Township of Lower Makefield

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PNC INSTITUTIONAL ASSET MANAGEMENT

Agenda

PNC INSTITUTIONAL ASSET MANAGEMENT

Taking Stock of the Markets

Investment Strategy

April 2023

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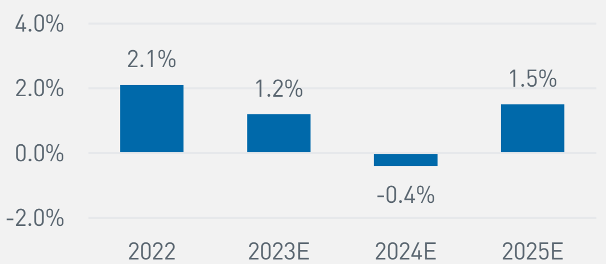
Economic Outlook Dashboard

Expectations From the PNC Economics

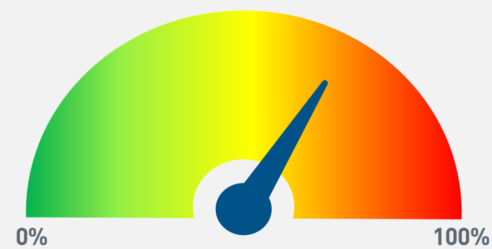
Forecasting a mild U.S. recession in the second half of 2023:

- Growth outlook enters restrictive territory from Fed rate hikes
- Labor market outlook remains stable
- Consensus earnings growth estimates moving lower

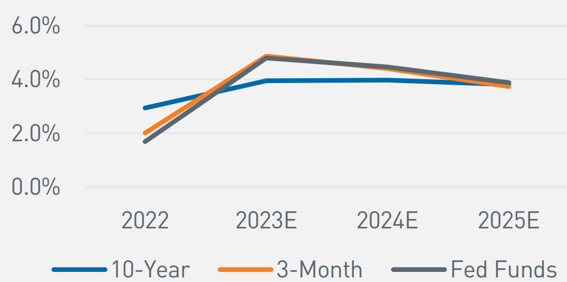
U.S. Output
Real GDP, Annualized Change



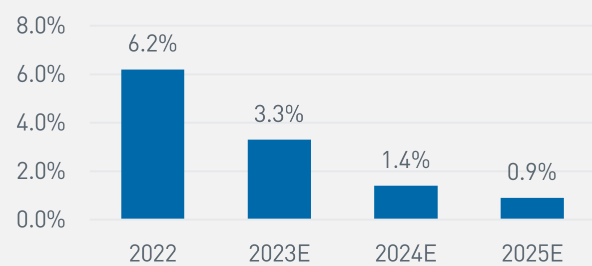
Likelihood of Recession in the next 12 Months



Interest Rates
10-Year / 3-Month U.S. Treasury Yield



Inflation
PCE Price Index, Annualized Change



Unemployment Rate and Payroll

	Unemployment	Payroll (Mil)
2022	3.6%	152.6
2023E	3.8%	155.8
2024E	4.9%	155.0
2025E	4.8%	155.4

Consensus Earnings Estimates

	2022	2023E
S&P 500	5.1%	1.1%
Russell 2000®	9.1%	1.2%
MSCI World ex USA	4.4%	3.2%
MSCI Emerging Markets	-11.4%	-4.1%
Strategists' Median S&P 500 EPS Estimates	$219	$208
Bull Case	$238	$230
Bear Case	$202	$186

As of 3/31/2023. Source: PNC, FactSet®. FactSet® is a registered trademark of FactSet Research Systems, Inc. and its affiliates.

The Good, the Bad and the Ugly...

A Quick Tour Around the Globe

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The "Good"

- Labor market strength
- End of COVID-19 restrictions in China
- Resiliency of U.S. consumer spending
- Low absolute global equity valuations

The "Bad"

- Persistently high inflation
- Continued global monetary policy tightening
- → Financial stress & credit growth uncertainty
- → Widespread European protests
- Inverted yield curve signaling contraction
- Weak leading economic indicators
- ↑ Elevated market volatility
- Deteriorating earnings revisions
- Commercial real estate under pressure
- → U.S. debt ceiling pressure mounting
- Low consumer/business confidence
- Commodity supply/demand imbalances
- Persistent semiconductor shortages

The "Ugly"

- → Financial contagion concerns
- → Global populism headline risk
- Russia-Ukraine war
- U.S.-China power struggle
- Global deficits/debt levels
- De-globalization trends building

Higher

Lower

Ordered by importance / potential for biggest market impact

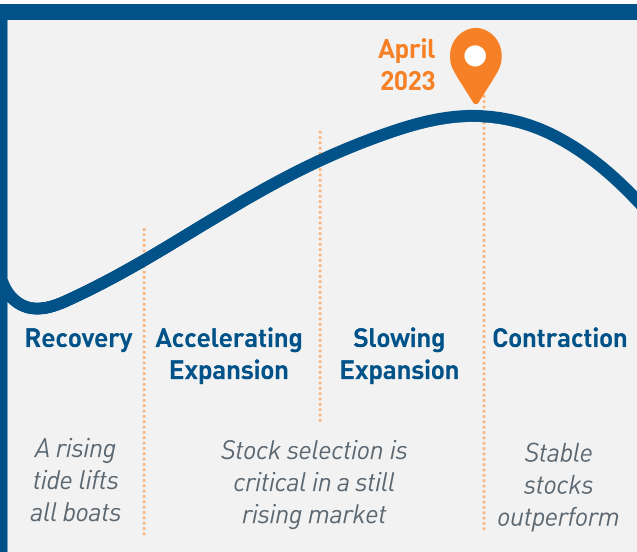
→ Denotes change in description or new additions relative to the prior version
→ Denotes positive change relative to the prior version
→ Denotes negative change relative to the prior version

April 2023

Business Cycle Outlook

Leading Indicators Suggest the Slowing Expansion Phase of the Cycle

We believe cyclical movements of the business cycle drive markets, which impacts asset allocation decisions. *History does not repeat, but often rhymes,* which is why the past is not always a reliable indicator of what lies ahead.



Slowing Expansion Phase:

- Unemployment falling
- Wages rising
- Financial conditions less accommodative
- Credit tightening
- Confidence peaking
- Economic activity positive, but decelerating
- Profit growth slowing

Leading indicators start pointing to a slowdown

- The Conference Board Leading Economic Indicator Index fell 4.7% on a rolling six-month basis, making a continued fall into contraction since October.
- A wide range of indicators continue to weaken, from durable goods new orders to interest rate spreads– which recently hit a new 40-year low as elevated inflation and high interest rates weigh on economic activity.
- Indicators of a strong labor market, which has supported consumer areas of the economy and offset monetary policy actions intended to reduce inflation, continue to be an outlier.

The path forward

- Given this backdrop of leading indicators, we believe the business cycle has a high probability of falling into contraction later this year.

Conference Board Leading Economic Indicators *(prior month)*

Interest Rate Spread	Worsening	Manufacturing Avg. Hours	Worsening
Consumer Durables	Improving	Unemployment Claims	Improving
Core Durable Goods	Worsening	Consumer Expectations	Worsening
ISM Index of New Orders	Worsening	Leading Credit Index	Improving
Building Permits	Worsening	S&P 500®	Worsening

As of 3/31/2023. Source: PNC, Bloomberg, L.P.

- Key catalysts for the path forward continue to be easing inflation pressures and monetary policy.
- Markets face a number of macro headwinds warranting caution as volatility remains elevated.

U.S. Economy

- A string of strong economic data suggests the slowing expansion phase of the business cycle continues to wane.
- Forward-looking indicators such as building permits and manufacturing new orders are slowing, whereas labor market data remains strong.

International Economy

- Headwinds continue to mount — record inflation levels, political crises and fading consumer confidence — indicating economic contraction concerns, particularly in the Eurozone.
- In our view, unresolved energy security issues in Europe highlight our expectations of an economic contraction later this year.

Global Monetary and Fiscal Policy

- Major central banks are reaching a crossroads as interest rate hikes are becoming restrictive to the financial sector, while inflation remains well above long-term targets. Japan remains the only major developed market to keep its loose monetary policy in place.
- In our view, the path of the U.S. dollar is dependent on both the Fed's aggressive tightening and the resilience of the U.S. economy.

U.S. Corporate Earnings

- First-quarter earnings season is expected to be similar to the prior quarter, with negative growth and low upside surprise as companies face challenges from elevated inflation and slowing global economic growth.
- Top-line growth is still positive, supported by elevated inflation, but which is also, however, leading to operating and profit margin compression.

U.S. Equity Markets

- Stock performance diverged in March, as positive returns primarily from quality, large capitalization companies were overshadowed by issues in the Financials sector among small- and mid cap stocks.
- Markets continue to be influenced by macroeconomic data as inflation data remains a driving force behind the Fed's path for future rate hikes.

