

Cash Forecasting to Improve Liquidity Management

A Treasurer's guide to modern cash flow forecasting and liquidity decisions

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Agenda

What We'll Cover

- How finance has rapidly evolved from a source of truth to source of value
- Why now? Macro drivers leading to evolution of cash flow forecasting
- Top forecasting challenges
- Do we all mean the same thing by “cash flow forecasting”?
- Segmenting your liquidity to take advantage of short term investment options
- What to look for in a forecasting solution

What You'll Get Out of It

- How machine learning and other technologies can be leveraged to improve your cash forecast
- Liquidity strategies for short term investing
- What to consider when evaluating new cash forecasting offerings
- Firsthand view into how banks and fintechs are innovating in the field of cash flow forecasting





Cash Forecasting Remains Top Priority¹

Treasury's Shifting Emphasis on Functions (Percentage of Organizations)

	Past Three Years	During Covid-19 Crisis	Next Three Years
Cash management and forecasting (scenario analysis)	37%	53%	36%
Liquidity and cash planning	35%	53%	37%
Borrowing: long term (capital funding/sourcing)	30%	35%	30%
Bank relationship rationalization	30%	18%	28%
Payments strategy and execution (incoming, outgoing)	27%	22%	23%
Payments, treasury and related technologies	27%	18%	30%
Working capital management (e.g., A/R, A/P, inventory)	24%	32%	30%
Counterparty risk analysis	23%	26%	22%
Credit syndicate renewal	23%	16%	25%
Capital planning/allocation	22%	28%	27%
Financial planning and analysis	22%	23%	19%
Financial risk management/Foreign exchange	22%	20%	20%
Business continuity planning	21%	42%	23%

- Over 50 percent of survey respondents report that their organizations are placing a greater emphasis on cash management/forecasting and liquidity/cash planning (each cited by 53 percent of respondents) during the COVID-19 crisis than they did in the past three years.
- Treasury professionals anticipate that the level of emphasis on these two functions will be scaled back in the next three years, yet still remain a top priority. This finding highlights the importance of cash management and forecasting as well as liquidity and cash planning during the current crisis.



Macro Tailwinds Are Leading to a Cash Forecasting Evolution

Open Banking
(GDPR & PSD2)

Banks can no longer rely
on their data moat

Win on **intelligent services**
providing analytics and insights

API Connectivity

Seamless integration of data
sources

One piece of infrastructure
to **bring it all together**

Human + Machine
> Machine

You can't just have a chatbot
CFO, but execs expect change

Cash forecasting is being
augmented by AI, not replaced
by it

Finance, From Source of Truth to Source of Value



“The finance function is well-positioned to guide the company’s data and analytics agenda... As historical analysis becomes fully automated, the organization’s analytics capabilities should evolve to include predictive analytics, an important opportunity to add real value.”

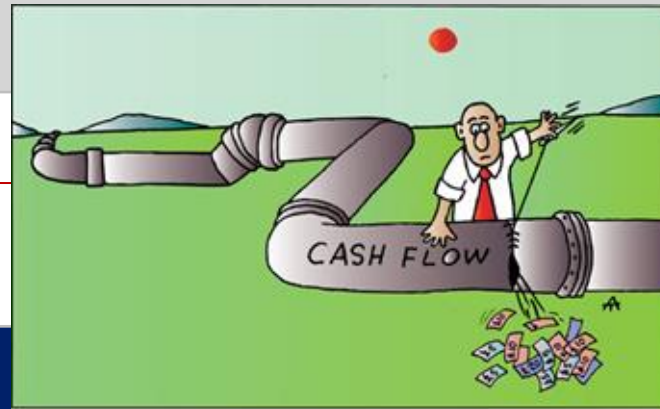
KPMG, “On the 2019 Audit Committee Agenda”

