Acadian Global Managed Volatility Equity

Março 2023

ANBIMA

A presente instituição aderiu ao Código ANBIMA de Regulação e Melhores Práticas para os Fundos de Investimento.

ACADIAN ASSET MANAGEMENT

- Acadian Asset Management é uma **gestora de investimentos global e sistemática**. Desde 1986 a Acadian aplica **percepções fundamentalistas, de maneira sistemática**, para encontrar oportunidades de investimento atraentes e exclusivas. As decisões são tomadas com base em **evidências empíricas e os processos são repetíveis e transparentes**, enquanto o controle de risco é um foco central.

- Fundada em Boston em **1986**

- Escritórios em **Boston, Londres, Singapura, Sydney e Tóquio**[1]

- **371** colaboradores no mundo.

USD 118B AUM

Systematic Macro 1.7B
Regional Equity 9.6B
Equity Alternatives 0.5B
Global Equity 17.2B
Non-U.S. Equity 39.0B
USD 118B AUM
Managed Volatility Equity 21.7B
Emerging Markets Equity 27.4B
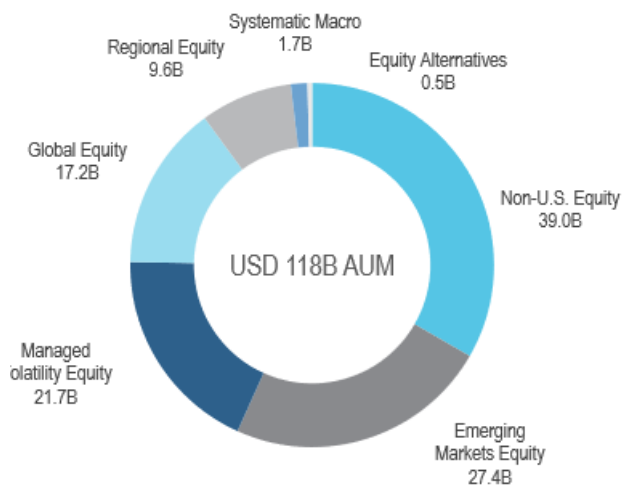
Estratégias Managed Volatility

Estratégia	Valor
Global | Aug 2006	10,4B
All-Country | Jun 2011	5,3B
EAFE + Canada | Mar 2015	2,6B
Emerging Markets | Mar 2011	1,8B
Australian | Feb 2012	1,1B
U.S. | Apr 2011	0,4B

There is no rounding applied to the total firm AUM which includes $857.7 million in model advisory contracts where Acadian does not have trading authority. The individual strategy level assets under management (AUM) are rounded to the nearest decimal point and do not include model advisory assets. For complete details regarding office locations please refer to affiliate office disclosures on the Legal Disclaimer page.

LISTA DE CLIENTES

A Acadian faz a gestão de recursos de algumas das maiores e mais sofisticadas instituições do mundo.

Público

Employees' Retirement Fund of the City of Dallas
Florida State Board of Administration
Los Angeles County Employees Retirement Association
Massachusetts Pension Reserves Investment Management Board
Municipal Employees' Retirement System of Michigan
New York City Employees Retirement System
Ohio Public Employees Retirement System
Oregon Public Employees
Public School & Education Employee Retirement Systems of Missouri
Tennessee Consolidated Retirement System
Virginia Retirement System
West Virginia Investment Management Board

Corporações

3M Company
Altria Group
Dow Inc.
JM Family Enterprises. Inc.
Pfizer

Endowment/Fundações

American Cancer Society
Carnegie Mellon University
Cornell University
Georgia Tech Foundation
W.K. Kellogg Foundation

Carteira Administrada

Integra Capital Management Corporation
SEI

Taft-Hartley

New England Carpenters Benefit Funds
Producer-Writers Guild of America Pension Plan

Australia

Catholic Superannuation Fund
Colonial First State Investments Ltd.
StatePlus

Canada

DGIA
Mouvement Desjardins
University of Guelph
Ville de Montréal

Europa

European Patent Office
Fidelity International
Hampshire County Council
Ireland Strategic Investment Fund
Janus Henderson Global Investors
Kempen Capital Management
LGT Capital Partners
Oxford University Staff Pension Scheme
PKA A/S
The Church of England Pensions Board

