



# **Gaining Valuable New Insight Into Your Investment Portfolio**

**Using A Peer-Based Index To Better Inform  
Investment Decisions**



## **Jon Sundberg**

Senior Managing Consultant

---

Jonathan Sundberg is a senior managing consultant in PFM's Philadelphia office. As a member of PFM's Financial Institutions Group, he helps depositories optimize their investment portfolios.

Jonathan is co-creator of PFM's Community Bank Investment Index (PFM CBI Index), a first-of-its-kind tool that allows investors, regulators and market participants to easily assess the risk and return profiles of the 5,000+ institutions within the community banking industry.

Prior to joining PFM, Jonathan served as Vice President Institutional Sales at Janney Montgomery Scott with a focus on servicing community banks. In this role, Jonathan developed targeted trading strategies to meet clients' performance goals.

# What We Do

## FINANCIAL MODELING

powered by Whitebirch

## FINANCIAL ADVISORY

transaction management & bond pricing | credit strategies | capital planning

## ASSET MANAGEMENT

cash & liquidity management | short & intermediate term fixed income | multi-asset class | structured products

## CONSULTING

fiscal planning & budgeting | organizational efficiency & effectiveness | policy & program analysis | workforce strategy & negotiation support

## ALTERNATIVE FINANCE

public private partnerships & economic development | developer selection & negotiation | asset & real estate portfolio analysis & monetization | environmental finance | tax credit & incentive policies

## SPECIALIZED SERVICES

derivatives advisory | treasury management consulting | payment solutions | arbitrage rebate consulting | retirement finance



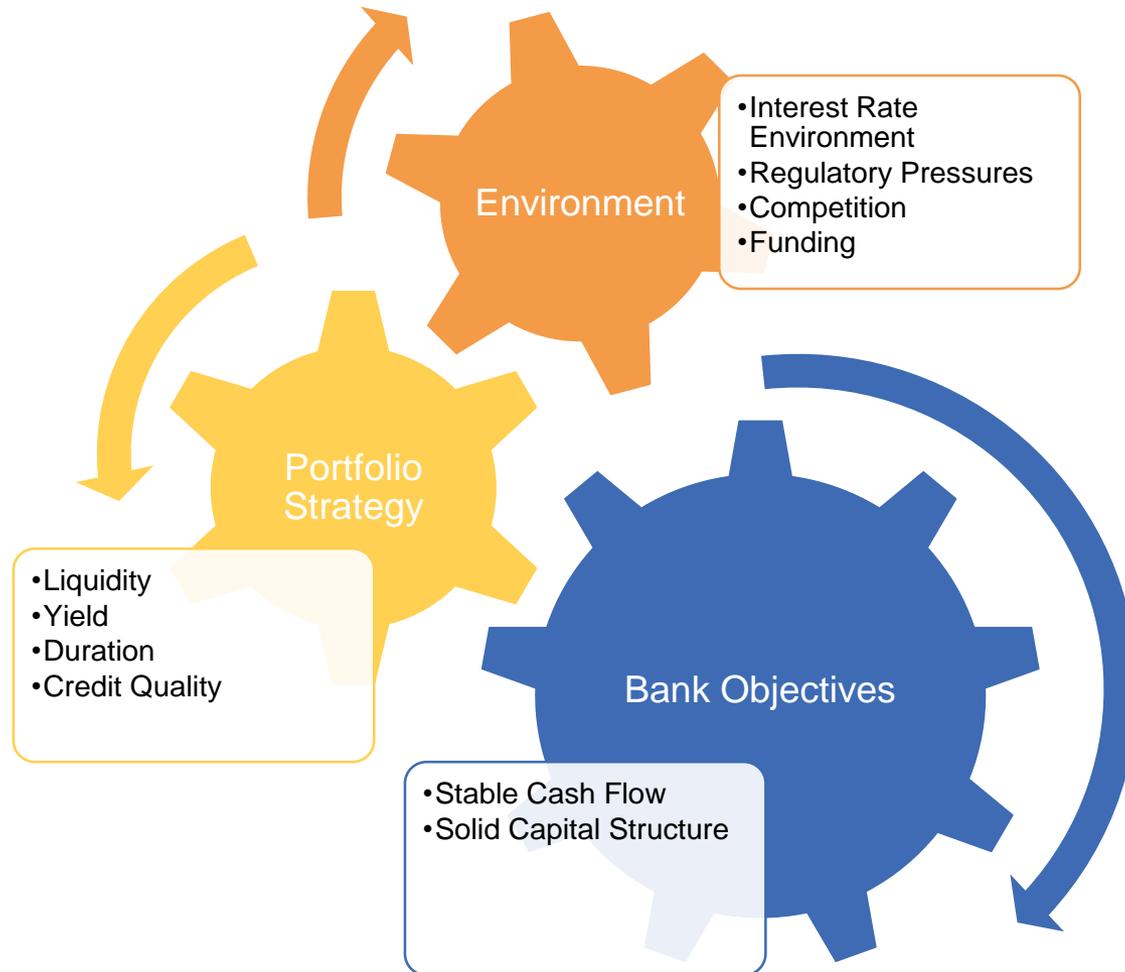


## How are investment decisions currently made?

- ◆ Is there a well-defined plan, or is every purchase a “one off”?
- ◆ Is peer comparison part of your process or do you rely on anecdotal evidence?