International Equity Markets

- Developed international equities rallied on U.S. dollar weakness, and as investors supported the emergency merger between the Swiss banks UBS and Credit Suisse.
- Emerging market equities were led by large cap tech stocks in China as regulatory pressure on the industry is slowly scaled back.

Fixed Income Markets

- The U.S. Treasury (UST) yield curve saw material decreases in rates across all maturities in March. Stress from financial instability, evidence of disinflation and slowdowns in growth had markets pondering if the Fed would pause raise hikes. Bond volatility spiked on contagion concerns following turmoil in the banking industry.
- Rising breakeven yields, which gauge inflation expectations, indicate investors believe inflation will be tough to tackle and the Fed will consequently need to remain aggressive in 2023.

Alternative Assets

- Alternatives continue to provide value by typically offering diversification and uncorrelated returns with traditional markets.
- As valuations in public markets compress, private market valuations should also decline, making current vintage year funds attractive.

As of 3/31/2023. Source: PNC

Potential Outlooks in a High Volatility Regime

Where Do We Go From Here...

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Factors	Base Case: Mild Recession	Bear Case: Deep and Long Recession	Bull Case: No Recession
Inflation	**Inflation decelerates at a manageable pace as supply chains improve and commodity price gains ease**	**Stagflationary type of environment as high inflation becomes structural**	**Inflation falls rapidly, supply chains recover and geopolitical uncertainty declines**
Monetary Policy	Fed continues to raise rates into mid 2023, but markets get a pause after that, albeit at restrictive rate levels and unemployment climbs to an "acceptable" level	Central banks overtighten, leading to negative economic growth, but inflation stays elevated and unemployment climbs much higher	After a 25 basis point hike in May, the Fed acknowledges demand has slowed enough and pauses further rate hikes as unemployment remains low
Geopolitics	Russia-Ukraine war lingers on but does not materially disrupt commodity markets	Prolonged Russia-Ukraine war leads to even higher global fuel and food costs	Russia-Ukraine stalemate, Russia embargo is manageable
Earnings Outlook	Q1 upside surprise improves from the second half of 2022, but earnings revisions remain negative	Economic slowdown is not fully reflected in consensus estimates and companies continue to cut 2023 guidance while earnings revisions fall significantly	An early 2023 Fed Pause keeps earnings per share revisions steady, as China's COVID-19 recovery offsets the slowdown in Europe
Earnings Growth	**-5% to -10%**	**-15% to -20%**	**0% to 10%**
Forward P/E	**14x - 15x**	**11x -13x**	**15x - 17x**
Path of Interest Rates	**Higher – then moderately lower**	**Higher – then materially lower**	**Moderately higher**

**based on PNC Economics expectation of a mild recession later in 2023*

As of 3/31/2023. Source: PNC

Central Bank Liquidity and Money Supply

Global Central Bank Balance Sheet Expansion
Offsets Negative Money Supply

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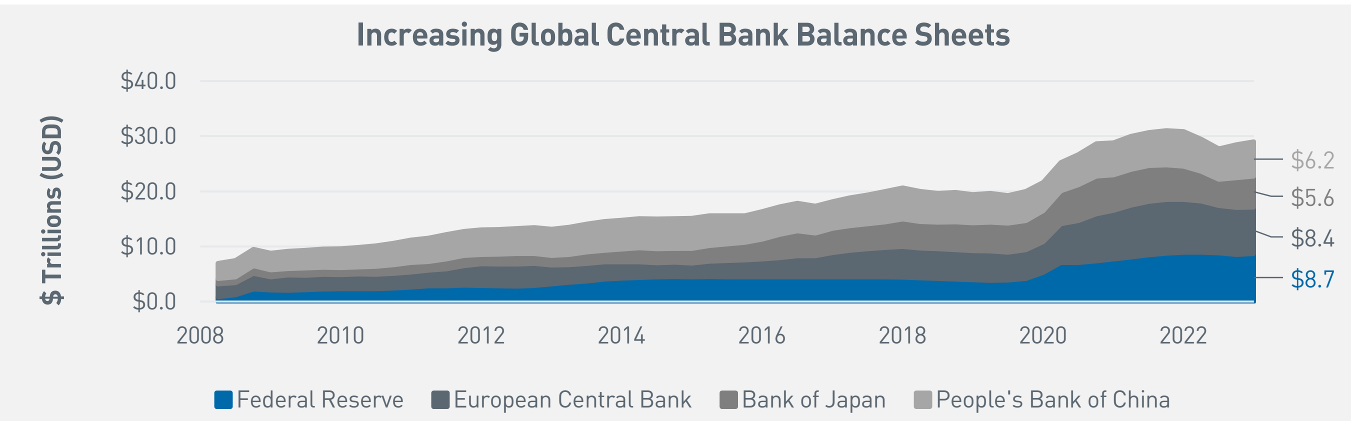
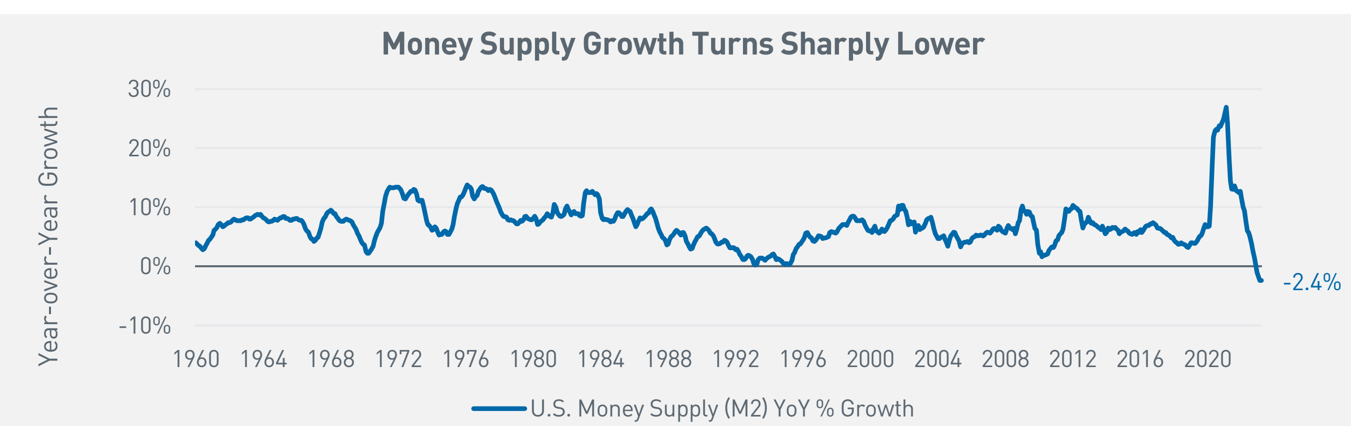
Banking concerns in March led to a significant rebound in global central bank balance sheets

- The Fed has been shrinking its balance sheet since last April, however other central banks have been actually expanding theirs, namely the Bank of Japan and the People's Bank of China in particular.
- In response to events in the U.S. banking industry, Fed support saw its balance sheet swell by more than $300 billion, the largest one-month expansion since April 2020. We believe that massive liquidity support from various central banks in March aided securities markets' performance.



U.S. money supply growth has turned negative

- In contrast to central bank balance sheet expansion, money supply growth continued to decline and the most recent reading was the lowest growth rate on record.
- Excess liquidity has historically had a positive effect on asset prices. Therefore it is expected that the removal of liquidity will lead to further multiple compression.



As of 3/31/2023. Source: Bloomberg L.P.