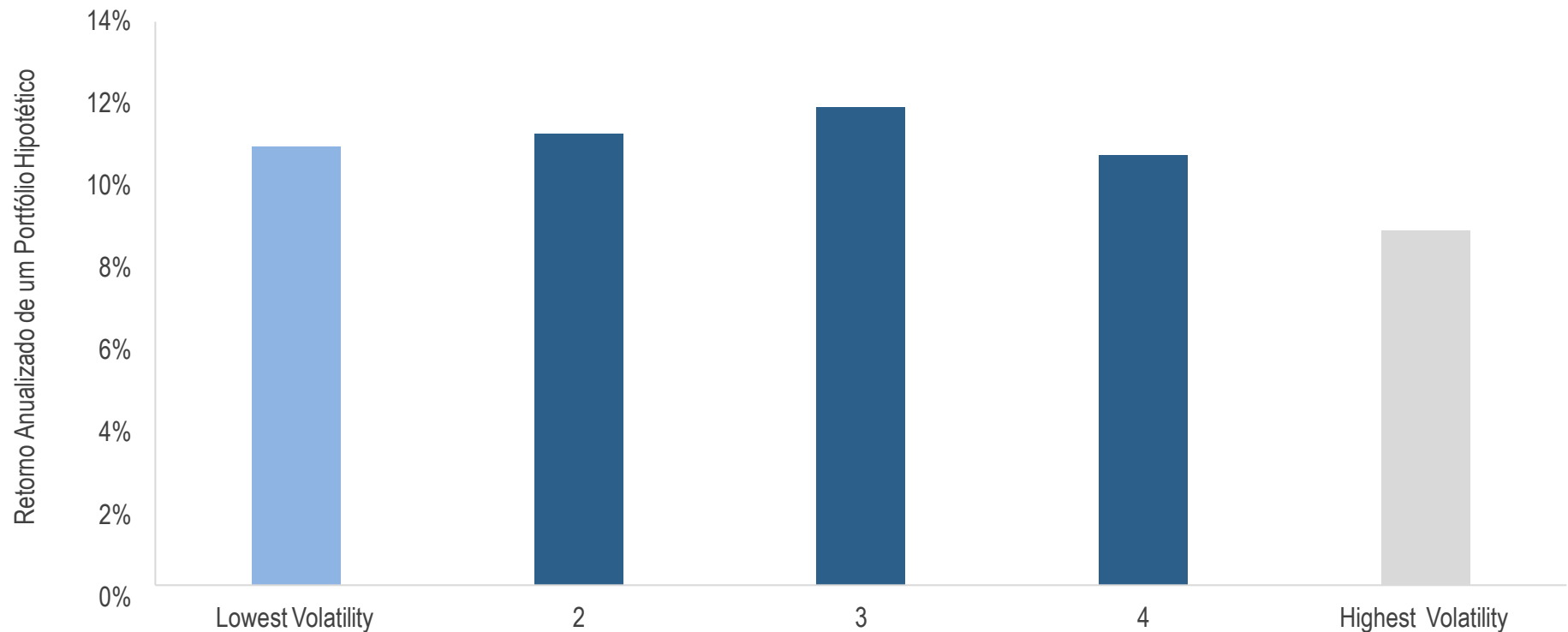■ = Indica investidores da estratégia Managed Volatility

ESTRATÉGIA

O QUE SÃO ESTRATÉGIAS DE MANAGED VOLATILITY?