## Is the Process Working?



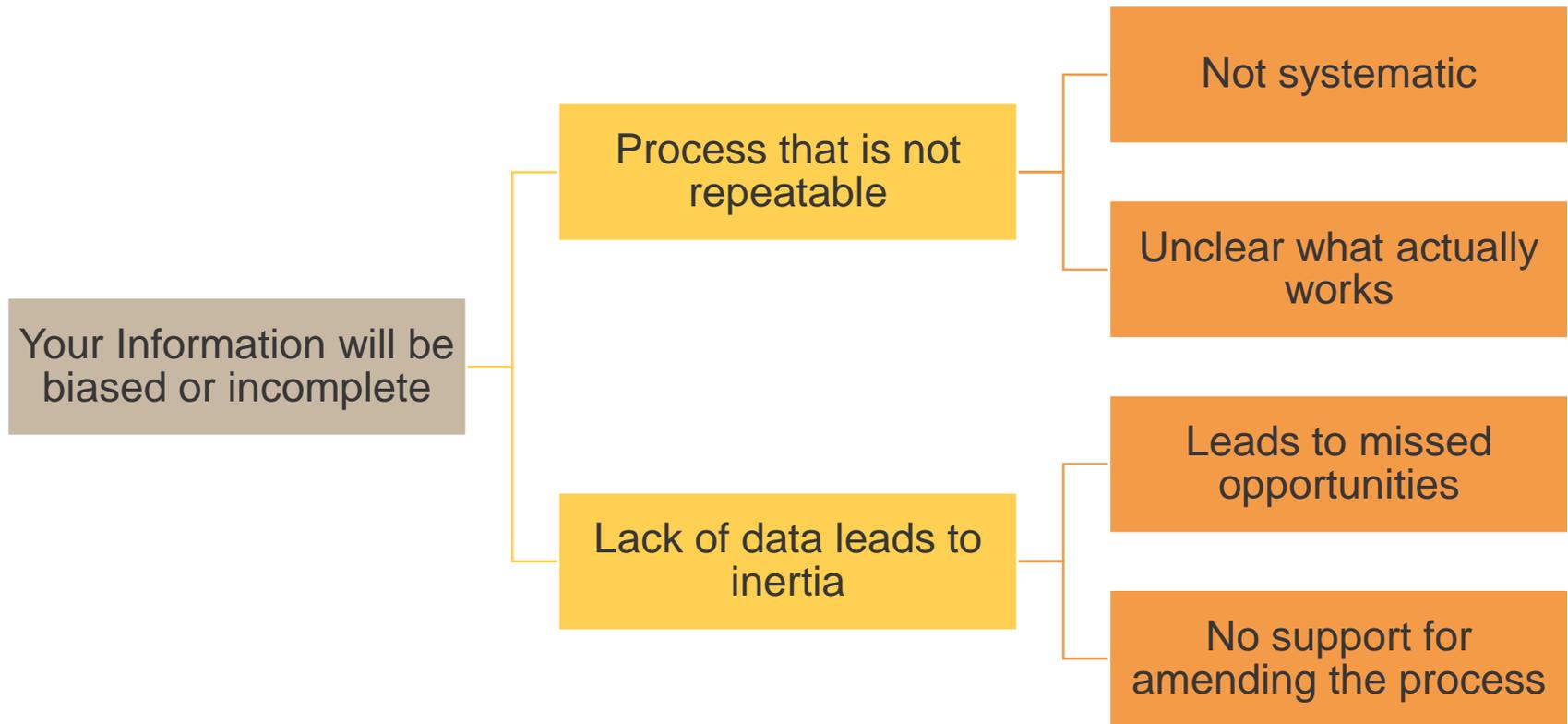
# How Can You Tell?

Comparing to a peer-based index help you tell where you are in the pool and how fast or how slow you are going.





## What are the risks associated with not considering a peer based index?





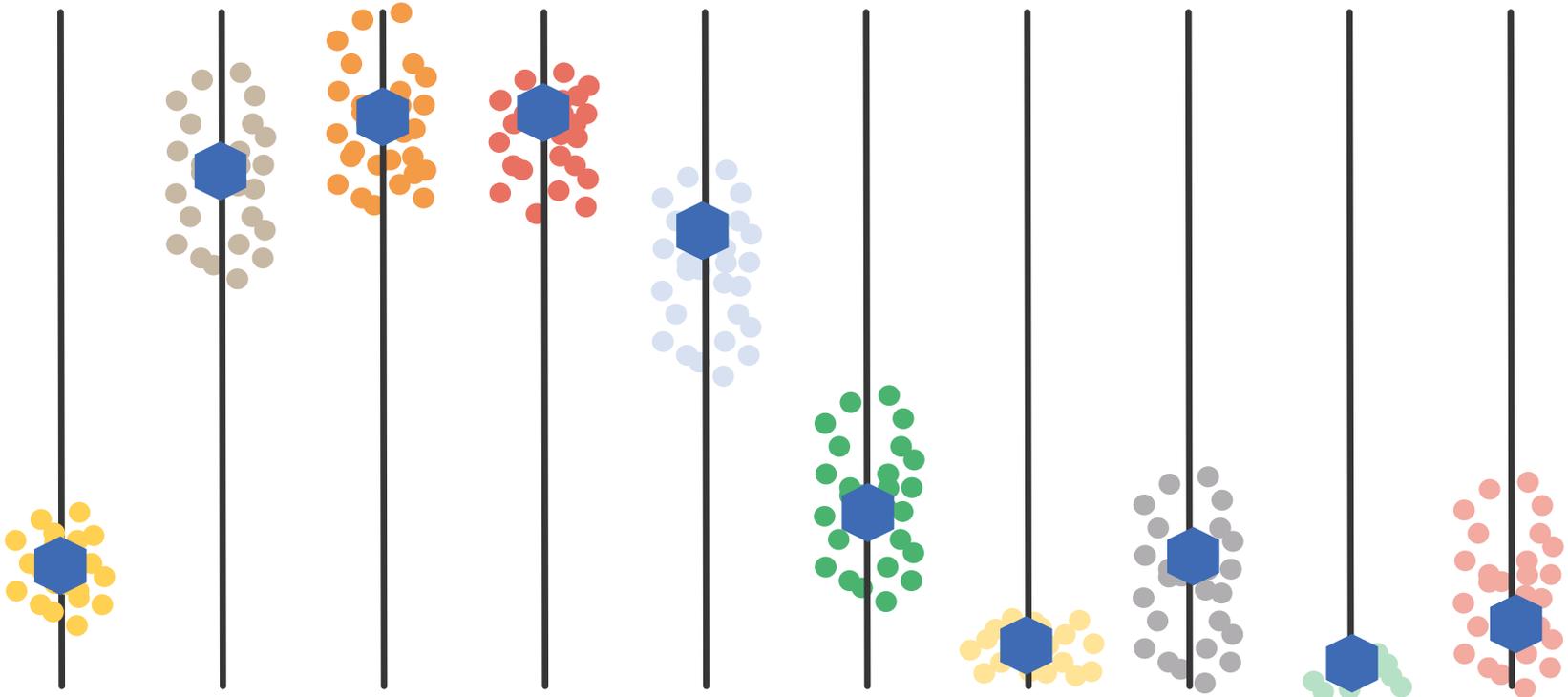
**What is there to gain by considering a peer based index?**