Gross Domestic Product (GDP)

U.S. Economic Growth Turned Positive in the Second Half of 2022

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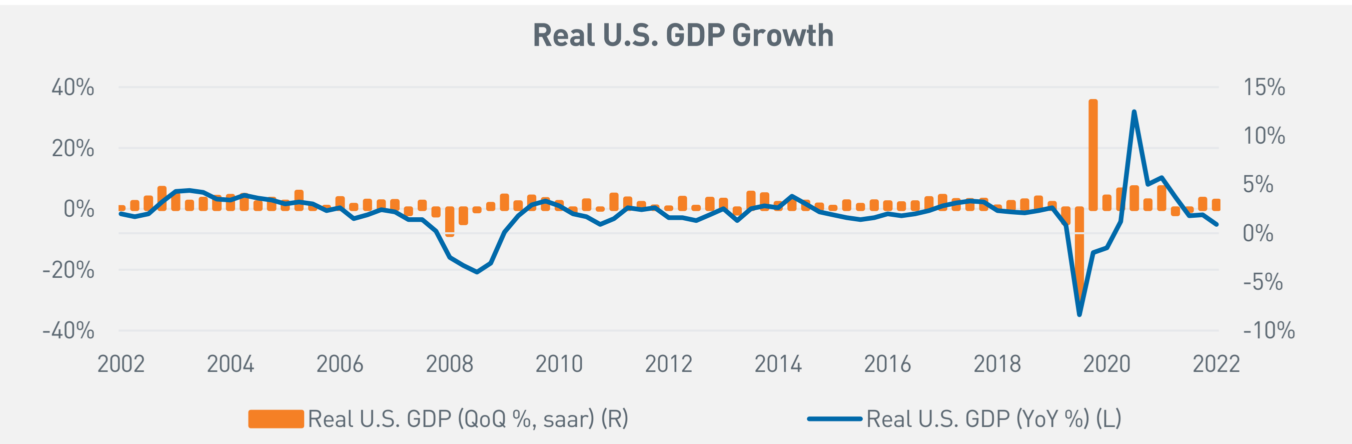
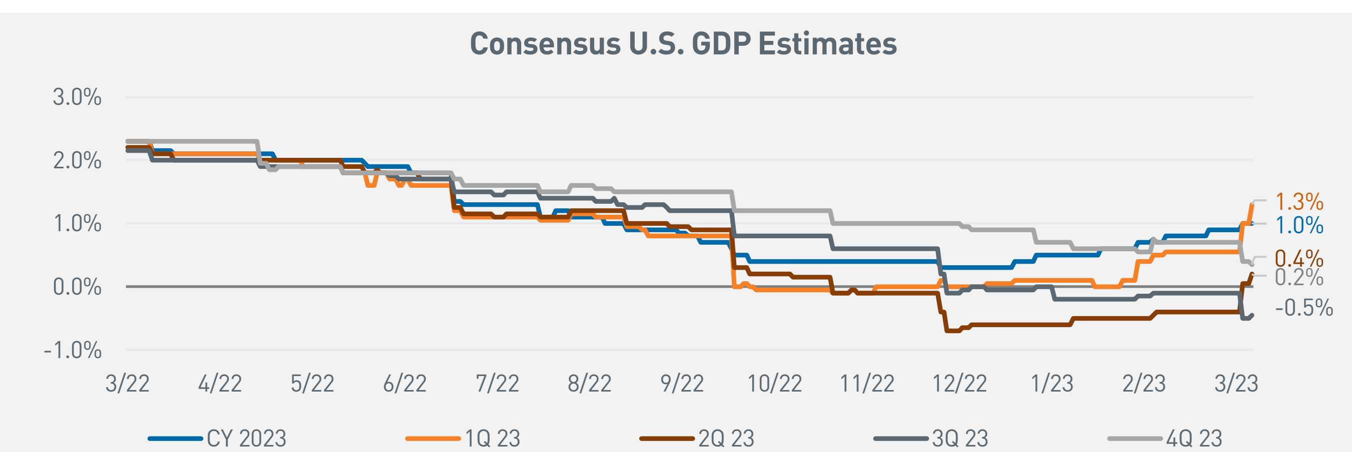
Real U.S. GDP growth slowing

- Economic growth recovered from declines in the first half of 2022; however, growth has been slowing since the Fed began tightening monetary policy.
- The U.S. economy expanded less than initially reported during the fourth quarter as higher inflation figures caused a downward revision to consumer spending.
- Personal consumption and business investment delivered positive, yet declining contributions to economic growth; however, residential investments continue to contract.



Consensus U.S. GDP estimates moderating

- In a slowing expansion, consensus estimates had shifted lower in the second half of 2022 as economic activity moderated.
- As the Fed continues to tighten monetary policy, we expect the forward GDP growth outlook to moderate further as higher interest rates work to slow aggregate demand.



As of 3/31/2023. Source: Bloomberg L.P.

Sentiment Surveys

Survey Data Highlights Inflation Concerns Amid an Uncertain Macro Backdrop

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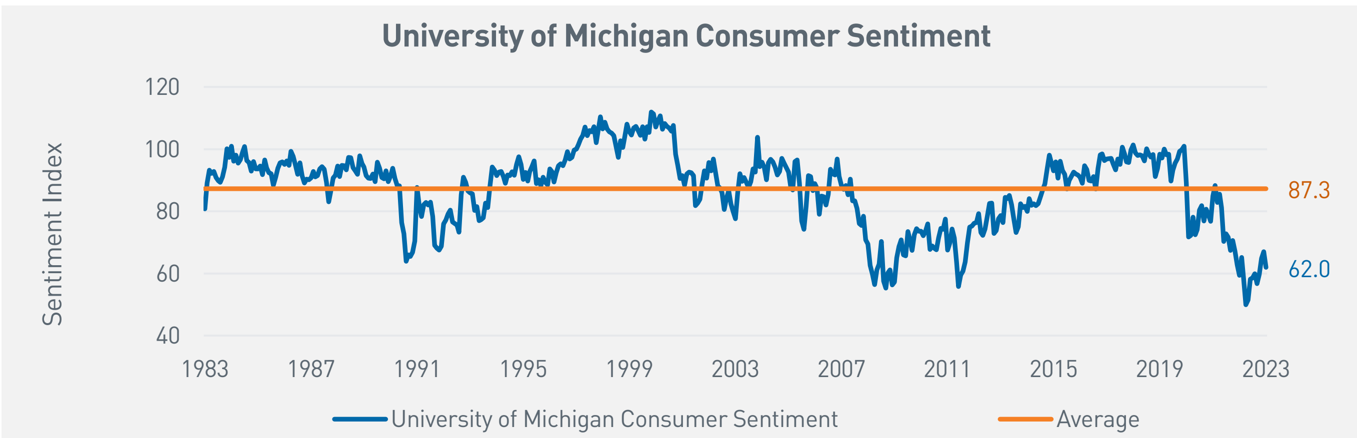
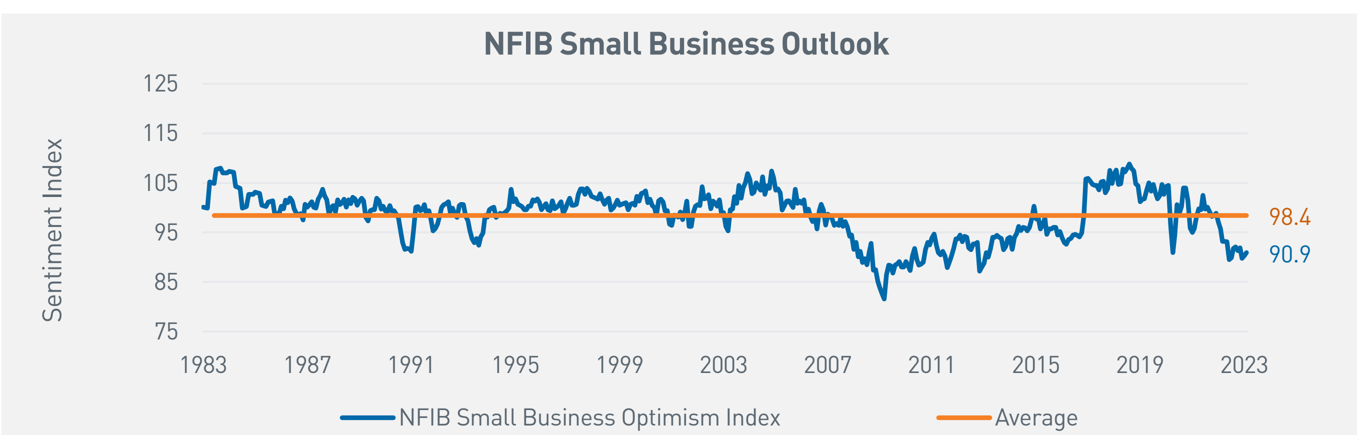
University of Michigan Consumer Sentiment

- Consumer sentiment surveys are important, due to their long-term correlation with equity prices. Therefore, it was notable that despite the stock market rally for much of 2021, consumer sentiment continued to fall until June 2022.
- Sentiment has begun to improve off its historical low, but recently fell in part due to concerns over the banking crisis.



National Federation of Independent Business (NFIB) Small Business Outlook

- Considering small businesses make up the majority of firms in the United States, sentiment is an important gauge that serves as an indicator for other components such as capital expenditure plans, hiring, and wage growth expectations.
- Business sentiment surveys continue to be impacted by lingering supply chain bottlenecks, elevated material costs and the fallout from the Russia-Ukraine war.



As of 3/31/2023. Source: Bloomberg L.P.