- A **teoria financeira** ensina que os investidores devem ser recompensados por investirem em ações de maior risco com retornos acima da média.
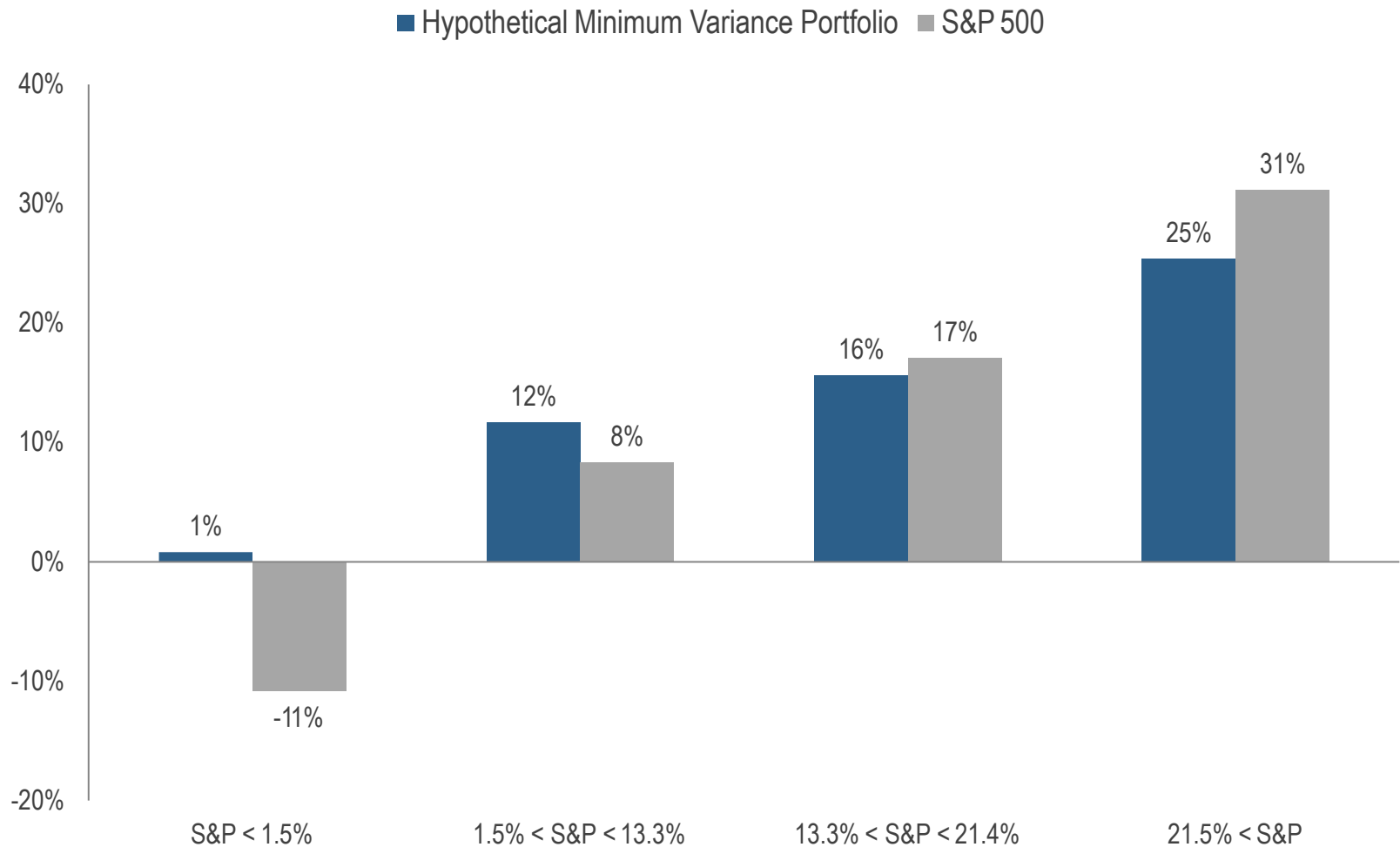
- A **evidência empírica** mostra que na realidade as ações de menor risco entregaram **retornos similares porém com menos risco**.

Performance das Ações por Quintil de Volatilidade

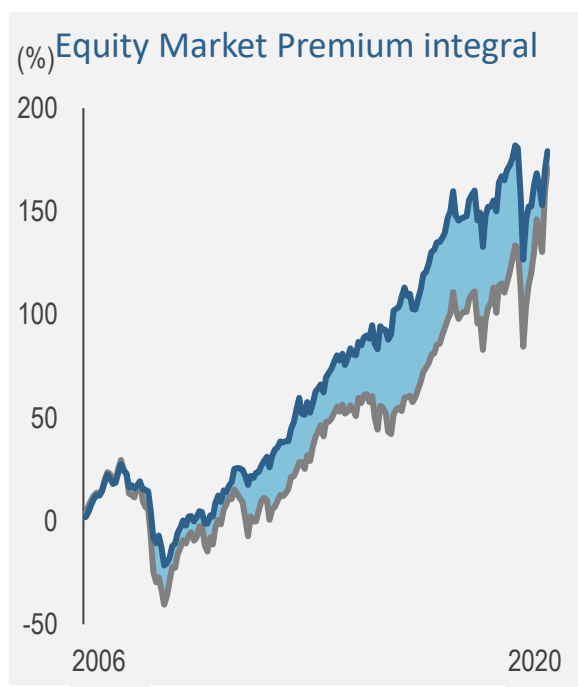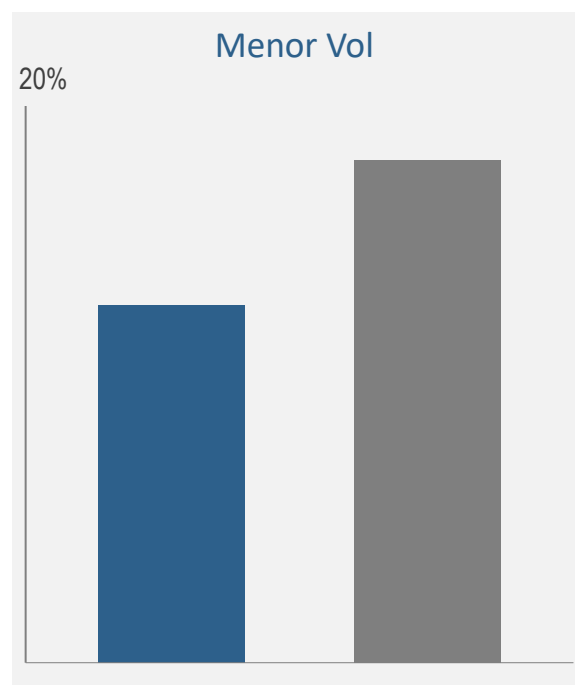# PERFORMANCE NAS DIFERENTES CONDIÇÕES DE MERCADO