## A peer index expresses the industry's holistic view

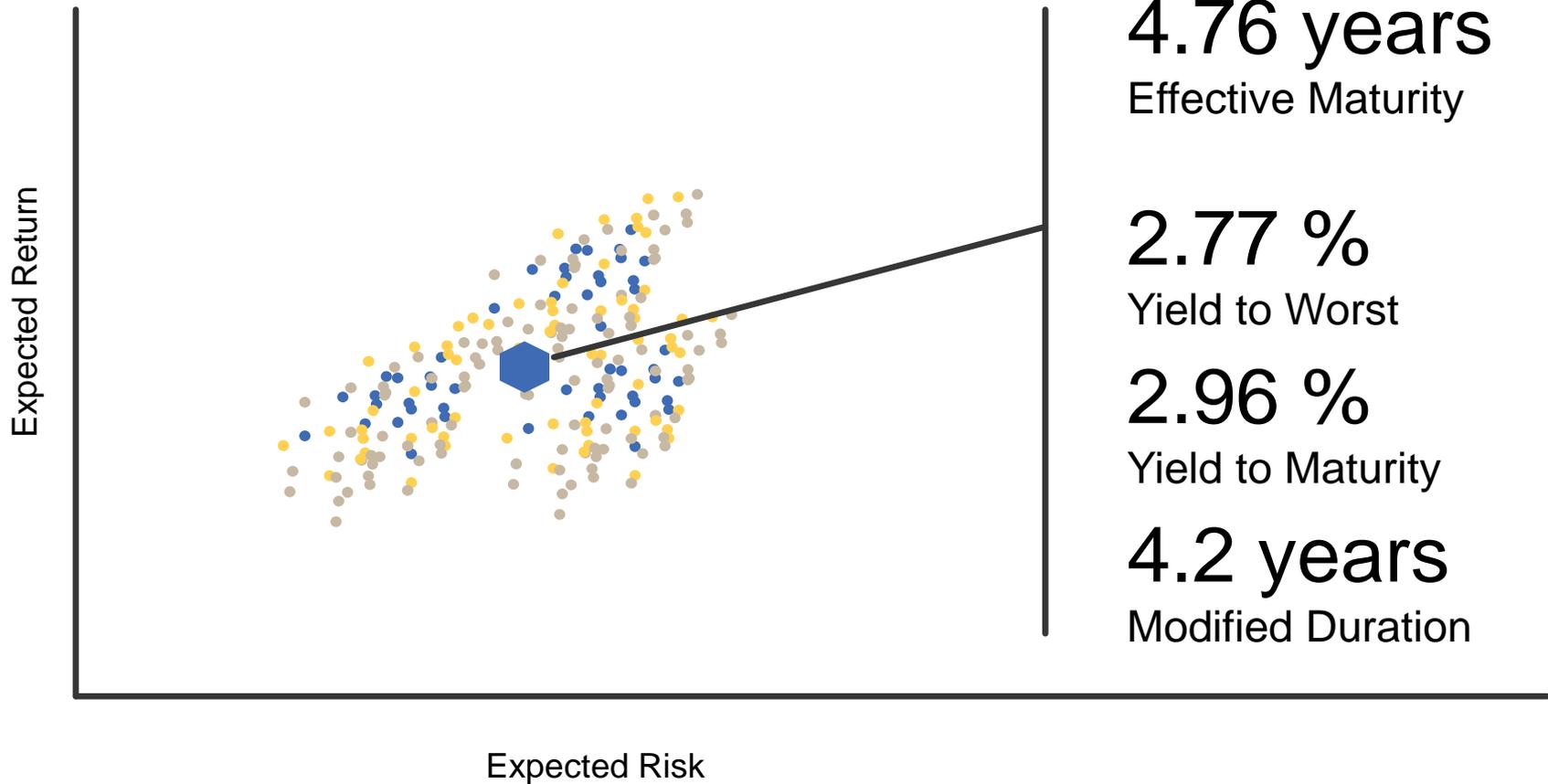
### ASSET ALLOCATION

Treasury	Agency	Municipal	MBS	CMO	CMBS	ABS/ Structured	Corporate Domestic	Corporate Foreign	Equity Securities
3.3%	17.1%	26.3%	26.3%	13.9%	5.3%	2.0%	4.3%	0.5%	1.0%





