, international equities finished the fourth quarter on solid footing. Canada rose 5.1%, while the UK rebounded 8.1%. France and Germany rallied 12.3% and 14.9%, respectively, while China added 2.1%. Japan finished up 0.6%. By grouping, developed markets rallied 17.7%, while emerging markets finished up 10.3%. Commodities, too, enjoyed a positive fourth quarter. Silver surged 26.3% while Gold added 9.2%. Crude rose 1% during the quarter, while copper jumped 11.7%.

Despite the fourth quarter rally, U.S. markets were down across the board for the year. The Dow finished down -8.8%--outperforming the NASDAQ composite by a wide margin, which finished 2022 down -33.1%. By market cap, large caps gave up -19.4%, mid-caps pulled back -14.5%, and the Russell 2000 finished the year down -21.6%. International markets were also down for the year with the notable exception of the U.K. Canada gave up -8.7%, while the UK's FTSE closed out 2022 up 0.9%. France ended the year down -9.5% along with Germany which gave up -12.3%. China finished the year down -15.1%. Japan closed the year down -9.4%. By grouping, developed markets ended 2022 down -14.4% and emerging markets finished the year down -20.6%. Major commodities finished the year mixed. Crude oil closed the year up 6.7%, followed by Silver up 3.0% but gold finished essentially flat down just -0.1%. The industrial metal Copper performed the worst, finishing the year down -14.6%.

U.S. Economic News: The number of Americans filing first-time unemployment rose slightly more than expected last week but remained near historically low levels. The Labor Department reported initial jobless claims rose by 9,000 to 225,000. Economists had expected claims would rise by just 7,000. Meanwhile, the number of people already collecting benefits, known as 'continuing claims', rose by 41,000 to 1.71 million. That is the highest level since last February. Still, analysts don't see enough cooling in the labor market to stop the

Federal Reserve from continuing to raise interest rates. The Fed projects the unemployment rate to rise to 4.6% in 2023 from 3.7% in November, but it hasn't budged so far. Thomas Simons, economist at Jefferies wrote in a note, "The labor market remains very tight. We expect it will soften eventually, but it is starting from a very significant position of strength and it will take a little while longer for the cracks to form."

Home prices fell for a fourth consecutive month as higher mortgage rates continued to weigh on the nation's homebuyers. S&P reported its Case-Shiller 20-city home price index fell 0.5% in October bringing the annual rate of price increase down to 8.6% from 10.4% in the previous month. Meanwhile, a broader measure of home prices, the national index, fell a seasonally adjusted 0.3% in October. In the report, Miami, Tampa, and Charlotte reported the highest year-over-year gains among the 20 cities. San Francisco and Seattle reported the worst annual gains, which have seen home prices fall by more than 10% from May. Craig J. Lazarra, managing director at S&P doesn't anticipate an improvement in the real estate market anytime soon. Lazarra wrote, "As the Federal Reserve continues to move interest rates higher, mortgage financing continues to be a headwind for home prices. Given the continuing prospects for a challenging macroeconomic environment, prices may well continue to weaken," he added.

The weakness in housing doesn't appear likely to improve anytime soon, according to the National Association of Realtors (NAR). The NAR reported pending home sales, transactions in which a contract has been signed but not yet closed, fell -4% in November to its lowest level since April of 2020. Analysts had expected pending home sales to drop just -1.8%. From the same time last year, pending home sales have plunged -37.8%. Contract signings fell in all regions across the country. Pending home sales fell the most in the Northeast—down -7.9%, followed by the Midwest, the South and the West. Pending home sales have fallen in all but one month in 2022. George Ratiu, senior economist at Realtor.com summed up the report succinctly, "Housing markets have entered a winter freeze."

Business activity in the 'Windy City' rebounded last month from lows not seen since the depths of the Great Financial Crisis. The Chicago Business Barometer rebounded to 44.9 in December from 37.2 in the prior month. Economists had expected a reading of 40.5. The manufacturing sector has been suffering from slow demand due to a weak global economy. Richard Moody, chief economist at Regions Financial Corp. wrote in a note to clients, "The next several months will be challenging for the manufacturing sector." The Chicago Business Barometer report is the last of the regional manufacturing surveys before the national Institute for Supply Management data is released next week.