1969 – 2020

■ Hypothetical Minimum Variance Portfolio ■ S&P 500

	S&P < 1.5%	1.5% < S&P < 13.3%	13.3% < S&P < 21.4%	21.5% < S&P
Hypothetical Minimum Variance Portfolio	1%	12%	16%	25%
S&P 500	-11%	8%	17%	31%

EM SUMA...

A **Acadian defende**, baseada em um sólido trabalho de pesquisa, que **portfólios de Beta baixo entregam**:

Equity Market Premium integral

(%)

Rentabilidade de US$1 desde o início

Menor Vol

Risco Anualizado

Maior proteção contra Drawdowns
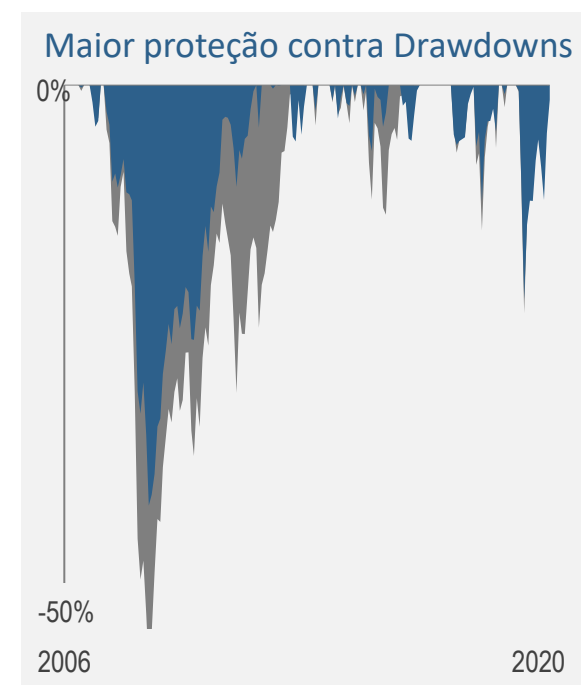
Do pico ao vale

Legenda: Active — Acadian Global Managed Volatility — MSCI World

**Benchmarks as Limits to Arbitrage:
Understanding the Low-Volatility Anomaly**

Malcolm Baker, Brendan Bradley, and Jeffrey Wurgler

Contrary to basic finance principles, high-beta ad high-volatility stocks have long underperformed low-beta and low-volatility stocks. This anomaly maybe partly explained by the fact that the typical institutional investor's mandate to beat a fixed benchmark discourages arbitrage activity in both high-alpha, low-beta stocks and low-alpha, high-beta stocks.

Among the many candidates for the greatest anomaly in finance, a particularly compelling one is the long-term success of low-volatility and low-beta stock portfolios. Over 1968–2008, low-volatility and low-beta portfolios offered an enviable combination of high average returns and small drawdowns. This outcome runs counter to the fundamental principle that risk is compensated with higher expected return. In our study, we applied principles of behavioral finance to shed light on the drivers of this anomalous performance and to assess the likelihood that it will persist.

Behavioral models of security prices combine two ingredients. The first is that some market participants are irrational in some particular way. In the context of the low-risk anomaly, we believe that a preference for lotteries and the well-established biases of representativeness and overconfidence lead to a demand for higher-volatility stocks that is not warranted by fundamentals.

The second ingredient is limits on arbitrage, which explain why the "smart money" does not offset the price impact of any irrational demand. With respect to the low-risk anomaly, we examined whether the underappreciated limit on arbitrage is benchmarking. Many institutional investors in a position to offset the irrational

demand for risk have fixed-benchmark mandates (typically capitalization we ighted), which, by their nature, discourage investments in low-volatility stocks. Drawing out the im plications of Brennan's (1993) model of agency an d asset prices, we looked at whether traditional fixed-benchmark mandates with a leverage constraint cause institutional investors to pass up the superior risk–return trade-off of low-volatility portfolios; we also examined the appropriateness of a leverage constraint assumption. Rather than being a stabilizing force on prices, the typical institutional contract for delegated portfolio management could increase the demand for higher-beta investments.