Chart of the Quarter

S&P 500® Index Performance Through Major Events

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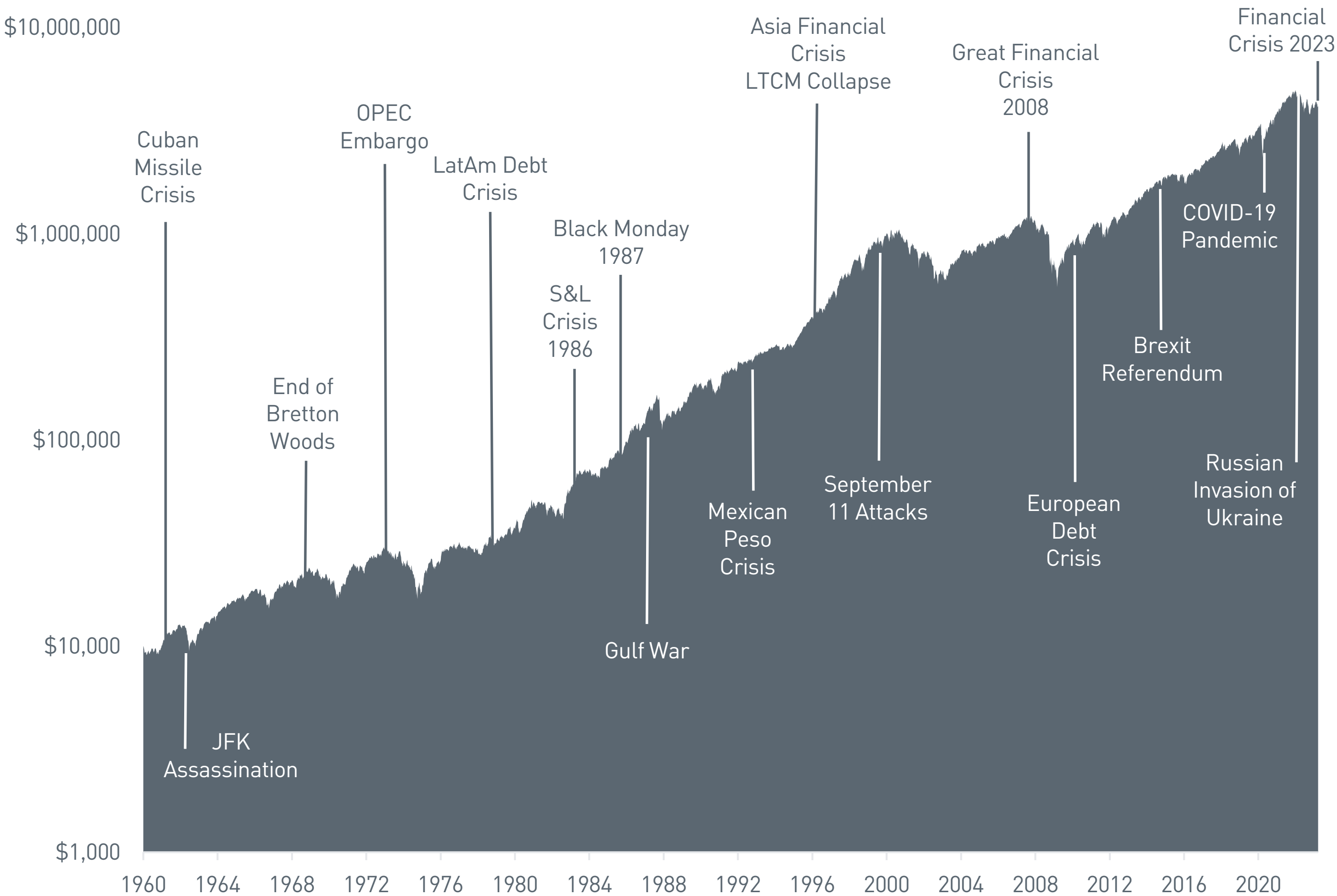
Pullbacks are a healthy, normal part of long-term investing, and the most important point of the chart below is that equity markets find their way through major events.



As of 3/31/2023. Source: Bloomberg L.P.

Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur.

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Lower Makefield Township

Initial Portfolio & Investments Phase-in Plan

Lower Makefield Township

Initial Portfolio – May 2023

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Investment Lineup

Weight (%)	Asset Class	Description of Investment Vehicle	Expense (%)	Vehicle
28%	U.S. Equity	Fidelity 500 Index Fund	0.02%	MF
8%	U.S. Equity	iShares Core S&P Mid Cap	0.05%	ETF
5%	U.S. Equity	iShares MSCI USA Quality	0.15%	ETF
4%	U.S. Equity	iShares Core S&P Small Cap	0.06%	ETF
8%	Intl. Equity	iShares Core MSCI EAFE	0.07%	ETF
4%	Intl. Equity	Schwab International Small-Cap	0.11%	ETF
10%	Intl. Equity	iShares Core MSCI Emerging Markets	0.11%	ETF
13%	Fixed Income	Baird Intermediate Bond	0.30%	MF
10%	Fixed Income	BlackRock Total Return Bond	0.45%	MF
5%	Fixed Income	iShares 7-10 US Treasury Bond	0.15%	ETF
5%	Money Market	Blackrock Liquidity Fund	0.17%	MF

Asset Allocation

Geography & Capitalization

U.S. Equity 45.0%	Intl. Equity 22.0%	Fixed Inc. 33.0%
Large Cap (32%) Mid-Cap (8%) Small Cap (5%)	Developed (12%) Emerging (10%)	US Intermediate Investment Grade & MM

Portfolio Projections

Exp. Return	6.8%
Exp. Stnd. Dev.	11.9%
Exp. Yield	2.5%
Exp. Sharpe Ratio	0.25
Investment Manager Cots	14bps

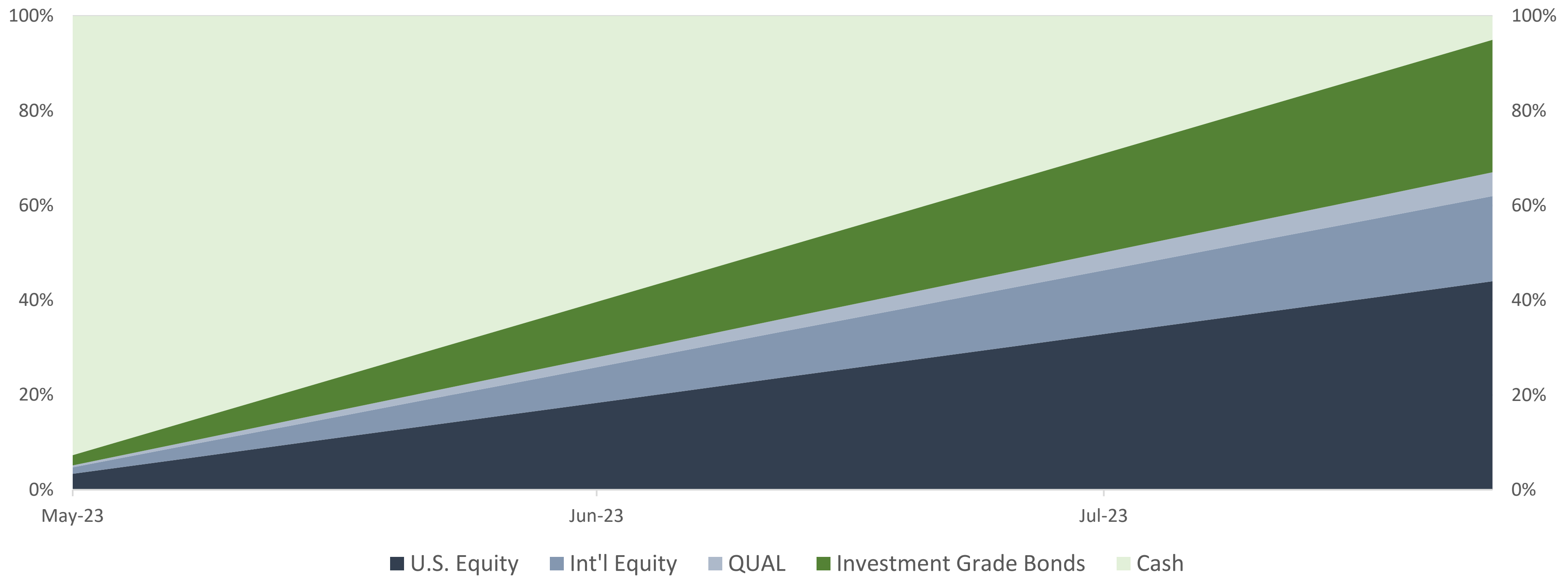
Source: PNC

The above information is for illustrative purposes only. Future returns are not promises or estimates of actual returns and should not be relied upon. See Important Disclosures Regarding Hypothetical Performance at the end of this presentation. Returns are based the PNC Capital Market Projections and an investment horizon of 30 years. See Appendix for additional

The information. above example is for illustrative purposes only, is not prepared with respect to the specific investment objectives, financial situation, or particular needs of any specific plan and is not a recommendation to adopt any particular investment asset allocation or strategy. Actual results may vary significantly. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