International Economic News: Statistics Canada reported Canadian job openings were down in October to their lowest level since late summer of 2021. Job vacancies fell by 44,300 to 871,300 in the latest report. Vacancies in the construction industry led the way with a 20.4% drop month-over-month. Statistics Canada says no sector recorded a statistically significant increase in its number of unfilled positions, although vacancies remained near record levels in health care and social assistance.

Across the Atlantic, U.K. Prime Minister Rishi Sunak blamed Covid and the war in Ukraine for what he described as a "tough" 12 months and warned that the country's problems won't disappear in 2023. In a video address Sunak stated, "Just as we recovered from an unprecedented global pandemic, Russia launched a barbaric and illegal invasion across Ukraine. This has had a profound economic impact around the world, which the UK is not immune to." Keir Starmer, leader of the United Kingdom's Labor party stated 2023 would be "a new chapter for Britain". During 2023, Starmer said, Labor would "set out the case for change", including more equal economic growth, a green jobs revolution and what he called "a completely new way of doing politics".

Germany, Europe's economic powerhouse, could become a 'bankrupt state' according to the Vice President of Germany's federal parliament, the Bundestag. Wolfgang Kubicki said Germany could soon become a dysfunctional, bankrupt state if it stays on the same path it is currently on and fails to deal with the ongoing energy crisis in light of its imbalanced financial policies. According to the Parliament's deputy speaker, the extra money Germany is currently planning to spend on energy imports from around the world outside of Russia would be withdrawn from other areas, as the surplus can be "neither printed on a money printing machine nor covered by taxpayers." According to the Ifo Institute for Economic Research, the ongoing energy crisis as a result of the war in Ukraine is “wreaking havoc” on the German economy and they project it could lead to a -0.3% drop in GDP next year.

In Asia, manufacturing activity in China contracted further in November as the government enacted strict COVID 19-related curbs. Industrial profits fell -3.6% year-to-date through November, down from -3.0% in October, China’s National Bureau of Statistics reported. Zhu Hong, a senior NBS statistician, highlighted a rebound in COVID outbreaks and lackluster demand in November that curbed industrial production and placed increasing pressure on Chinese businesses. Analysts have noted China’s economy has been weighed down by anti-virus curbs in big manufacturing hubs such as Guangzhou and Zhengzhou, a protracted property crisis, and slowing exports.

Japan's government will make raising wages a top priority in its economic policy next year, Deputy Chief Cabinet Secretary Seiji Kihara said in an interview this week. "The biggest challenge for Japan's economy is a lack of wage growth. Unless wages rise, consumption won't pick up and companies won't increase investment," Kihara said. Kihara added that while companies ultimately decide how much they will pay, the government can achieve higher wages through tax incentives. The remarks echo those of Bank of Japan (BOJ) Governor Haruhiko Kuroda, who has stressed that achieving higher wages would be crucial for the economy to sustainably achieve its 2% inflation target, driven by strong domestic demand. Prime Minister Fumio Kishida's administration has seen approval ratings plunge due in part to worries over the rising cost of living.

(**Sources:** All index- and returns-data from Yahoo Finance; news from Reuters, Barron’s, Wall St. Journal, Bloomberg.com, ft.com, guggenheimpartners.com, zerohedge.com, ritholtz.com, markit.com, financialpost.com, Eurostat, 0020Statistics Canada, Yahoo! Finance, stocksandnews.com, marketwatch.com, wantchinatimes.com, BBC, 361capital.com, pensionpartners.com, cnbc.com, Up

Equity and Bond Indicator Status

U.S. Equity Trend Indicator:	**Downtrend**
INTL Equity Trend Indicator:	**Uptrend**
Balance of Strength Signal	**Negative**
U.S. Bond Bull-Bear Indicator:	**Cyclical Bear Market**

U.S. Stocks

Long-Term Cycle:	**Secular Bear Market**
Intermediate Cycle:	**Cyclical Bear Market**
Market Trend:	**Downtrend**

International Stocks

Long-Term Cycle:	**Secular Bear Market**
Intermediate Cycle:	**Cyclical Bear Market**
Market Trend:	**Uptrend**

Bonds

Intermediate Cycle: **Cyclical Bear Market**

Tactical Asset Allocation Overview

Below is a recap of the investment process that the models use.