Other researchers have attempted to explain the low-risk anomaly on the basis of behavioral elements. For example, Karceski (2002) pointed out that mutual fund investors tend to chase returns over time and across funds, possibly because of an extrapolation bias. These forces make fund managers care more about outperforming during bull markets than underperforming during bear markets, thus increasing their demand for high-beta stocks and reducing their required returns. In our study, we placed the irrationality elsewhere and focused on distortions introduced by benchmarking. Nevertheless, his model's predictions appear to complement our own, and the mechanisms could certainly work simultaneously.

Malcolm Baker is professor of finance at Harvard Business School, research associate at the National Bureau of Economic Research, and senior consultant at Acadian Asset Management, Boston. Brendan Bradley is director of managed volatility strategies at Acadian Asset Management, Boston. Jeffrey Wurgler is professor of finance at New York Universi ty Stern School of Business, research associate at the National Bureau of Economic Research, and senior consultant at Acadian Asset Management, Boston.

The Low-Risk Anomaly

In an efficient market, investors realize above-average returns only by taking above-average risks. Risky stocks have high returns, on average, and safe stocks do not. This simple empirical proposition has been hard to support on the basis of the history of U.S. stock returns. The most widely used measures of risk point rather strongly in the wrong direction.

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Por que ações de baixo beta e de baixa volatilidade performam acima da média consistentemente?*

- Ações de mais alto risco tendem a serem mais caras devido a **demanda irracional de investidores ingênuos**.

- A maioria dos investidores institucionais relutam em ter portfólios de baixa volatilidade por **restrições de benchmarking.**

- Como consequência. **ações com risco menor são sub precificadas.**

O artigo e seus autores r**eceberam o prêmio Graham and Dodd Scroll Award** pelo CFA Institute em 2011

PROCESSO

PROCESSO DE INVESTIMENTO

Processo **sistemático**, **objetivo** e **consistente**

UNIVERSO DE INVESTIMENTO	PREVISÃO DAS AÇÕES	CONSTRUÇÃO DO PORTFÓLIO	TRADING

GLOBAL TODOS OS PAÍSES

26,500 ações
universo de linvestimento

RISCO
Volatilidade & Correlações

LIQUIDEZ & CUSTOS TRANSACIONAIS

RETORNOS

OTIMIZAÇÃO

Controle de Risco

Região/Indústria

Tamanho da Posição

Turnover da Carteira

DISCIPLINA NA EXECUÇÃO

REBALANCEAMENTOS PERIÓDICOS

AMPLA DIVERSIFICAÇÃO

UNIVERSO DE ATIVOS

País	Acadian Total Universe
United States	8824
China	4860
India	4280
Japan	3914
Canada	3089
South Korea	2344
Taiwan	1995
Hong Kong	1792
Australia	1782
United Kingdom	1431
Malaysia	936
Sweden	864
Germany	808
Thailand	797
France	726
Poland	714
Indonesia	680
Singapore	607
Israel	508
Pakistan	435
Switzerland	435
Italy	397
Turkey	393
Brazil	334
Norway	308
Philippines	270
South Africa	266
Spain	249
Egypt	246
Russia	212
Saudi Arabia	207
Greece	180
Chile	176
Denmark	170
Mexico	165
Kuwait	163
Finland	156
Belgium	152
Netherlands	137
New Zealand	132
United Arab Emirates	125
Argentina	79
Peru	78
Austria	69
Ireland	54
Portugal	51
Qatar	47
Hungary	41
Colombia	39
Czech Republic	20

■ Acadian Total Universe ■ MSCI AC World

- Acadian tem acesso a um **universo de ativos maior que os índices padrões**.

- Ativos não pertencentes a benchmarks permitem **oportunidades adicionais de diversificação.**

EXEMPLO DE AVALIAÇÃO DE UMA EMPRESA

	TEMA	SINAIS DE AMOSTRA	FORECAST
ESPECÍFICO DA AÇÃO	VALOR	Valor Intrínseco Ajustado Valor de Ativo Estendido	+0.67
	QUALIDADE	Força Corporativa Comportamento de Gestão	+0.19
	CRESCIMENTO	Surpresa de Ganhos Mudança de Recomendação	+0.08
	TECNICO	Liderança da Indústria Reversão Inteligente	+0.44
	PAR	Momento Fundamentos	+0.07
GRUPO	PAÍS	Drives Globais Ambiente Macro	+0.44
	INDÚSTRIA	Qualidade Avaliação Ajustada	-0.24
	INTERSEÇÃO PAÍS / INDÚSTRIA	Preço / Momentum Valuation Ajustado	-0.16