Investments Phase-in Plan

Lower Makefield Township



- Dollar cost average investments across all asset classes over three months (13 weeks)
- High credit quality bias both is equities, focusing on (ROIC, Free Cash Flow, etc.) and Fixed Income
  Average Credit Quality AA+, Yield to Maturity (YTM) 4.97% and Effective Duration 5.4 years.
- Trade opportunistically: take advantage of market entry/exit points. For instance, buy more during market pull backs, buy less after market rallies, rotate between asset classes with significant performance divergence
- End target allocation: 67% Equity / 28% Bonds / 5% Cash

Target Portfolio

Investment Program

		5/7/2023	5/14/2023	5/21/2023	5/28/2023	6/4/2023	6/11/2023	6/18/2023	6/25/2023	7/2/2023	7/9/2023	7/16/2023	7/23/2023	7/30/2023
ASSET CLASS	**END GOAL**	**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**	**Week 9**	**Week 10**	**Week 11**	**Week 12**	**Week 13**
U.S. Large Cap	32.0%	2.46%	4.92%	7.38%	9.85%	12.31%	14.77%	17.23%	19.69%	22.15%	24.62%	27.08%	29.54%	32.00%
U.S. Mid Cap	7.0%	0.54%	1.08%	1.62%	2.15%	2.69%	3.23%	3.77%	4.31%	4.85%	5.38%	5.92%	6.46%	7.00%
U.S. Small Cap	5.0%	0.38%	0.77%	1.15%	1.54%	1.92%	2.31%	2.69%	3.08%	3.46%	3.85%	4.23%	4.62%	5.00%
U.S. Equity	**44%**	**3.4%**	**6.8%**	**10.2%**	**13.5%**	**16.9%**	**20.3%**	**23.7%**	**27.1%**	**30.5%**	**33.8%**	**37.2%**	**40.6%**	**44.0%**
QUAL	5.0%	0.38%	0.77%	1.15%	1.54%	1.92%	2.31%	2.69%	3.08%	3.46%	3.85%	4.23%	4.62%	5.00%
QUAL	**5%**	**0.4%**	**0.8%**	**1.2%**	**1.5%**	**1.9%**	**2.3%**	**2.7%**	**3.1%**	**3.5%**	**3.8%**	**4.2%**	**4.6%**	**5.0%**
Int'l Developed	12.0%	0.92%	1.85%	2.77%	3.69%	4.62%	5.54%	6.46%	7.38%	8.31%	9.23%	10.15%	11.08%	12.00%
Emerging Markets	6.0%	0.46%	0.92%	1.38%	1.85%	2.31%	2.77%	3.23%	3.69%	4.15%	4.62%	5.08%	5.54%	6.00%
Int'l Equity	**18%**	**1.4%**	**2.8%**	**4.2%**	**5.5%**	**6.9%**	**8.3%**	**9.7%**	**11.1%**	**12.5%**	**13.8%**	**15.2%**	**16.6%**	**18.0%**
TOTAL EQUITY	**67%**	**5.2%**	**10.3%**	**15.5%**	**20.6%**	**25.8%**	**30.9%**	**36.1%**	**41.2%**	**46.4%**	**51.5%**	**56.7%**	**61.8%**	**67.0%**
Core	28.0%	2.15%	4.31%	6.46%	8.62%	10.77%	12.92%	15.08%	17.23%	19.38%	21.54%	23.69%	25.85%	28.00%
Investment Grade Bonds	**28.0%**	**2.2%**	**4.3%**	**6.5%**	**8.6%**	**10.8%**	**12.9%**	**15.1%**	**17.2%**	**19.4%**	**21.5%**	**23.7%**	**25.8%**	**28.0%**
TOTAL FIXED INCOME	**28.0%**	**2.2%**	**4.3%**	**6.5%**	**8.6%**	**10.8%**	**12.9%**	**15.1%**	**17.2%**	**19.4%**	**21.5%**	**23.7%**	**25.8%**	**28.0%**
Cash	**5.0%**	**92.7%**	**85.4%**	**78.1%**	**70.8%**	**63.5%**	**56.2%**	**48.8%**	**41.5%**	**34.2%**	**26.9%**	**19.6%**	**12.3%**	**5.0%**
TOTAL PORTFOLIO	**100%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

ASSET CLASS	END GOAL	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
U.S. Large Cap	3,214,627	247,279	494,558	741,837	989,116	1,236,395	1,483,674	1,730,953	1,978,232	2,225,511	2,472,790	2,720,069	2,967,348	3,214,627
U.S. Mid Cap	703,200	54,092	108,185	162,277	216,369	270,461	324,554	378,646	432,738	486,831	540,923	595,015	649,107	703,200
U.S. Small Cap	502,286	38,637	77,275	115,912	154,549	193,187	231,824	270,461	309,099	347,736	386,373	425,011	463,648	502,286
QUAL	502,286	38,637	77,275	115,912	154,549	193,187	231,824	270,461	309,099	347,736	386,373	425,011	463,648	502,286
Int'l Developed	1,205,485	92,730	185,459	278,189	370,919	463,648	556,378	649,107	741,837	834,567	927,296	1,020,026	1,112,756	1,205,485
Emerging Markets	602,743	46,365	92,730	139,094	185,459	231,824	278,189	324,554	370,919	417,283	463,648	510,013	556,378	602,743
TOTAL EQUITY	**6,730,626**	**517,740**	**1,035,481**	**1,553,221**	**2,070,962**	**2,588,702**	**3,106,443**	**3,624,183**	**4,141,924**	**4,659,664**	**5,177,404**	**5,695,145**	**6,212,885**	**6,730,626**
Core	2,812,799	216,369	432,738	649,107	865,477	1,081,846	1,298,215	1,514,584	1,730,953	1,947,322	2,163,691	2,380,061	2,596,430	2,812,799
TOTAL FIXED INCOME	**2,812,799**	**216,369**	**432,738**	**649,107**	**865,477**	**1,081,846**	**1,298,215**	**1,514,584**	**1,730,953**	**1,947,322**	**2,163,691**	**2,380,061**	**2,596,430**	**2,812,799**
TOTAL CASH	**502,286**	**9,311,600**	**8,577,491**	**7,843,381**	**7,109,272**	**6,375,162**	**5,641,053**	**4,906,943**	**4,172,833**	**3,438,724**	**2,704,614**	**1,970,505**	**1,236,395**	**502,286**
TOTAL PORTFOLIO	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**	**10,045,710**

Investment Policy Statement

Lower Makefield Township

Investment Policy Statement

Adopted March 1, 2023

The managed assets of Lower Makefield Township ("Township") will consist of a Trust (the "Fund"). It is the intention of the Board of Supervisors (the "Board") that the Investment Committee of the Organization (the "Investment Committee") ensure that the Fund will be managed in accordance with sound investment practices that emphasize long-term investment fundamentals, while simultaneously meeting the objectives set forth in this Investment Policy Statement.

The Investment Committee is charged with oversight of the management of the Fund in a manner which builds upon the existing assets and furthers growth of the Organization without exposing the assets to excessive risk. The primary objective of the Investment Committee should be the preservation of principal with secondary goals of growth and income.

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Governance

This Investment Policy Statement ("IPS") serves as a strategic guide in the planning and implementation of an investment program for the Township and governs the investments associated with the Lower Makefield Township Trust.

I. Purpose and Scope

This IPS should establish a clear delineation of the expectations of the Board of Supervisors with respect to the Investment Committee's and the Investment Advisor(s)' oversight and management of the Fund.

This IPS is intended to:

- Define the investment assets to be governed by the IPS and allocation of duties among the Board of Supervisors, Investment Committee, and the Investment Advisor(s) with respect to such assets;
- Establish reasonable objectives for return and risk expectations, incorporating the following constraints: current time horizon; liquidity constraints; and any other unique circumstances regarding the Fund;
- Establish the appropriate target allocation and the parameters around restricted security types and asset classes;
- Establish an appropriate portfolio benchmark for the evaluation of investment performance and risk management;
- Establish expectations for investment and money managers, securities guidelines, and for the monitoring of the selected managers;
- Provide a basis for risk management and the evaluation of the investment performance of the Fund's assets at the manager level;
- Encourage effective communication between all parties involved in the oversight, management and operations of the Fund(s).
- Establish the Board of Supervisors' and the Investment Committee's expectations regarding reports to be delivered by the Investment Advisor(s) and the frequency of meetings with the Investment Advisor(s).

Further, this IPS is intended to provide investment objectives that are sufficiently specific to be meaningful, but adequately flexible to be practicable. The objectives in this IPS are designed to establish an attitude and philosophy to guide the Board of Supervisors and the Investment Committee toward the desired policies and performance in oversight of the Organization's assets.