Top Cash Forecasting Challenges



Organizational

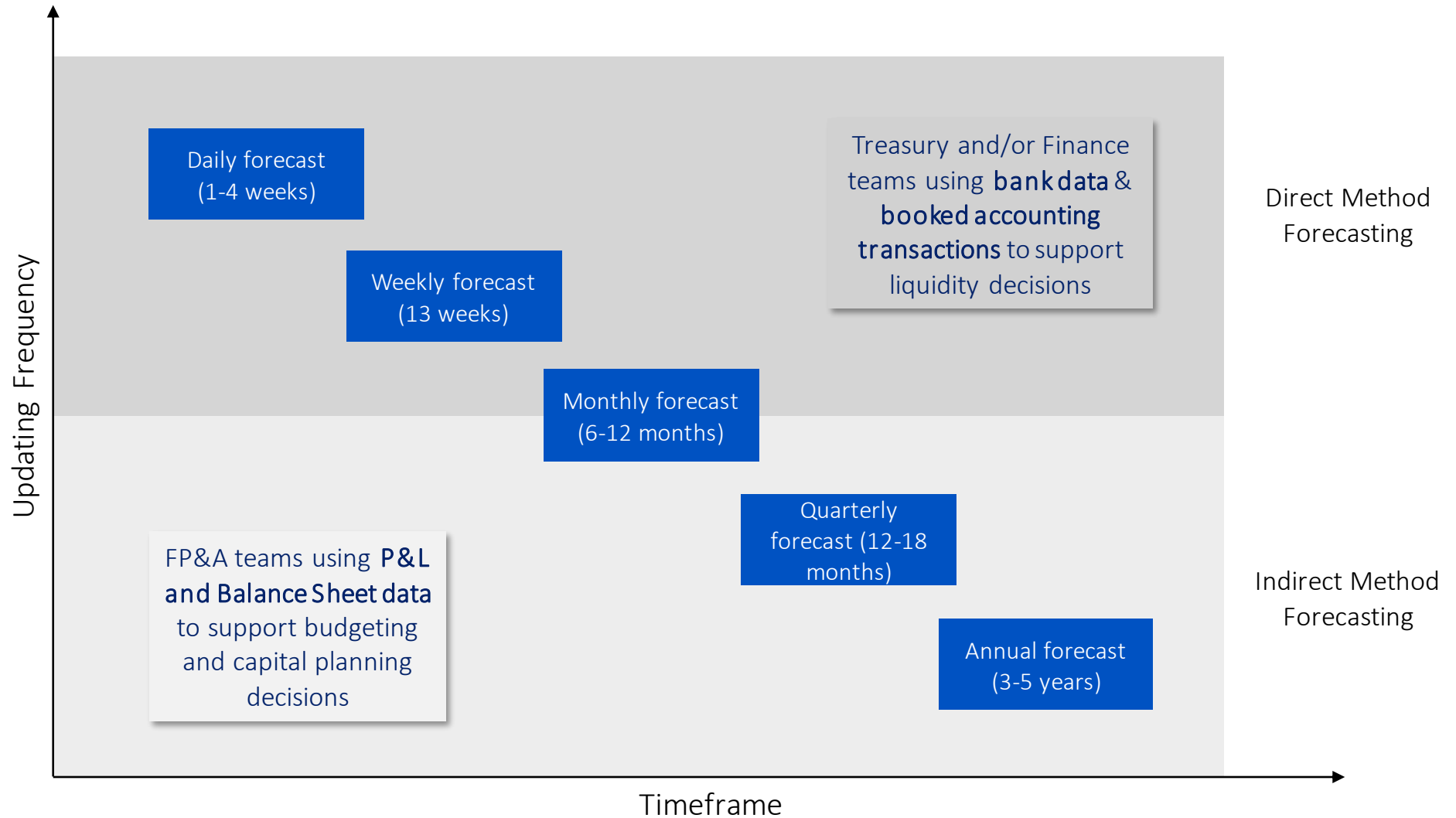
- Data silos
- Buy-in from stakeholders
- Bad data (GIGO)
- Buy-in from senior management



Technical

- Multiple data sources, complex integrations
- Insufficient analytics, visualizations
- Too much manual effort
- No feedback loop