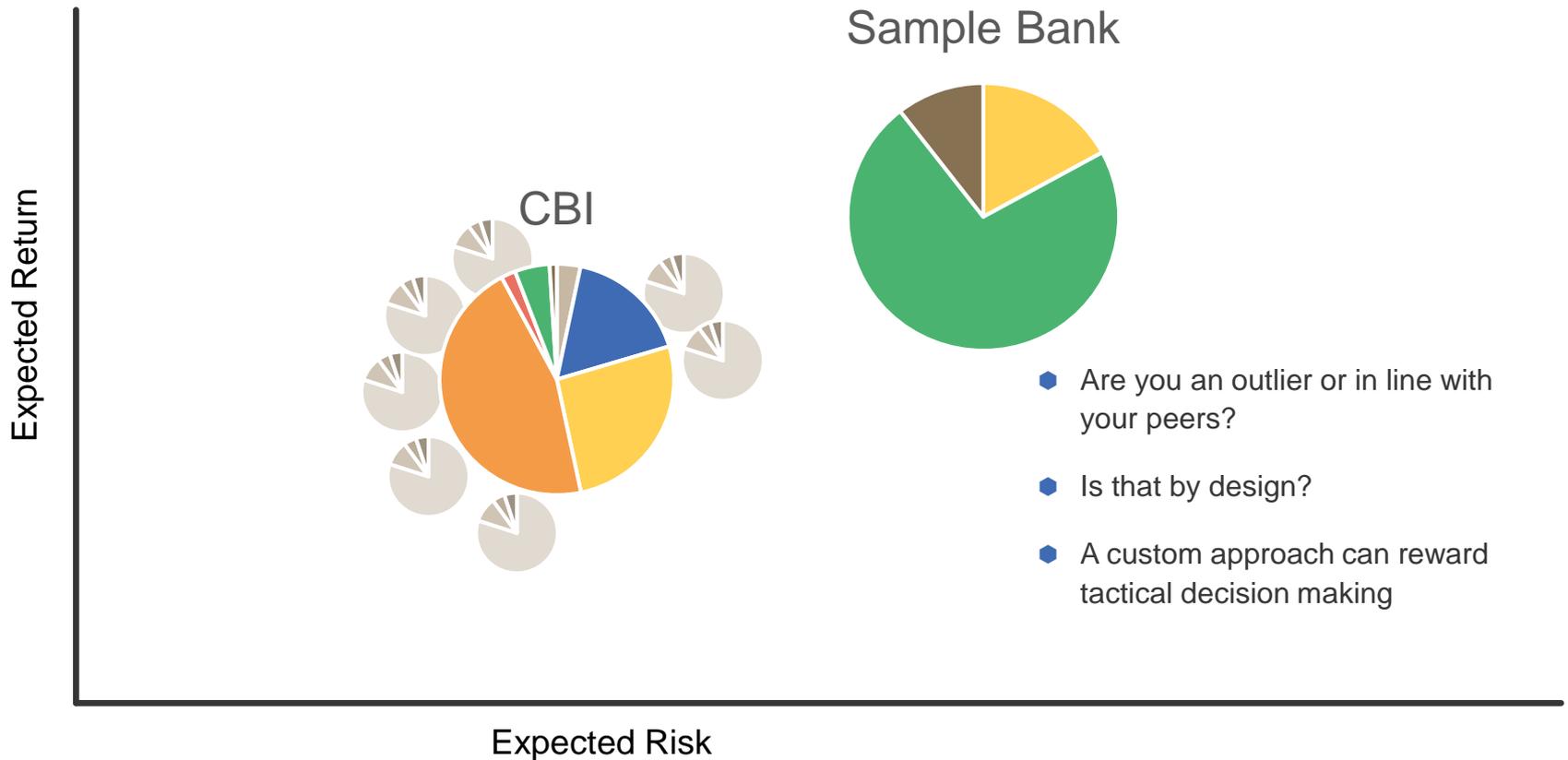
## A peer index expresses the industry's holistic view