II. Definition of Duties

Position	General Responsibility	Specific Tasks
Board of Supervisors	Oversees corporate policy and investment process	- Appoints Investment Committee - Authorizes and approves changes to the Investment Policy Statement
Investment Committee	Coordinates investment activities, institutional direction, and strategic initiatives	- Oversees management of the investment portfolio - Coordinates periodic asset allocation review - Reviews and recommends revisions to the IPS - Reviews Fund transactions and holdings - Reports Investment results to the Board on a quarterly basis - Retains/dismisses custodians and Investment Advisor(s)
Investment Advisor(s)	Supports the Board and Investment Committee in the development and execution of investment strategy	- Complies with the investment policy, guidelines, and restrictions - Constructs / revises the investment policy and guidelines - Recommends asset classes and asset allocation ranges / targets - Seeks return within acceptable risk parameters - Provides capital markets / asset class information as needed - Rebalances the Fund, as appropriate - Generates desired performance reports - Supports Investment Committee requests - Retains / dismisses investment and money managers for the Fund
Custodian Bank	Safeguards specified financial assets	- Controls access to assets - Settles trades efficiently - Collects investment income and principal - Collects and disseminates fund statements - Provide book of record, audit, and tax information

The Investment Committee will be responsible for adopting a recommendation for the Fund's investment strategy and overall Fund management, as set forth in this IPS. The Investment Advisor(s) will be responsible for the recommendation of an investment strategy, and, once adopted, the management and implementation of the selected strategy.

The Board of Supervisors and Investment Committee recognize that this IPS requires periodic reexamination and, if necessary, revision, if it is to continue to effectively produce the intended strategic results. If it is determined that this IPS needs to be amended, it is the mutual responsibility of the Investment Advisor(s) and the Investment Committee to initiate written communication to effect such change.

III. Investment Goals & Philosophy

The Organization will periodically review and confirm its investment goals and philosophy, which are set forth below:

- Clear and systematic decision-making processes deliver more consistent performance over time;
- The bias of the investable assets is toward being substantially fully invested over time;
- That equity investments will provide greater long-term returns than fixed income investments, although with greater short-term volatility;
- That it is prudent to diversify the Fund across the major asset classes;
- That investment managers with active mandates can reduce portfolio risk and potentially add value through security selection strategies;
- That passive management can be appropriate in certain asset classes, and that a portion of the Fund may be invested in passive mandates;
- That it may be appropriate to select more than one investment manager in any one asset or sub-asset class, provided that such managers can offer asset class or style diversification;
- That investments in alternative assets, such as hedge funds and private equity in both traditional (illiquid) and liquid vehicles, may provide diversification and a competitive risk-adjusted return; and,
- That it is prudent to consider the Organization's tax status (including the applicability of UBIT).

Objectives and Constraints

This Investment Policy Statement ("IPS") serves as a strategic guide in the planning and implementation of an investment program for the Organization and governs the investments associated with the Lower Makefield Township Trust.

IV. Statement of Goals

The Board of Supervisors and Investment Committee's investment objective should be focused on support for:

- Consideration of the Lower Makefield Township's cash flows, time horizon, and overall risk tolerance for this asset pool;
- Total return approach, emphasizing both current income and growth in principal; and
- A recognition of the fact that the assets being invested are public assets.

This will be achieved through a 5% average spending/distribution policy provided that the spend/distribution does not cause the fair market value of the Trust Assets to be less than $10,000,000.

V. Spending Rules—Trust

The Board of Supervisors and the Investment Committee should adopt a spending rule, by defining the amount of Fund distributions, to instill discipline into the budgeting and financial management process. A spending rule will assist the Board of Supervisors and Investment Committee in determining the Fund's required rate of return and risk tolerance objectives, which in turn may lead to less volatile distributions from year-to-year, and improve the visibility of distributions.

While the long-term annual spending and distributions from the Fund are targeted to average 5% of a moving 12-quarter market value average of the Fund, spending and distributions in any one fiscal year may range between a minimum of 2% percent and a maximum of 7%. However, spending and distributions may occasionally exceed this amount as necessary provided that the spend/distribution does not cause the fair market value of the Trust Assets to be less than $10,000,000.

VI. Return Objectives

The long-term return objective is to preserve the real value of the Fund assets while supporting the spending policy and management expenses.

The Committee will monitor the Lower Makefield Township Trust's performance on a quarterly basis and will evaluate each Investment Manager and/or mutual fund's contribution toward meeting the investment objectives outlined below over a reasonable time period.

A. Primary Performance Target: The real return objective of the Lower Makefield Township Trust's portfolio is inflation + 5.0% where inflation is measured by the Consumer Price Index released by the U.S. Bureau of Labor. The Lower Makefield Township Trust's portfolio is expected to exceed the geometric mean return of this benchmark on a risk-adjusted basis over three and five-year rolling time periods

B. Secondary Benchmark: It is desired that the Lower Makefield Township Trust's portfolio produce a level of return higher than the "market" as represented by a benchmark index or mix of indexes reflective Lower Makefield Township Trust's return objectives and risk tolerance. This benchmark or "policy index" is to be constructed as follows:

67%- MSCI All Country World Return

28%- Barclays Global Aggregate Bond Index

5%- BofA Merrill Lynch US LIBOR 3 Month

Starting in 2025, the portfolio is expected to contribute to fund a long-term, inflation-adjusted annual spending rate of 2% to 7%, consistent with the spending rule defined above, in order to maintain the purchasing power of the principal over the long-term.

VII. Risk Tolerance

The Investment Committee is expected to cause the Fund to be diversified in order to minimize the risk of large losses and to manage volatility of asset classes and investment styles. The Investment Advisor(s) are expected to invest Fund assets in accordance with the standard of care set forth in the investment management agreement between such Investment Advisor(s) and the Fund and to seek reasonable diversification where possible.

The Committee has analyzed the behavior of Lower Makefield Township Trust's assets within different economic environments and is comfortable with a moderate risk strategy. This is a goal of investing the Lower Makefield Township Trust's assets with the objective of earning long-term returns with the understanding that there is a potential for negative returns in any one year.

The Township recognizes that, over the long term, the risk of owning equities has been and is expected to continue to be rewarded with a relatively greater return than what has been historically available from fixed income investments. The role of fixed income investments is to reduce the volatility of the overall portfolio, while providing a predictable stream of income. The Organization expects the Investment Committee to follow these accepted investment principals in oversight of the assets of the Fund.

It is understood that the trust must generally be more aggressive on the risk tolerance scale in order to meet return requirements, however, the Investment Advisor(s) are expected to seek to minimize risk against the return objective.

VIII. Time Horizon

Except with regard to portions of the Fund explicitly set aside to fund specific projects, the time horizon for the investment assets will be assumed to be perpetual.

IX. Liquidity Requirements

Generally, the Board of Supervisors expects that the Investment Committee will determine the Township's anticipated spending needs and the amount that should be held in a cash reserve and excluded from investable assets. The Investment Committee has determined that no more than 5% of Trust assets should be held as cash for distribution or emergency purposes at any given time unless otherwise instructed by the Board of Supervisors.

X. Unique Circumstances

Loan Provisions in the Trust Agreement

Vote of supermajority 4 of 5 members of the Board of Supervisors may result in the withdrawal of a part or whole of the Trust assets.

A determination that the Township is deemed fiscally distressed under Pennsylvania Act 47 of 1987, as may be amended, may result in the withdrawl of a part or whole of the Trust assets.

Income reinvested through 2025 with subsequent board decision/directive

Portfolio Parameters

XI. Strategic Asset Allocation and Benchmarks

The Investment Committee believes that the most significant decision to affect the ability of the Fund to meet its objectives is asset allocation. Based on the investment objectives and risk tolerances stated herein, the following asset mix targets and ranges are considered appropriate:

Asset Class	Minimum	Target	Maximum	Evaluative Index

U.S. Equity	**20%**	**50%**	**70%**	**Russell 3000**
Large Cap	**15%**	**32%**	**50%**	**S&P 500**
Mid Cap	**5%**	**7%**	**14%**	**Russell 2500**
Small Cap	**3%**	**5%**	**10%**	**Russell 2000**
REITs	**0%**	**6%**	**10%**	**NAREIT**
Non-U.S. Equity	**10%**	**17%**	**45%**	**MSCI World EX-US**
Developed	**5%**	**12%**	**35%**	**MSCI – EAFE**
Emerging	**0%**	**5%**	**15%**	**MSCI – Emerging & Frontier Markets**
U.S. Fixed Income	**10%**	**28%**	**60%**	**Barclays Global Aggregate Bond Index**
Short	**0%**	**0%**	**40%**	**BofA ML 1-3 yr Corp/Treasury**
Intermediate	**0%**	**28%**	**40%**	**Bloomberg Barclays US Aggregate Bond Index**
High Yield	**0%**	**0%**	**10%**	**BofA US HY Constrained,**
Non-U.S. Fixed Income	**0%**	**0%**	**15%**	
Developed	**0%**	**0%**	**15%**	
Emerging	**0%**	**0%**	**5%**	
Cash or Cash Equivalents	**2%**	**5%**	**10%**	**BofA ML US LIBOR 3 Month**

It is the responsibility of the Investment Advisor(s) to monitor asset allocations and to make adjustments in their Portfolios, as necessary, to achieve on-going allocation consistency with the guidelines for the Portfolio set forth in this IPS. It is the responsibility of the Investment Committee to monitor asset target allocations with respect to the Fund as a whole to maintain compliance with the objectives set forth in this IPS.