PREVISÃO TOTAL +1.59

Empresa: BKW AG

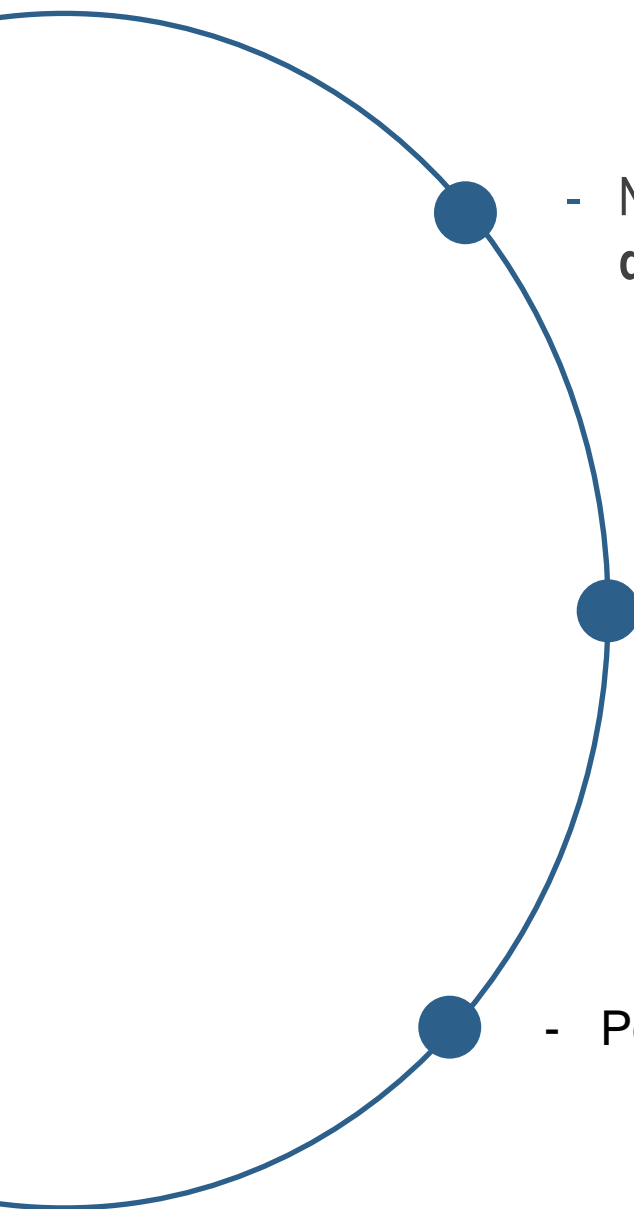Market Cap: USD 4B

País: Suiça

Setor: Utilities

Descrição: Inserida no setor de energia

A previsão total inclui uma previsão de capital vs caixa de 0.18 que é aplicada universalmente em todas as ações.

Fonte: Acadian Asset Management LLC. As informações fornecidas são apenas para fins ilustrativos com base em modelos proprietários. Não há garantia de que as previsões serão alcançadas. O estoque selecionado tem a intenção de ser um exemplo do processo e não é uma recomendação para comprar ou vender esse título específico.

POSICIONAMENTO ESTÁVEL E INTUITIVO DO PORTFÓLIO

- Normalmente ativos **orientados a valor e qualidade**. e **pagadores de dividendos**

- Portfólio altamente diversificado. **tamanho máximo por posição de 1.5%**

- Posicionamento **conservador em setores**

RESULTADOS FUNDO ESTRANGEIRO

GLOBAL MANAGED VOLATILITY vs MSCI WORLD

Performance desde Início até 30 de Junho 2021 (Bruto de Taxas)

Legenda: Active — Global Managed Volatility Equity — MSCI World (net)