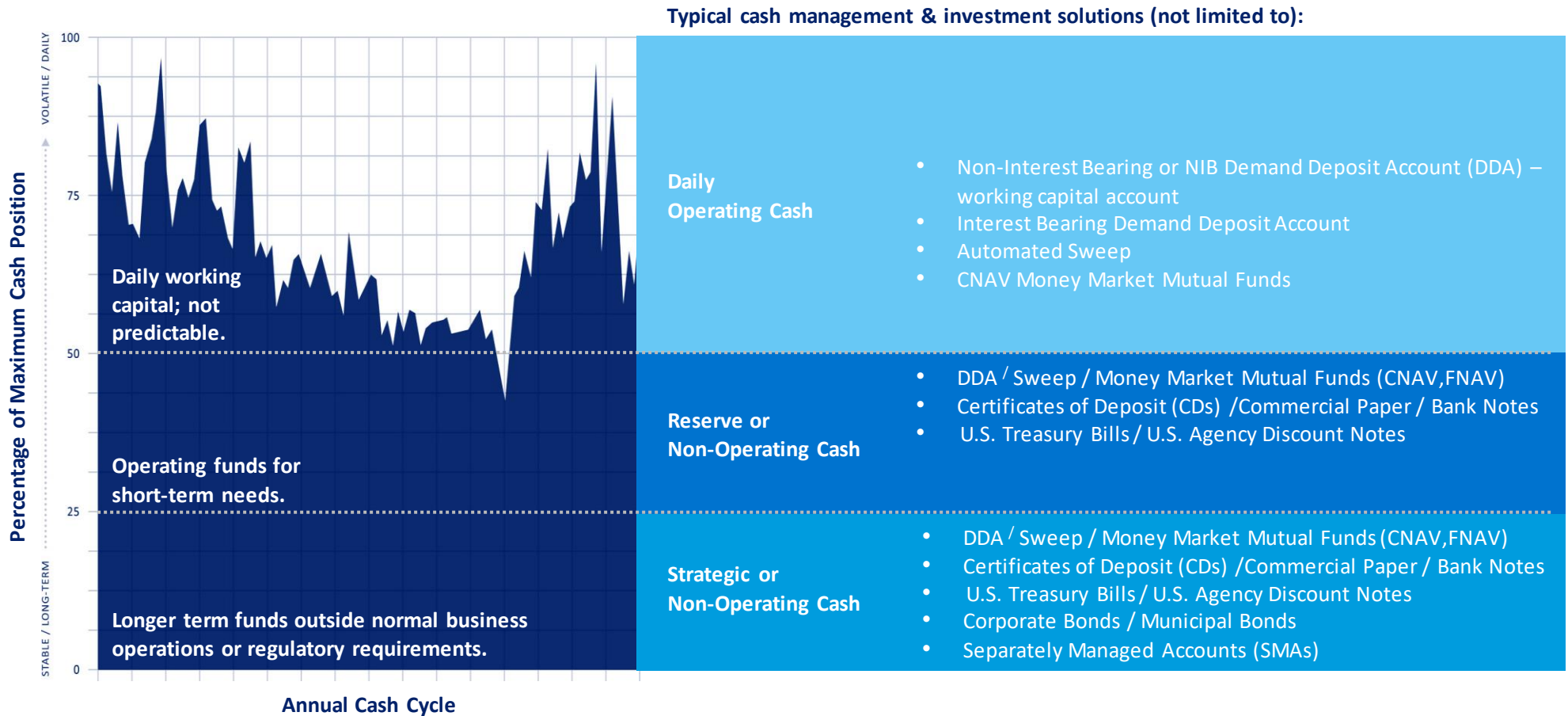
Not All Cash Flow Forecasting is the Same



Segmenting cash



A tailored solution to liquidity can help optimize your daily operating cash, reserve operating cash and strategic/long-term cash needs



Current Market Rates (5/10/21)

Indicative Rates



US Treasuries

Maturity	Yield
1 Month	0.005
3 Month	0.005
6 Month	0.030
1 Year	0.043
2 Year	0.147
5 Year	0.772
10 Year	1.590

US Agencies

Maturity	Yield
3 Month (disco)	0.02
6 Month (disco)	0.04
1 Year (disco)	0.07

Bank of America CD's

Maturity	Yield
1-3 Month	0.01
4 Month	0.02
5 Month	0.03
6 Month	0.04
9 Month	0.07
1 Year	0.09

Commercial Paper (Discount Rate)

Type	1 M	2 M	3 M
Corp (A1/P1)	0.03-0.09	0.04-0.10	0.04-0.11
Bank (A1/P1)	0.07-0.12	0.09-0.14	0.10-0.15
ABCP (A1/P1)	0.08-0.13	0.10-0.15	0.11-0.16
Corp (A2/P2)	0.15-0.20	0.16-0.23	0.17-0.25
Taxable Muni	0.13	0.14	0.15
Tax Free Muni	0.11	0.12	0.13