Source: CBI Index as of February 15, 2018



## Provides a relative benchmark for comparison of investment allocation and performance

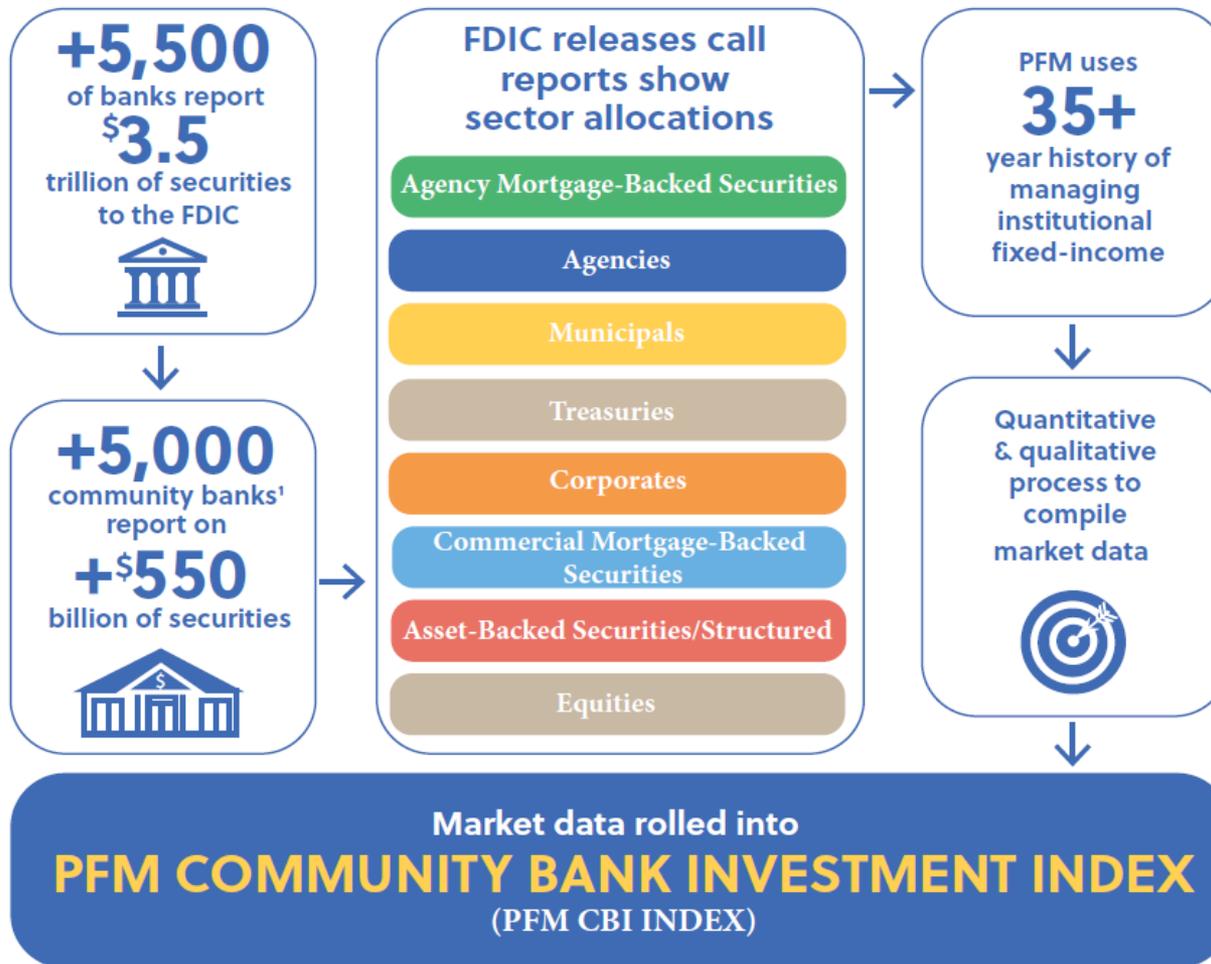




**What needs to be considered when developing a peer based index?**



## Things to Consider



<sup>1</sup> Community banks are defined as FDIC members with \$10 billion or less in total assets.



# The PFM CBI Index

**Newsletter | First Quarter 2018**

## PFM Community Bank Investment Index

The PFM Community Bank Investment Index (PFM CBI Index) is a national index designed to assess regional and community bank securities portfolios, providing a snapshot of risk versus return and asset allocation.

### Economic and Index Summary

- Building on the themes of 2017, the global economy began 2018 with positive momentum marked by strong consumer spending and improved business investment. Yields rose and equity prices surged before an early February jolt. The initial reading of fourth quarter Gross Domestic Product (GDP) indicated that the U.S. economy grew at an annual pace of 2.6% and 2.3% for the year. Economists' projections for the four quarters are similar, with estimates for GDP growth in the 2.4% to 2.6% range.
- For the period ended February 15, 2018, the PFM CBI Index shows community bank portfolio yields trended higher with a Yield to Maturity (YTM) of 2.96% versus 2.45% a quarter ago, and 2.49% a year ago. This may be attributed to the continuing rise in rates in the short end of the curve. Federal Reserve (Fed) policy makers have projected three rate hikes for 2018, although there is some question whether the balance between employment and inflation may support as many as four increases. As a result, markets, especially for short term structures, have already priced in these tightening measures. Portfolio durations extended slightly with a modified duration of 4.20 years versus 4.08 years last quarter.
- The PFM CBI Index shows almost \$551 billion invested in securities, of which approximately \$471 billion and \$80 billion are classified as Available for Sale and Held to Maturity, respectively. The \$551 billion represents a



## PFM Community Bank Investment Index

Total Investments	Composition		Dollar Change		
	Last Year 2/16/17	Previous Qtr 1/16/17	Current 2/16/18	\$ 1/4 Quarter	\$ 1/2 Annual
Treasury	8.2%	3.0%	3.3%	-7.7%	-8.4%
Agency	16.9%	17.4%	17.1%	-2.3%	-2.6%
Municipal	26.2%	26.4%	26.3%	-1.1%	-4.5%
MBS	27.0%	26.5%	26.3%	-1.8%	-7.2%
CMO	19.9%	14.0%	15.9%	-1.0%	-4.9%
CMBS	4.8%	5.0%	5.3%	0.3%	6.4%
ABS/Structured	1.8%	1.9%	2.0%	7.9%	5.7%
Corporate Domestic	4.4%	4.3%	4.3%	-2.5%	-6.9%
Corporate Foreign	0.5%	0.5%	0.5%	0.1%	-5.4%
Equity Securities	1.0%	1.0%	1.0%	0.8%	-4.0%
Grand Total	100.0%	100.0%	100.0%	-0.7%	-4.8%

Available for Sale	Composition		Dollar Change		
	2/16/17	1/16/17	2/16/18	\$ 1/4 Quarter	\$ 1/2 Annual
Treasury	3.2%	2.7%	3.0%	0.7%	-11.5%
Agency	14.4%	14.8%	14.6%	-2.0%	-3.1%
Municipal	21.1%	21.5%	21.5%	-0.4%	-2.8%
MBS	23.2%	22.8%	22.8%	-0.8%	-7.7%
CMO	12.2%	12.3%	12.3%	-0.7%	-4.3%
CMBS	4.0%	4.3%	4.6%	7.0%	9.5%
ABS/Structured	1.7%	1.8%	2.0%	9.0%	6.5%
Corporate Domestic	3.6%	3.6%	3.5%	-2.4%	-6.0%
Corporate Foreign	0.4%	0.4%	0.4%	-1.7%	-2.4%
Equity Securities	1.0%	1.0%	1.0%	0.6%	-4.0%
Grand Total	84.8%	85.1%	85.5%	-0.3%	-4.0%