XII. Selection and Retention Criteria for Investments

The Investment Committee will appoint Investment Advisor(s) following a systematic search for those with demonstrated skill in the discipline desired. Investment Advisor(s) will have discretion to manage their respective Portfolios in accordance with the style for which they are employed, subject to the restrictions and limitations in this IPS.

Investment funds and managers will be chosen and retained by the Investment Advisor(s) using criteria including, but not limited to, the following:

- The investment style and discipline of the proposed Investment Manager
- Past performance, considered relative to benchmarks having the same investment objective – consideration shall be given to both rankings over various time frames and consistency of performance

- The historical volatility and down-side risk of each proposed investment
- The size of the organization as measured by the amount of assets under management with respect to the investment style under consideration
- Experience of the organization as measured by the tenure of the professionals with respect to the investment style under consideration

The Investment Advisor(s) will monitor managers for consistent investment process, performance, and risk including but not limited to key man and operational risks.

With regard to managers with active mandates, their selection and retention within the portfolio will be predicated on whether or not they fulfill the purpose for which they were selected. If the purpose is:

- risk management, the manager will be evaluated as to how well downside protection is provided and at what cost to upside participation;
- security selection, the manager will be evaluated relative to an appropriate benchmark.

The Investment Advisor(s) will monitor active managers and mandates to determine whether or not value is added relative to the intention or to a passive mandate. If the Investment Advisor(s) determine that it is not, a passive investment vehicle will be selected for that part of the allocation.

XIII. Types of Securities

The Board of Supervisors and Investment Committee recognize that risk and volatility is present with all types of investments and, in performing their respective fiduciary duties for the Organization, they should avoid high levels of relative risk in every asset class. To this end, the Investment Committee should ensure that the Fund manages risk appropriately through diversification by asset class, sector, industry and issuer limits, maturity limits and, to the extent possible, management style. If mutual funds are utilized, their investment objectives should be consistent with this IPS.

Restricted Investments:

Russian public listed companies securities

XIV. Portfolio Rebalancing

The purpose of the rebalancing is to help control risk and maintain asset allocation within the ranges set forth in this IPS. The Investment Committee will be responsible for keeping the Fund as a whole, and Investment Advisor(s) will be responsible for keeping their Portfolio, within the established tolerance levels around the targeted strategic asset allocation. While it is at the Investment Advisor(s) discretion as to the frequency with which they rebalance their Portfolio to the targeted levels, it is understood that asset weight drift that exceeds the tolerance thresholds will be promptly corrected.

Risk Management

XV. Control Procedures

Review and Evaluation of Investment Objectives

The achievement of the investment objectives in this IPS shall be reviewed at least on an annual basis by the Investment Committee. This review will focus on the continued feasibility of achieving the objectives and the continued appropriateness of this IPS. It is not expected that this IPS will change frequently. In particular, short-term changes in the financial markets should not require an adjustment in the IPS.

Review and Evaluation of Investment Advisor(s):

The Investment Committee will meet periodically with the Investment Advisor(s) or their representative(s). Additionally, with or without the Investment Advisor(s), the appropriate committees will review investment results on an established basis.

These reviews will focus on:

- The Investment Advisor(s)' adherence to this IPS;
- Comparison of the Investment Advisor(s)' results to the benchmark established for their Portfolio;
- Material changes in the Investment Advisor(s)' investment philosophy or changes in personnel managing the Fund.

Termination of an Investment Advisor should be considered under the following circumstances:

- Deviation from this IPS.
- Deviation substantially from the Investment Advisor(s)' investment disciplines and process.

XVI. Performance Objectives

The Fund's and each Portfolio's investment performance will be reviewed on a quarterly basis, with long-term emphasis placed on results achieved over a full market cycle (typically three-to-five year period). This IPS will be reviewed annually and adjusted, if necessary, after consultation with the Investment Committee. Investment Advisor progress will be measured against this IPS and for consistency with the total return objectives for the Advisor's Portfolio; performance will be reflected net of management fees.

With regard to performance benchmarking, the Fund and each Portfolio will be measured against a blended index of the component parts used to measure the equity, fixed income, and alternative asset allocations, as/if applicable. This blend will be weighted by the targeted strategic allocation proposed for the Fund and each Portfolio, as outlined in this IPS.

Client Service

XVII. Communication

The Investment Advisor(s) are responsible for frequent and open communication with the Investment Committee on all material matters pertaining to the investment of the Fund.

The Investment Advisor(s) will promptly notify The Investment Committee of changes in market conditions which may materially impact the Fund. The Township will notify the Investment Advisor(s) promptly of any changes in the Fund or this IPS.

XVIII. Reporting

The Investment Advisor(s) will provide comparative performance evaluation reports on a quarterly basis. In addition, the Custodian will provide quarter-end regular accounting of transactions, Fund holdings, yields, current market values, summary of cash flows, and calculations of the Fund's total rate of return.

The Investment Advisor(s) and/or Custodian will forward to the Township Manager, as they become available, monthly reports containing Fund activity and asset holdings at book and market values. Quarterly, the Investment Advisor(s) should submit tactical and strategic updates regarding the Fund's management for performance evaluation purposes.

Acknowledgment of IPS

XIX. Adoption of Investment Policy Statement

Lower Makefield Township certifies that this Investment Policy Statement was adopted by the Lower Makefield Township Board of Supervisors at their regularly scheduled meeting on March 1, 2023.

Lower Makefield Township

By:______________________________

Name: David W. Kratzer, Jr.
Township Manager
Lower Makefield Township, Bucks County

Acknowledgement By Investment Managers

The Investment Manager named below acknowledges receipt of the Lower Makefield Township Investment Policy Statement, dated March 1, 2023. In the event any of the terms of the Investment Policy Statement conflict with the terms and conditions of an investment management agreement or custody agreement entered into between the Township and the Investment Manager, the terms of the investment management or custody agreement shall govern.

PNC, Institutional Asset Management

____________________ ____

Date Signature

Appendix

Results in this report incorporate PNC's Capital Market Assumptions (CMA) for calendar year 2023. These assumptions represent PNC Bank's 10-year projections of risk and return for the respective asset classes. These estimates are updated on an annual basis (generally at the beginning of each year) and take into account economic fundamentals, long-term historical trends, as well as other relevant factors.

Methodology

CMA returns reflect combining market-implied equilibrium returns with PNC's subjective views using a technique known as Black-Litterman[1]. Black Litterman Methodology blends subjective and market-implied views using a Bayesian approach that takes account of cross-asset-class relationships to help determine an internally consistent set of final estimates. In general, the expected return on every asset class is adjusted so that it is as consistent as possible with both the market-implied equilibrium and our subjective views, even if we do not express a specific subjective view on that asset class. This methodology is an imperfect model of market behavior. Among the simplifications is the assumption that asset returns are adequately summarized by constant means, variances, and correlations. Empirical evidence generally indicates that these statistics are not sufficient to fully characterize asset returns.

The projected returns for hedge funds, private debt, private equity, and private real estate (property) include premiums for the fact that these classes are, in varying degrees, illiquid. The mean returns shown should be interpreted as arithmetic average returns. They are not compounded rates of return. The difference between these two concepts is approximately equal to one-half the asset's volatility squared.

Key Assumptions

Risk-Free Rate — At the time we performed our 2023 CMA analysis (August 25, 2022), the yield on the 10-year UST was approximately 3.00%, which we used as a nominal approximation for the risk-free rate. For reference, the 2022 analysis used a risk-free rate of 1.50%, reflecting substantially lower interest rates from just a year prior.

Inflation — PNC Economics assumes the Fed will achieve its inflation targets over the longer term, as measured by the Personal Consumption Expenditure Price Index (PCE)[2], which converges to 2.0%, and the Consumer Price Index (CPI)[3], which converges to 2.25%.

In our CMA analysis, we also use 2.25% per year for CPI over the forecast period, consistent with, but slightly higher than, the Fed's long-run target level of 2%. While CPI is currently at the highest level in 40 years, over the next 10 years we believe levels will normalize to 2.25%. For developed international markets, we use an inflation assumption of 1.75%, consistent with last year's analysis. Unlike the Fed's inflation target of 2%, the Eurozone has an inflation target of just under 2%. Additionally, Japan has undershot its 2% inflation target for most of the last 30 years. For emerging markets (EMs), we use 3.5%, again consistent with last year's analysis.