Cash Markets

1 Month LIBOR	0.09
3 Month LIBOR	0.16
6 Month LIBOR	0.19
1 Year LIBOR	0.26
Fed Funds Rate	0.06
SOFR Rate	0.01
BSBY 1 Month	0.07
BSBY 3 Month	0.13

Yankee CD's

Maturity	Yield
1 Month	0.08
2 Month	0.10
3 Month	0.13
6 Month	0.16
9 Month	0.21
1 Year	0.22

Corporate Bonds (AA-rated)

Maturity	Yield
1 Year	0.19
2 Year	0.24
5 Year	1.02
10 Year	2.08

Corporate Bonds (A-rated)

Maturity	Yield
1 Year	0.23
2 Year	0.32
5 Year	1.17
10 Year	2.31

Municipal Floaters

Type	7 D	TEY*
Taxable	0.11	0.11
Tax Exempt AMT	0.09	0.11
Tax Exempt Non-AMT	0.05	0.06

*Taxable Equivalent Yield in 21% Fed bracket

Municipals (AAA-Rated)

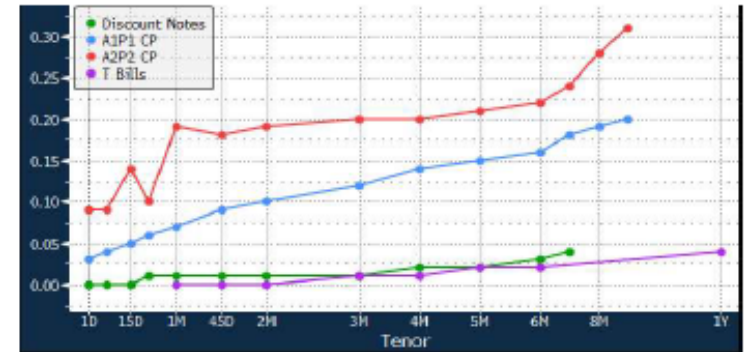
Maturity	Yield
1 Year	0.08
2 Year	0.10
5 Year	0.42
10 Year	0.95

Equity Markets (Prev Close)