Quarterly Review

High Risk Category Investments

For these models, we utilize three stock indicators, our U.S. Equity Trend Indicator, our International Trend Indicator, and our Balance of Strength Signal (BOSS).

To determine whether a model has its minimum or maximum exposure to High Risk Category investments, at the beginning of each quarter, we review our indicators. When either or both of the equity trend indicators are in an uptrend during the quarterly review process, the models will target their maximum equity allocations for the quarter unless the BOSS is negative. When the BOSS is negative at the beginning of a quarter, we will normally delay making changes until either the BOSS turns positive or the trend indicators are both negative.

When both the U.S. and International Equity Trend Indicators are in downtrends, the models will target their minimum High Risk Category allocations unless the BOSS is positive. When the BOSS is positive at the beginning of a quarter, we will usually delay making changes until the trend indicators turn positive or the BOSS turns negative.

When there is nonuniformity of the indicators, the models could hold a High Risk Category allocation between the minimum and maximum constraints.

Medium and Low Risk Category Investments

The amount not invested in High Risk Category investments will be invested in the Plan's low risk or medium risk category investments. When our Bond Indicator is positive, the models can have exposure to bonds and the money market fund. When it is negative, this amount will be invested in the low-risk category investments, or when stock indicators are positive, it may include high yield bonds, which typically do well when stocks are doing well.

Intra-Quarter Review

When Models Have Maximum High Risk Category Exposure

If the indicators turn negative during the quarter, the models can reduce their exposure to High Risk Category investments down to the model's minimum exposure. All three indicators do not have to be negative for the models to start to reduce their High Risk Category exposure. If this occurs towards the end of a quarter and there is no change to the indicators at the quarterly review, there will most likely be no changes to the model's allocations during that quarter's review.

When Models Have Minimum High Risk Category Exposure

If the indicators turn positive during the quarter, the models can move up to their maximum High Risk Category exposure. All three indicators do not have to be positive for the models to start to increase their High Risk Category exposure. If this occurs towards the end of a quarter and there is no change to the indicators at the quarterly review, there will most likely be no changes to the model's allocations during that quarter's review.

Model Constraints

Model	Minimum High Risk Category Allocation	Maximum High Risk Category Allocation
Tactical Conservative Model	0%	30%
Tactical Moderate Model	10%	60%
Tactical Growth Model	20%	90%

Listed above are the minimum and maximum exposures the models may have to the High Risk Category investments. The models' allocations may fall anywhere in between these ranges but will usually have the maximum High Risk Category exposure when indicators are positive, and when the indicators are negative, they will usually have the minimum High Risk Category exposure or this exposure plus 10%.

There may be times in between model rebalancing that the actual holdings in High Risk Category investments exceeds the minimum and maximum allocations. This would occur when either High Risk Category investments are significantly underperforming the medium and/or low risk category investments, or when they are significantly outperforming the lower risk categories

Fund Selection

We feel that the primary driver for a model to potentially outperform its benchmark over a full market cycle (from one market peak to the next) is the tactical asset allocation process. We believe the secondary driver could be fund selection. This is defined as the selection of the funds within an asset class, such as stocks. If a higher percentage is invested in the funds/sectors that are outperforming the others, then the strategy should have a slightly higher return. The remaining amount will be allocated to the highest ranked category options in your plan. The portion not invested in High Risk Category investments will be invested in bonds and/or stable value as long as bonds are in a Cyclical Bull Market. If bonds are in a Cyclical Bear Market, then this portion will be invested in the Low Risk Category Investments and possibly high yield bonds.

Investment Risk

Diversification is the first line of defense. Selecting the appropriate model to meet your investment goals and risk tolerance is of primary importance. **Retirement Collaborative LLC offers a Free Portfolio Risk Analysis that can be used to help you select an appropriate portfolio. We encourage you to take it by using the link on the Plan's Web Portal (www.dauphincountydcplan.com) or by requesting one via email – Hetrick@retirementc.com. It is also important to update this risk profile as your investment objectives change.** If you have questions regarding this process or if your financial situation has changed, please contact us. The tactical investment process is the second line of defense, but it is important to understand that no indicator is perfect. If it was, then everyone would want to use it and it would not work. We are looking for indicators that have worked well the majority of the time and have provided value in the past. There will be times when using a tactical approach will detract from returns and then there will be other times when it looks brilliant. The goal is to accumulate money over a long period of time so that you achieve your retirement objectives. This process attempts to do so by focusing on reducing downside risk while still seeking to achieve long-term returns in line with or better than the model's benchmark index. Lastly, there will be times when the sectors we overweight underperform a broad-based index's return. We feel that over time overweighting certain sectors will add value. If we find that the fund selection process is not adding value, we will examine using a constant sector holding.