Held-to-Maturity	Composition		Dollar Change		
	2/16/17	1/16/17	2/16/18	\$ 1/4 Quarter	\$ 1/2 Annual
Treasury	0.3%	0.3%	0.3%	-1.6%	-12.7%
Agency	2.5%	2.6%	2.5%	-4.3%	-6.4%
Municipal	5.1%	4.9%	4.8%	-4.7%	-9.4%
MBS	3.7%	3.7%	3.7%	-1.7%	-6.8%
CMO	1.7%	1.7%	1.6%	-3.1%	-8.7%
CMBS	0.8%	0.7%	0.7%	-0.2%	-9.7%
ABS/Structured	0.1%	0.1%	0.1%	-0.1%	-8.4%
Corporate Domestic	0.4%	0.3%	0.3%	-0.4%	-10.1%
Corporate Foreign	0.1%	0.1%	0.1%	7.4%	-20.0%
Equity Securities	0.0%	0.0%	0.0%	0.0%	0.0%
Grand Total	15.2%	14.9%	14.5%	-3.1%	-9.1%

to the total portfolio P&L under each scenario. For example, of the -3.78% overall portfolio loss shown in the +100 bps scenario, the MBS sector decreased by -3.93%, but contributed to 27.3% of the total portfolio loss, due to its sizable allocation in the portfolio.

Portfolios with associated historical dates take prevailing rates at the given dates and apply them to the PFM CBI Index to provide a guideline for how community bank portfolios would perform, as currently valued, in recent stressed scenarios.

compared to the previous year. Total dollars invested in community bank securities portfolios down for the quarter. However, investments in municipal bonds, mortgage-backed securities and total portfolio allocation to 3.3%. We note that this is the same period a year ago. We expect fourth quarter performance to be similar.

to start 2018. Higher yields, however, will lead to reinvestments. The MBS sector has been a beneficiary of reduced Fed buying as it reverses its position.



See closing price of the PFM CBI Index over last one year, from 2/16/17 to 2/16/18. Retrieved from Bloomberg.

Embedded options, is relatively unchanged from a year ago. Spreads have remained tight, yet the market has continued favorable economic environment.

PFM CBI Index was developed to demonstrate the performance of community bank securities portfolios overall, as well as to individual asset classes. The index is calculated based on the Bank of America Merrill Lynch Indexes and the SPDR MSCI US 1-3 Year Bond Index.

	Δ Quarter	Δ Annual
2/16/18	0.24	-
1/16/18	0.54	0.47
12/16/17	0.51	0.47
9/16/17	0.01	(0.20)
6/16/17	0.39	(0.50)
3/16/17	1.21	(7.9)

PFM Asset Class	PFM Contribution		Equity Market Return		Debt Ceiling Crisis C. Drawdown	
	2/16/18	1/16/18	2/16/18	1/16/18	2/16/18	1/16/18
Treasury	0.82%	-0.3%	-0.21%	0.3%	0.33%	2.4%
Agency	-2.0%	3.9%	-0.14%	-1.0%	1.44%	17.0%
Municipal	6.86%	19.1%	0.92%	9.5%	0.34%	16.9%
MBS	-7.00%	20.1%	-2.03%	-22.4%	1.06%	66.1%
CMO	-2.0%	3.2%	1.07%	6.5%	0.98%	32.9%
CMBS	10.03%	46.9%	49.43%	93.7%	-3.33%	-38.8%
ABS/Structured	-8.46%	1.9%	-1.07%	-0.9%	0.26%	1.1%
Corporate Domestic	-6.39%	2.7%	-1.66%	-3.1%	1.07%	10.8%
Corporate Foreign	4.32%	0.2%	-0.07%	-0.2%	0.26%	0.9%
Equity Securities	30.02%	2.3%	37.48%	17.7%	-19.56%	-12.2%
Grand Total	-3.01%	2.1%	-0.41%	0.41%	0.41%	0.41%

ation to P&L under the +100 bps scenario. Municipal bonds, mortgage-backed securities and total portfolio allocation to 3.3%. We note that this is the same period a year ago. We expect fourth quarter performance to be similar.

Index Ticker	Index Description
RDD	U.S. Fixed C. Floating Rate Asset Backed Securities Index
GIPO	1-3 Year Federal Agency
GIPO	3-5 Year Federal Agency
GIPO	5-7 Year Federal Agency
GIPO	7-10 Year Federal Agency
CMBS	U.S. Fixed Rate Agency CMBS Index
CMVP	1-5 Year U.S. Agency CMO PAC Index
CMHQ	0-3 Year U.S. Agency Sequential Index
CMHQ	3-5 Year U.S. Agency Sequential Index
CIAD	5-7 Year Corporate Master
CIAD	3-5 Year Corporate Master
CIAD	1-3 Year Corporate Master
SPY	S&P 500
MUSA	6-Year Aggregate
UZAD	10-20 Year Tax Exempt Muni
UZAD	3-7 Year Tax Exempt Muni
UZAD	1-3 Year Tax Exempt Muni
UZAD	1-3 Year Tax Exempt Muni
UZAD	3-7 Year Tax Exempt Muni
GH2	1-3 U.S. Treasury

PFM CBI Index was developed to demonstrate the performance of community bank securities portfolios overall, as well as to individual asset classes. The index is calculated based on the Bank of America Merrill Lynch Indexes and the SPDR MSCI US 1-3 Year Bond Index.