DJIA	34,777.76
S&P 500	4,232.60
NASDAQ 100	13,719.63

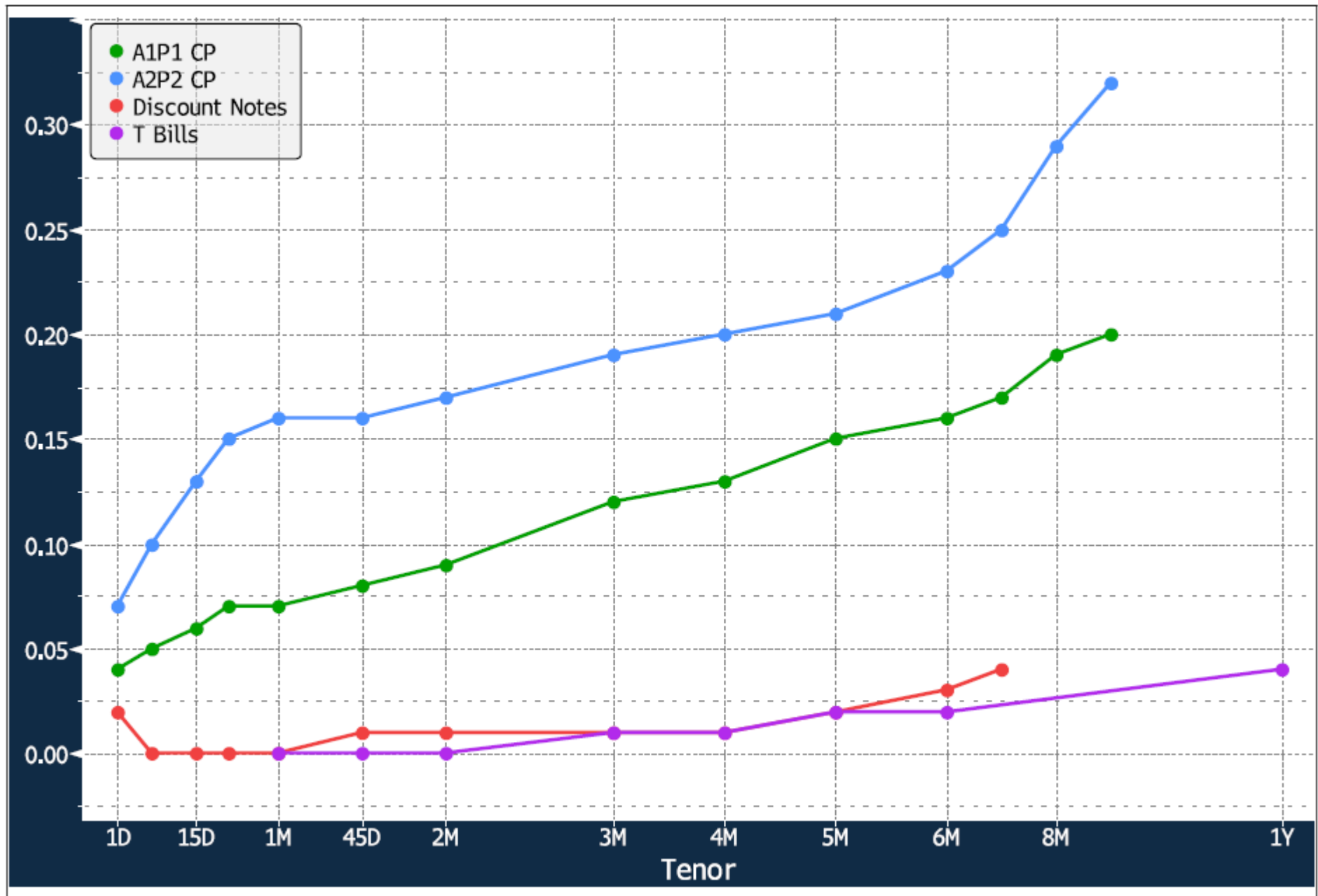
Money Market Mutual Funds (1 Day Avg Yield)

Fund	Prime	Treasury w/ Repo	Treasury Only	Govt w/ Repo	Govt Only	Tax Free	ESG Govt	ESG Prime
BlackRock	0.04	0.02	0.02	0.03	0.02	0.01		0.03
DWS	-	-	0.01	0.03	-	-		
Dreyfus	0.03	0.01	0.01	0.03	0.01	0.01	0.01	
Federated	0.04	0.01	0.01	0.03	0.01	-		
Fidelity	-	0.01	0.01	0.01	-	-		
First American	-	0.02	-	0.03	-	-		
Goldman Sachs	0.08	0.03	0.01	0.03	-	-	0.01	
Invesco	0.01	0.01	0.01	0.03	-	-		
JP Morgan	0.08	0.02	0.01	0.03	0.01	-		
Morgan Stanley	0.06	0.01	0.01	0.03	-	0.01	0.01	0.05
Northern Trust	-	0.01	-	0.03	-	-		
State Street	0.05	0.02	0.01	0.03	-	-		0.08
UBS	-	0.01	-	0.01	-	-		
Wells Fargo	0.04	0.01	-	0.03	-	-		
Western Asset	0.05	0.01	0.01	0.01	-	-		



Current Market Rates (5/10/21)

Money Market Yield Curve



Current Market Rates (5/10/21)

Hypothetical Laddered Portfolio



Sample Laddered Portfolio
05/10/21

Security Description	Type	Amount	Maturity Date	Duration	Yield	% Portfolio
Corporate Issuer	CP	\$ 10,000,000	9/24/21	0.375	0.14%	0.10
Bank	CP	\$ 10,000,000	10/15/21	0.433	0.14%	0.10
Bank	CP	\$ 10,000,000	11/19/21	0.529	0.15%	0.10
Corporate Issuer	CP	\$ 10,000,000	12/20/21	0.614	0.16%	0.10
Corporate Issuer	CP	\$ 10,000,000	1/15/22	0.685	0.16%	0.10
Corporate Issuer	CP	\$ 10,000,000	2/11/22	0.759	0.18%	0.10
Bank	CP	\$ 10,000,000	3/28/22	0.882	0.21%	0.10
Bank	CP	\$ 10,000,000	4/22/22	0.951	0.21%	0.10
Corporate	Corp	\$ 10,000,000	5/5/22	0.986	0.15%	0.10
Government	Govt	\$ 10,000,000	5/17/22	1.019	0.18%	0.10
		\$ 100,000,000				1.00