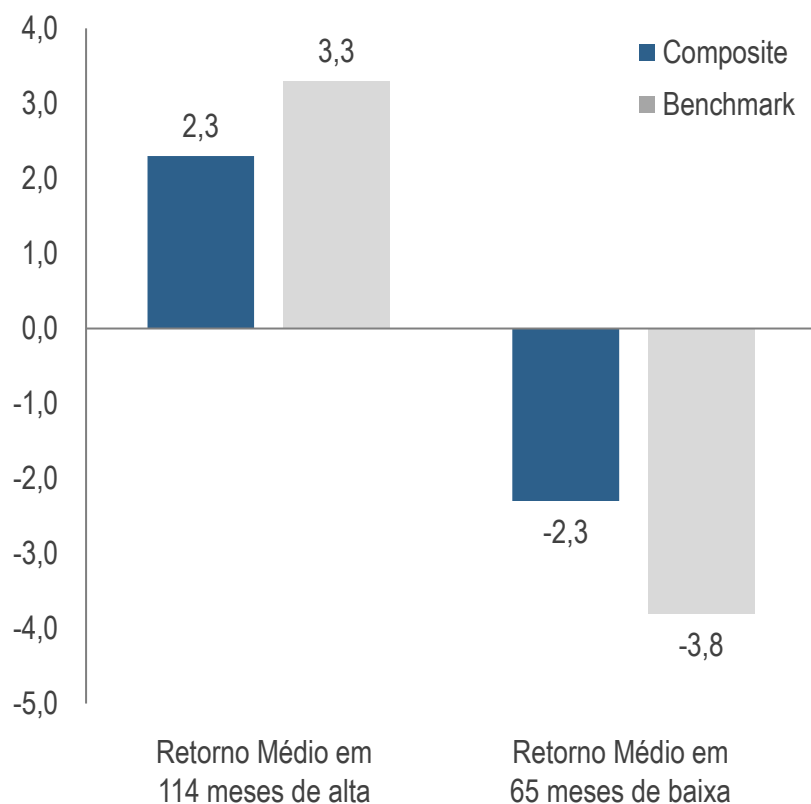# GLOBAL MANAGED VOLATILITY vs MSCI WORLD

Performance desde Início até 30 de Junho 2021 (Líquido de Taxas)

Performance em mercados de alta e baixa
Agosto de 2006 – Junho de 2021

- ■ Composite
- ■ Benchmark

Retorno Médio em 114 meses de alta: Composite 2,3 / Benchmark 3,3

Retorno Médio em 65 meses de baixa: Composite -2,3 / Benchmark -3,8
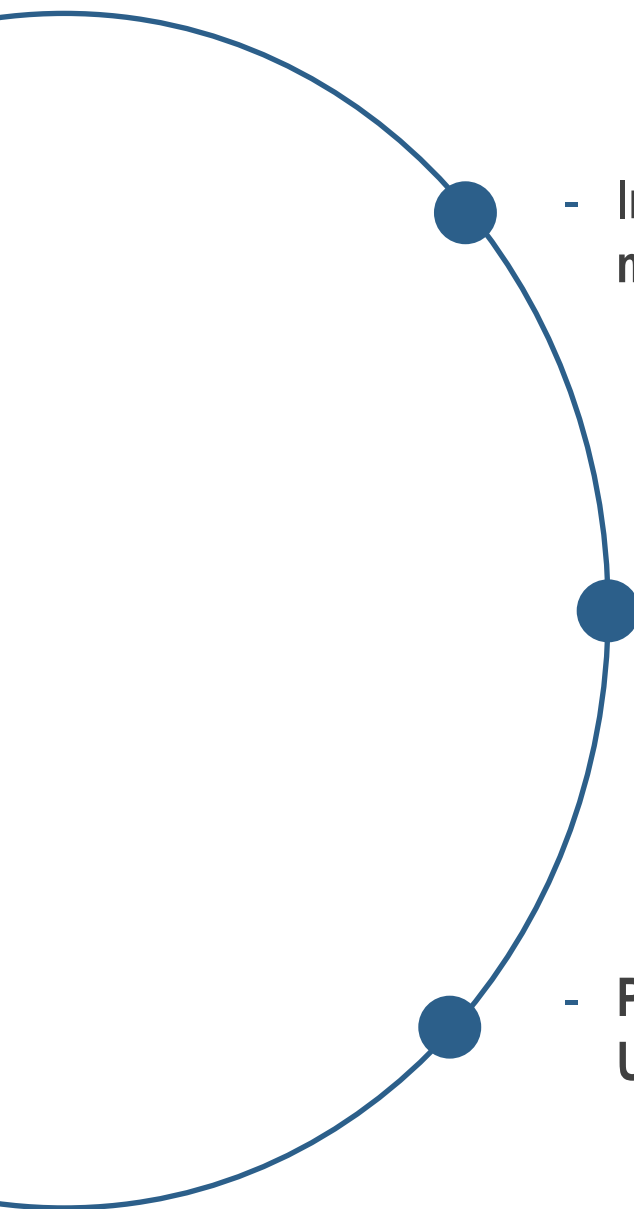
Monthly Returns (%)*	2016	2017	2018	2019	2020	2021
January	-2.5	2.4	3.9	6.5	-0.5	-0.1
February	1.4	3.3	-4.5	1.7	-8.4	-1.9
March	6.1	0.4	-1.0	0.0	-11.9	5.5
April	0.4	2.0	0.4	1.2	8.6	1.8
May	0.4	2.4	0.2	-2.1	2.5	3.4
June	2.3	0.4	0.2	5.5	0.0	-0.2
July	2.1	1.5	3.2	1.2	4.1	
August	-1.9	0.1	1.0	-0.8	2.1	
September	0.4	0.8	0.7	1.9	-2.7	
October	-3.5	1.0	-5.5	0.8	-3.3	
November	-0.2	3.0	1.4	1.2	6.9	
December	2.4	1.2	-6.7	2.3	3.2	
Years	7.3	20.0	-7.2	20.6	-1.4	8.7