Index Ticker	Index Description
UZAD	10-20 Year Tax Exempt Muni
UZAD	3-7 Year Tax Exempt Muni
UZAD	1-3 Year Tax Exempt Muni
GH2	1-3 U.S. Treasury

© PFM Asset Management LLC | pfm.com

© PFM Asset Management LLC | pfm.com

© PFM Asset Management LLC | pfm.com

© PFM Asset Management LLC | pfm.com



## Recent Observations

Total Investments	Composition			Dollar Change	
	Last Year 02/15/17	Previous Qtr. 11/15/17	Current 02/15/18	\$ Quarter	\$ Annual
Treasury	3.5%	3.0%	3.3%	Δ 7.7%	Δ -11.6%
Agency	16.9%	17.4%	17.1%	-2.3%	-3.6%
Municipal	26.2%	26.4%	26.3%	-1.1%	-4.5%
MBS	27.0%	26.5%	26.3%	-1.8%	-7.3%
CMO	13.9%	14.0%	13.9%	-1.0%	-4.9%
CMBS	4.8%	5.0%	5.3%	6.0%	6.4%
ABS/Structured	1.8%	1.9%	2.0%	7.9%	5.7%
Corporate Domestic	4.4%	4.3%	4.3%	-2.5%	-6.9%
Corporate Foreign	0.5%	0.5%	0.5%	0.1%	-5.4%
Equity Securities	1.0%	1.0%	1.0%	0.6%	-4.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-0.7%</b>	<b>-4.8%</b>

Uptick in treasuries

Shrinking Investment Portfolios



## Recent Observations

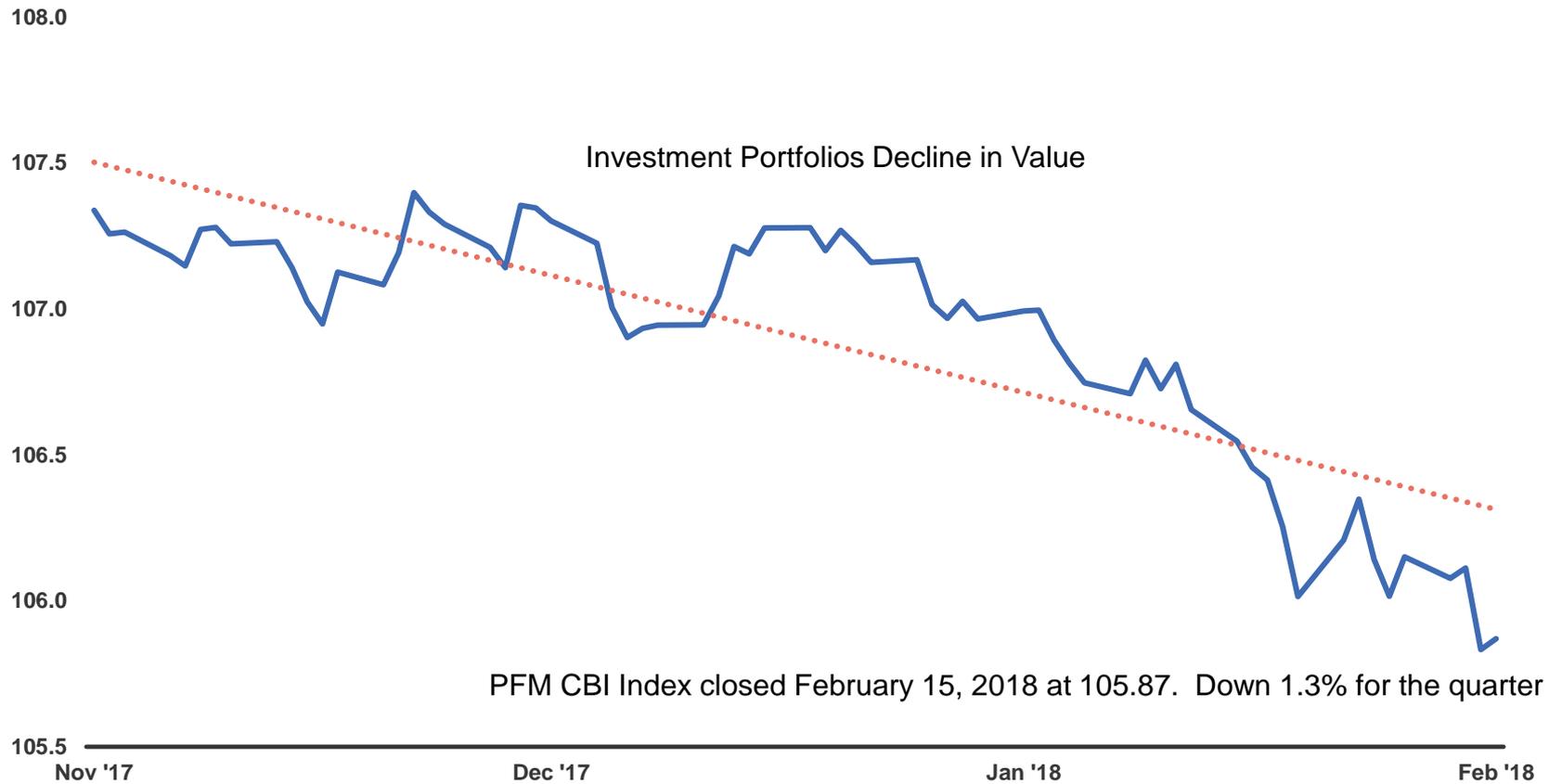
Available-for-Sale	02/15/17	11/15/17	02/15/18	\$ Change Quarter	\$ Change Annual
Treasury	3.2%	2.7%	3.0%	8.7%	-11.5%
Agency	14.4%	14.8%	14.6%	-2.0%	-3.1%
Municipal	21.1%	21.5%	21.5%	-0.4%	-2.8%
MBS	23.2%	22.8%	22.6%	-1.8%	-7.3%
CMO	12.2%	12.3%	12.3%	-0.7%	-4.3%
CMBS	4.0%	4.3%	4.6%	7.0%	9.5%
ABS/Structured	1.7%	1.8%	2.0%	9.0%	6.5%
Corporate Domestic	3.6%	3.6%	3.5%	-2.4%	-6.0%
Corporate Foreign	0.4%	0.4%	0.4%	-1.1%	-2.4%
Equity Securities	1.0%	1.0%	1.0%	0.6%	-4.0%
<b>Grand Total</b>	<b>84.8%</b>	<b>85.1%</b>	<b>85.5%</b>	<b>-0.3%</b>	<b>-4.0%</b>