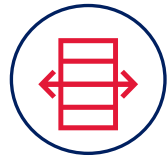
Total Portfolio	\$100,000,000
Weighted Average Maturity	264 Days
Weighted Average Yield	0.17%



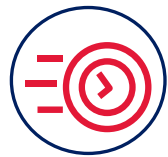
Evaluating Cash Flow Forecasting Providers



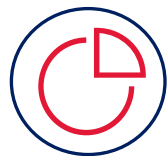
Capabilities



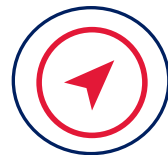
Data Integration



Time to Implement



ROI

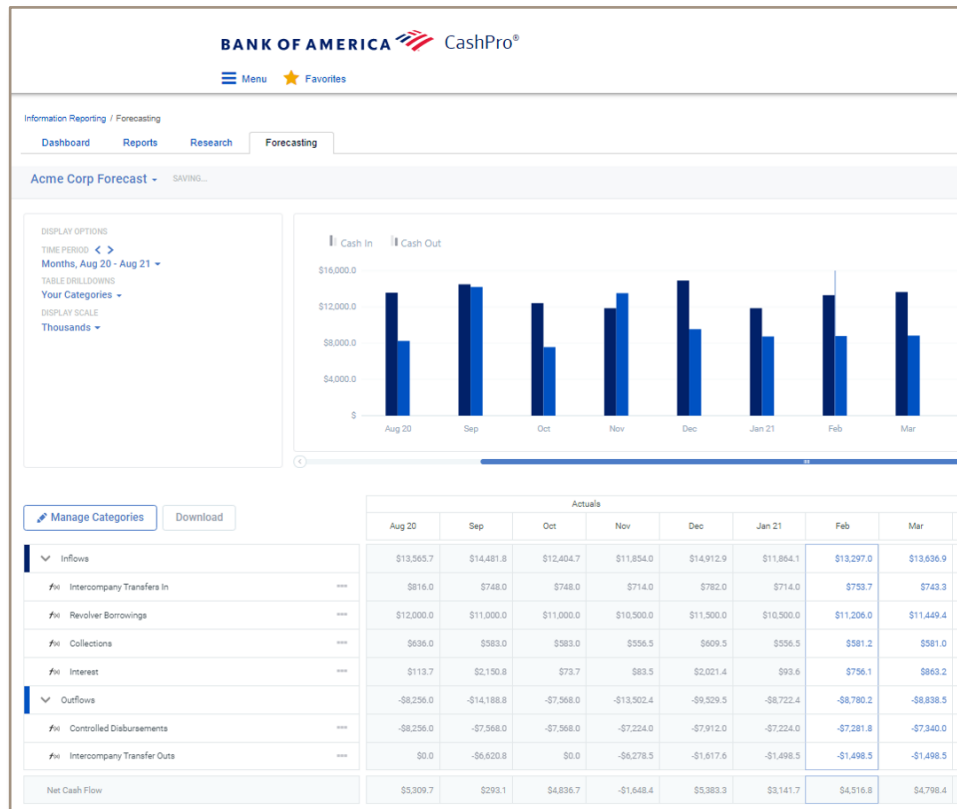


Ease of Use

CashPro® Forecasting



CashPro® Forecasting is a first-of-its-kind bank offered cash forecasting solution using machine learning technology. It aims to automate your cash forecasting process while improving accuracy, allowing you to make intelligent working capital decisions across your organization.



Added accuracy

Machine learning allows forecast to automatically learn from historical cash flows

Multibank reporting

Forecast cash flows across both Bank of America and third party bank accounts

Easy setup

Automatically inherits CashPro® Information Reporting entitlements

Customize

Forecast by account, currency, bank, or choose to define your own categories

Transaction Mapping

Create simple rules to automatically classify and forecast your individual transactions

Export

Export to PDF or Excel for sharing or ad hoc analysis

Cash forecasting solution using machine learning technology

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