Risk	Asset Class	Sub-Asset Class	Plan Investment Option
Low Risk	Fixed Income	Stable Value	Alerus Money Market
		Short-Term Bond	Vanguard Short-Term Bond Index Adm
Medium Risk	Fixed Income	Intermediate Bond	Fidelity U.S. Bond Index Fund
		Inflation Protected Securities	Fidelity Inflation Protected Bond Index Fund
		High Yield Bond	BrandywineGLOBAL High Yield I
		Foreign Bond	Vanguard Total INTL Bond Index Fund Adm
		Foreign Bond	Dodge & Cox Global Bond Fund Class I
High Risk	U.S. Equities	Large Cap Growth	Fidelity Large Cap Growth Enhanced Index Fund
		Large Cap Blend	Pear Tree Quality Ordinary Shares
		Large Cap Blend	Vanguard Total Stock Market Index Fund
		Large Cap Value	Neuberger Berman Large Cap Value R6
		Mid Cap Growth	BlackRock Mid-Cap Growth Equity Port Svc Shares
		Mid Cap Value	Vanguard Mid-Cap Value Index Fund
		Small Cap Growth	AB Small Cap Growth Portfolio Advisor Class
		Small Cap Growth	Morgan Stanley Inception Portfolio IS
		Small Cap Value	MFS New Discovery Value R4
	Moderate Allocation	Moderate Allocation	T. Rowe Price Capital Appreciation
	International Equities	Developed Markets	American Funds EuroPacific Growth R6
		Developed Markets	Vanguard Total International Stock Index Adm
		Emerging Markets	Artisan Developing World Ins
	Real Estate	U.S. Real Estate	Fidelity Real Estate Income Fund
		Global Real Estate	Janus Henderson Global Real Estate
	Natural Resources	Diversified Natural Resources	Vanguard Materials Index Fund Adm

Tactical Conservative Model

Investment Objective:	1. Produce positive annualized returns 2. Produce returns 1% above the U.S. Consumer Price Index 3. Outperform the model's buy-and-hold benchmark over a full market cycle		
Model Benchmark:	100% iShares Barclays Short Treasury Bond Fund (SHV)		
Description:	The Tactical Conservative Model is designed for participants looking to preserve capital and make a slightly better long-term return than one could expect from investing in a bank savings account, short-term U.S. Treasuries, a money market account or a stable value account. It differs from a buy-and-hold model in that it can be as conservative as a 100% stable value investment or can be as aggressive as having 30% of the portfolio allocated to investments that Retirement Collaborative LLC has categorized as high-risk and 70% categorized as moderate-risk.		
Constraints:	Low Risk 0-100%	Medium Risk 0-100%	High Risk 0-30%

Holdings

Investment	Ticker	Risk Category	2023 Q1
Alerus Money Market Fund		Low Risk	72%
BrandywineGlobal High Yield I	BGHIX	Medium Risk	18%
Neuberger Berman Large Cap Value R6	NRLCX	High Risk	4%
MFS New Discovery Value R4	NDVUX	High Risk	2%
Vanguard Materials Index Admin	VMIAX	High Risk	2%
Pear Tree Quality Fund	USBOX	High Risk	2%

Tactical Moderate Model

Investment Objective:	1. Produce positive annualized returns 2. Produce returns 2.5% above the U.S. Consumer Price Index 3. Outperform the model's buy-and-hold benchmark over a full market cycle
Model Benchmark:	10% iShares Barclays Short Treasury Bond Fund (SHV) 40% iShares Barclays Aggregate Bond Fund (AGG) 30% iShares Barclays S&P 500 Index (IVV) 20% iShares Barclays EAFE Index Fund (EFA)
Description:	The Tactical Moderate Model is designed for a moderate risk participant who is trying to reduce the volatility of a typical buy-and-hold balanced strategy while achieving long-term returns similar to or greater than the model's benchmark.
Constraints:	Low Risk: 0-90% / Medium Risk: 0-90% / High Risk: 10-60%