[1] The Black-Litterman methodology was introduced by Fischer Black and Robert Litterman of Goldman Sachs in 1990. It avoids problems inherent in some other methods by incorporating market-implied equilibrium returns consistent with the risk structure of the asset classes. The model works by blending subjective and market-implied views using a Bayesian approach that takes account of cross-asset-class relationships to help determine an internally consistent set of final estimates. In general, the expected return on every asset class is adjusted so that it is as consistent as possible with both the market-implied equilibrium and our subjective views, even if we do not express a specific subjective view on that asset class.

[2] The PCE measure is the component statistic for consumption in GDP collected by the U.S. Bureau of Economic Analysis. It consists of the actual and imputed expenditures of households and includes data pertaining to durable and nondurable goods and services.

[3] The CPI measures changes in the price level of a weighted average market basket of consumer goods and services purchased by households. It is usually calculated and reported by the Bureau of Economic Analysis and Statistics of a country on a monthly and annual basis.

Capital Market Projections have been furnished for illustrative purposes only and are not intended as investment advice. Past performance is not indicative of future returns. Source: PNC

PNC INSTITUTIONAL ASSET MANAGEMENT

U.S. Dollar — We have assumed the Fed's nominal Trade-Weighted U.S. Dollar Index[4] remains flat over the forecast horizon. PNC Economics believes the dollar has the potential to modestly depreciate, at a rate of 0.1–0.3% per year, over the long run against developed market currencies, simply because U.S. inflation averages higher than that of both the Eurozone and Japan. However, given the significant interest rate differentials across the globe, we expect the dollar to largely maintain its current position of relative strength against most other major currencies over the forecast horizon.

Currency Impacts — International equities generally entail currency exposure, which potentially adds volatility for U.S. investors. However, compensation for this additional risk may not be adequate or reliable, and international equities have not historically offered consistent purchasing power protection. Over the short term, when the dollar is strengthening, U.S. equities and fixed income investments tend to outperform their international counterparts. Conversely, when the dollar is weakening, international investments tend to outperform. This is all from the perspective of a U.S.-based investor (defined as an investor whose local currency is the U.S. dollar, whether an individual or institution).

In an international equity portfolio with exposure to a basket of currencies, some will likely have positive returns in local currency terms, while others will be negative. In theory, this counterbalancing effect should result in currency exposures netting themselves out over time. In addition, currency returns are largely uncorrelated (or at least not strongly positively correlated) and, as such, tend to help diversify equity portfolios. Furthermore, there is ample empirical evidence — cited by the CFA Institute among others — suggesting the standard deviation (i.e., volatility) of currency prices is only about half the standard deviation of stock prices. This suggests to us that an unhedged currency exposure may help reduce the volatility of an international equity portfolio over time. As currencies also tend to revert to a theoretical fair value/mean over time, currency related volatility risk tends to fall, becoming a less critical component of equity risk. Thus, over the long term, our preference is to be unhedged.

Cash and Cash Equivalents — We use the three-month Treasury bill (T-bill) as our proxy for cash, despite it being subject to inflation and interest rate risk. Although T-bills typically do not generate positive real returns (i.e., inflation adjusted), they do offer liquidity, safety of principal and exemption from state and local taxes. T-bills tend to carry higher yields than what are available in cash accounts, such as money market funds or deposit accounts, but are comparable on a risk-adjusted basis. Our expected return and volatility assumptions for the three-month T-bill are 3.00% and 0.49%, respectively, for the 2023 CMAs.

Volatility — Our volatility assumptions are primarily driven by a historical blend of both turbulent and quiet market periods, defined as moves of 20% or more. We examine the number of turbulent and quiet phases as defined by Windham Portfolio Advisors to determine the most appropriate blend. Based on our analysis of historical market volatility over the past 20-plus years, we use a blend of 60% quiet periods, 40% turbulent periods to derive our assumed asset class volatilities. We have consistently implemented this methodology since 2017.

While 2022 delivered above-average volatility across several asset classes — albeit far lower than the records set in 2020 — we do not believe the same degree of price swings is sustainable over an extended time horizon. Therefore, the volatility backdrop is not significant enough, in our view, to shift our split between quiet and turbulent periods, given we are forecasting a 10-year horizon. We will revisit this stance annually and would look to make an adjustment should persistently heightened volatility become the "new normal," as opposed to our current assumption of some mean reversion.

[4] *The Trade-Weighted U.S. Dollar Index, also known as the broad index, is a measure of the value of the dollar relative to other world currencies. It is a trade-weighted index that improves on the older U.S. Dollar Index by using more currencies and updating the weights yearly rather than on an ad-hoc basis.*

Capital Market Projections have been furnished for illustrative purposes only and are not intended as investment advice. Past performance is not indicative of future returns. Source: PNC

Capital Market Assumptions: 10-Year Forecast

2023-2032

PNC INSTITUTIONAL ASSET MANAGEMENT

Asset Class	Index	Projected Annual Return	Projected Annual Volatility[5]
U.S. EQUITY			
US Large Cap – Growth	S&P 500 Growth	6.80%	15.45%
US Large Cap – Core	S&P 500	7.15%	15.35%
US Large Cap – Value	S&P 500 Value	7.50%	16.05%
US Mid Cap – Growth	S&P Mid Cap 400 Growth	8.00%	19.10%
US Mid Cap – Core	S&P Mid Cap 400	8.40%	18.60%
US Mid Cap – Value	S&P Mid Cap 400 Value	8.80%	18.85%
US Small Cap – Growth	Russell 2000 Growth	8.90%	21.00%
US Small Cap – Core	Russell 2000	8.85%	20.75%
US Small Cap - Value	Russell 2000 Value	8.85%	20.95%
Real Estate Investment Trusts	MSCI USA IMI Real Estate	7.80%	23.00%

Asset Class	Index	Projected Annual Return	Projected Annual Volatility[5]
INTERNATIONAL EQUITY			
Int'l Large/Mid – Growth	MSCI World ex USA Growth	7.60%	18.15%
Int'l Large/Mid – Core	MSCI World ex USA	8.00%	19.05%
Int'l Large/Mid – Value	MSCI World ex USA Value	8.30%	19.85%
Int'l Small – Growth	MSCI World ex USA Small Cap Growth	8.70%	20.25%
Int'l Small – Core	MSCI World ex USA Small Cap	8.70%	20.50%
Int'l Small – Value	MSCI World ex USA Small Cap Value	8.80%	20.70%
Emerging Markets	MSCI Emerging Markets	10.00%	26.25%

Asset Class	Index	Projected Annual Return	Projected Annual Volatility[5]
FIXED INCOME			
Municipal Short-Term	Bloomberg Municipal Bond (1-3 Yr)	3.30%	1.55%
Municipal	Bloomberg Municipal Bond	3.70%	5.10%
Core Short-Term	Bloomberg US Aggregate (1-3 Yr)	3.40%	2.50%
Core	Bloomberg US Aggregate	3.70%	4.15%
Taxable Intermediate	Bloomberg Gov't/Corporate Intermediate	3.70%	5.45%
Taxable Long	Bloomberg Gov't/Corporate Long	4.20%	9.40%
U.S. Leveraged Loans	Morningstar LSTA U.S. Leveraged Loan	4.90%	9.05%
U.S. High Yield	Bloomberg U.S. Corporate High Yield	6.20%	12.20%
Int'l Developed Markets	Bloomberg Global Aggregate Ex-US	5.70%	9.40%
Emerging Markets	Bloomberg Emerging Markets USD Aggregate	6.20%	10.80%
Inflation-Linked Bonds	Bloomberg US Treasury TIPS	4.50%	7.35%

Asset Class	Index	Projected Annual Return	Projected Annual Volatility[5]
ALTERNATIVES			
Private Equity	Cambridge US Private Equity[6]	10.65%	23.75%
Private Debt	Bloomberg US Agg Credit Corp HY (Caa)[6]	7.60%	16.95%
Private Real Estate	NCREIF Property[6]	7.35%	18.40%
Timber	NCREIF Timber[6]	3.50%	12.15%
Infrastructure	S&P Global Infrastructure Index	9.30%	12.80%
Commodities	Bloomberg Commodity Index	8.35%	18.45%
Master Ltd Partnerships	Alerian MLP	6.30%	18.95%
Hedge Funds	HFRI Fund of Funds Composite Index	4.80%	7.55%

[5] The volatilities for each asset class shown in this table represent our projections for annual volatilities. In performing the underlying analysis, we used historical monthly volatilities (as opposed to daily or weekly) spanning the last 20+ years as a key input.

[6] The Private Equity, Private Debt, Private Real Estate and Timber indices have been de-smoothed and the resulting index returns generally tracks the return patterns of the original index, but with greater volatility.

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Lower Makefield Township

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