Held-to-Maturity	02/15/17	11/15/17	02/15/18	\$ Change Quarter	\$ Change Annual
Treasury	0.3%	0.3%	0.3%	-1.6%	-12.7%
Agency	2.5%	2.6%	2.5%	-4.3%	-6.4%
Municipal	5.1%	4.9%	4.8%	-4.0%	-11.4%
MBS	3.7%	3.7%	3.7%	-1.7%	-6.8%
CMO	1.7%	1.7%	1.6%	-3.1%	-8.7%
CMBS	0.8%	0.7%	0.7%	-0.2%	-9.7%
ABS/Structured	0.1%	0.1%	0.1%	-11.0%	-8.6%
Corporate Domestic	0.8%	0.7%	0.7%	-3.4%	-11.1%
Corporate Foreign	0.1%	0.1%	0.1%	7.4%	-20.0%
Equity Securities	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>15.2%</b>	<b>14.9%</b>	<b>14.5%</b>	<b>-3.1%</b>	<b>-9.1%</b>



## Recent Observations

### PFM CBI Index





## Stress Testing

P&L	+100 bps		+200 bps		+300 bps		+400 bps		Lehman Default 9/15/08 to 10/14/18		Equity Market Rebound 3/4/09 to 6/1/09		Debt Ceiling Crisis & Downgrade 7/22/11 to 8/8/11	
	Per Asset Class	Contrib.	Per Asset Class	Contrib.	Per Asset Class	Contrib.	Per Asset Class	Contrib.	Per Asset Class	Contrib.	Per Asset Class	Contrib.	Per Asset Class	Contrib.
Treasury	-1.79%	1.5%	-3.53%	1.4%	-5.22%	1.4%	-6.87%	1.3%	0.81%	-0.3%	0.21%	0.3%	0.33%	1.7%
Agency	-4.19%	19.0%	-8.39%	17.6%	-12.60%	17.4%	-16.84%	17.2%	-2.22%	3.8%	-0.16%	-1.2%	1.52%	42.0%
Muni	-3.07%	21.4%	-7.84%	25.3%	-11.75%	25.0%	-15.64%	24.6%	-7.09%	18.6%	0.96%	10.9%	0.35%	14.9%
MBS	-3.93%	27.3%	-8.01%	25.8%	-12.23%	25.9%	-16.59%	26.0%	-7.81%	20.5%	-3.34%	-38.0%	1.55%	65.6%
CMO	-5.28%	19.5%	-11.40%	19.5%	-18.36%	20.7%	-26.16%	21.8%	-3.46%	4.8%	1.53%	9.2%	1.46%	32.8%
CMBS	-4.93%	6.9%	-9.52%	6.2%	-13.76%	5.9%	-17.65%	5.6%	-85.69%	45.4%	46.34%	106.5%	-3.59%	-30.7%
ABS/Structur ed	-1.74%	0.9%	-3.42%	0.9%	-5.03%	0.8%	-6.56%	0.8%	-8.08%	1.7%	-0.56%	-0.5%	0.27%	0.9%
Corporate Domestic	-3.26%	3.7%	-6.38%	3.3%	-9.38%	3.2%	-12.24%	3.1%	-5.49%	2.3%	-1.87%	-3.5%	0.93%	6.4%
Corporate Foreign	-3.16%	0.4%	-6.19%	0.4%	-9.08%	0.4%	-11.86%	0.4%	-4.13%	0.2%	-1.05%	-0.2%	0.78%	0.6%
Equity Securities	0.00%	0.0%	0.00%	0.0%	0.00%	0.0%	0.00%	0.0%	-19.97%	2.0%	36.94%	15.8%	-19.59%	-31.3%
<b>Total Portfolio P&amp;L</b>	<b>-3.78%</b>		<b>-8.14%</b>		<b>-12.38%</b>		<b>-16.74%</b>		<b>-10.02%</b>		<b>2.31%</b>		<b>0.62%</b>	



**Questions?**



## Important Disclosures

PFM is the marketing name for a group of affiliated companies providing a range of services. All services are provided through separate agreements with each company. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation.

Financial advisory services are provided by PFM Financial Advisors LLC and Public Financial Management, Inc. Both are registered municipal advisors with the Securities and Exchange Commission (SEC) and the Municipal Securities Rulemaking Board (MSRB) under the Dodd-Frank Act of 2010. Investment advisory services are provided by PFM Asset Management LLC which is registered with the SEC under the Investment Advisers Act of 1940. Swap advisory services are provided by PFM Swap Advisors LLC which is registered as a municipal advisor with both the MSRB and SEC under the Dodd-Frank Act of 2010, and as a commodity trading advisor with the Commodity Futures Trading Commission. Additional applicable regulatory information is available upon request.

Consulting services are provided through PFM Group Consulting LLC. Institutional purchasing card services are provided through PFM Financial Services LLC. PFM's financial modeling platform for strategic forecasting is provided through PFM Solutions LLC.

For more information regarding PFM's services or entities, please visit [www.pfm.com](http://www.pfm.com).