Holdings

Investment	Ticker	Risk Category	2023 Q1
Alerus Money Market Fund		Low Risk	66%
BrandywineGlobal High Yield I	BGHIX	Medium Risk	16%
Neuberger Berman Large Cap Value R6	NRLCX	High Risk	8%
MFS New Discovery Value R4	NDVUX	High Risk	4%
Vanguard Materials Index Admin	VMIAX	High Risk	4%
Pear Tree Quality Fund	USBOX	High Risk	2%

Tactical Growth Model

Investment Objective:	1. Produce positive annualized returns 2. Produce returns 5% above the U.S. Consumer Price Index 3. Outperform the model's buy-and-hold benchmark over a full market cycle		
Model Benchmark:	10% iShares Barclays Aggregate Bond Fund (AGG)		
	54% iShares S&P 500 Index (IVV)		
	36% iShares Barclays EAFE Index (EFA)		
Description:	The Tactical Growth Model is designed for a high-risk participant who would typically have all of their money invested in stocks, but who would also like to use a process designed to reduce potential losses that could occur in a sustained stock market decline.		
Constraints:	Low Risk: 0-80%	Medium Risk: 0-80%	High Risk: 20-90%

Holdings

Investment	Ticker	Risk Category	2023 Q1
Alerus Money Market Fund		Low Risk	60%
BrandywineGlobal High Yield I	BGHIX	Medium Risk	14%
Neuberger Berman Large Cap Value R6	NRLCX	High Risk	12%
MFS New Discovery Value R4	NDVUX	High Risk	6%
Vanguard Materials Index Admin	VMIAX	High Risk	6%
Pear Tree Quality Fund	USBOX	High Risk	2%

Disclaimers

These pages are produced by Retirement Collaborative LLC (We, Us, Our) and are intended for the use of Dauphin County, PA Deferred Compensation Plan participants only.

Do not forward or re-transmit these pages in any form without written authorization. Do not allow an unauthorized person to view part or all of these pages.

The Tactical Forecast provides information on the Tactical Models found in the Dauphin County, PA Deferred Compensation Plan. It is not intended as investment advice, or as an offer or a solicitation of an offer to sell or buy, or as an endorsement, recommendation, or sponsorship of any company, security or fund. Although the goal of the investment strategy outlined herein is designed to minimize loss of capital, it does not guarantee that this will not happen. All investing entails risk. There are many different types of risks, such as risk to principal, purchasing power risk, and opportunity risk. Purchasing power risk is the risk of having inflation grow faster than your investments; thus, losing purchasing power of those investment dollars. This is a risk that should be considered, especially when investing in cash or stable value instruments. Opportunity risk is the risk of missing out on an investment opportunity. A tactical asset allocation strategy is susceptible to opportunity risk because there may be times when High Risk Category investments are rising while a tactical model is in its minimum exposure. Opportunity risk should be assessed when evaluating a tactical asset allocation strategy versus a buy-and-hold strategy. It is up to the participant to evaluate their risks, analyze what is discussed in our quarterly report, and if they deem that the strategy to be in keeping with their investment objective, they may choose to incorporate a Tactical Model into their retirement portfolio. It is incumbent upon the participant to make the election to invest in the models.

The investments used in the models are listed in the quarterly report. The contents of The Tactical Model Report are based on data sources believed to be reliable, but no representation or warranty, expressed or implied is made as to their accuracy, completeness, or correctness. We assume no responsibility for typographical errors or other inaccuracies in the content, and occasional errors may occur. Therefore, The Tactical Model Report is provided "AS IS" without any warranty of any kind. Past results are not indicative of future results. Please read prospectuses for individual mutual funds before investing. They can be found on the participant website.

The Tactical Model Report is written and distributed quarterly by Retirement Collaborative LLC, 2040 Linglestown Road, Suite 107, Harrisburg, PA 17110. Retirement Collaborative LLC is an investment advisory firm that specializes in risk-managed investment management, retirement plan consulting, and wealth management. If you are interested in learning more about our firm or have questions, please contact us.

Contact Information:

Website for Retirement Collaborative LLC	www.retirementc.com
Email Address	hetrick@retirementc.com
Mailing Address	2040 Linglestown Road, Suite 107, Harrisburg, PA 17110