	Composite	Benchmark
Sharpe Ratio	**0.6**	0.4
Sortino Ratio	**0.8**	0.6

CONCLUSÃO

- Instituição com experiência e análise profunda com mais de **100 membros na equipe de investimento**

- Equipe de investimento focada **exclusivamente em Managed Volatility**

- **Pioneira em Managed Volatility** com **histórico de 15 anos** e **USD 22.5 bilhões** em ativos sob gestão

ANEXO – CARACTERÍSTICAS DO PORTFÓLIO

GLOBAL MANAGED VOLATILITY EQUITY

Principais Características, Junho 2023

	Portfolio	Cap Weighted Benchmark	Min Vol Benchmark
Price/Earnings	19.1	20.3	19.8
Price/Book	3.2	3.0	2.9
Price/Cash Earnings	11.9	13.0	11.2
Price/Sales	1.4	2.0	1.7
Yield	2.6%	2.0%	2.6%
Total Securities	491	1,512	280

Valuation Relative to Cap Weighted Benchmark
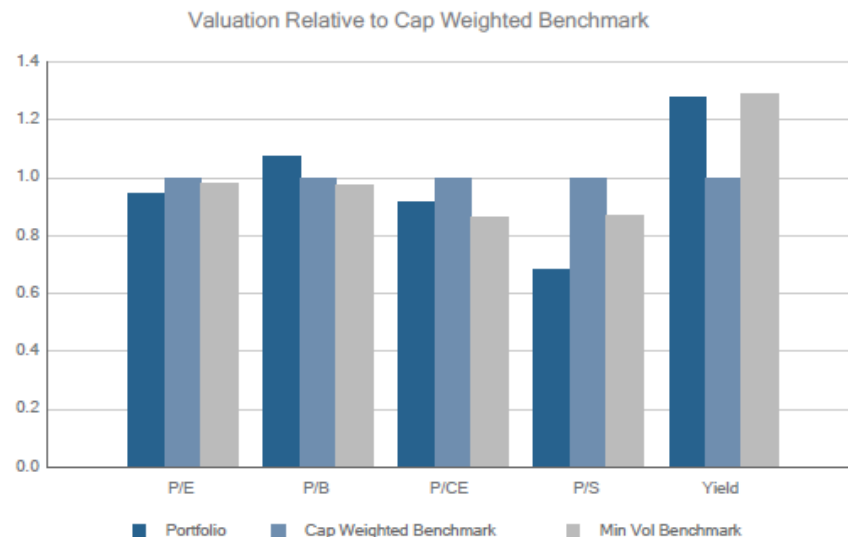
	Portfolio	Cap Weighted Benchmark	Min Vol Benchmark
Quintile 1 (Low)	52.4	27.9	57.8
Quintile 2	18.7	21.8	22.6
Quintile 3	14.4	20.5	11.0
Quintile 4	11.4	19.0	7.1
Quintile 5 (High)	1.9	10.8	1.5

MEGACAP TECH COMPANIES PERFORMANCE VS. THE REST OF THE MARKET

YE through 2020

MSCI World (net) Cumulative Returns in USD

FAANGs
+ Tesla
+ Microsoft

Market
Excluding
FAANGs
+ Tesla
+ Microsoft

FUNDOS LOCAIS

ESTRUTURA DE ACESSO

Irlanda

Acadian Global Managed Volatility Equity UCITS

Gestor: Acadian Asset
Taxa de Administração: 0.75%
Sem taxa de Performance

Brasil

Acadian Global Managed Volatility Equity FIA IE

Gestor: : Gama Investimentos
Taxa de Administração: 0.20%
Sem taxa de Performance

Acadian Global Managed Volatility Equity FIC FIA IE

Gestor: : Gama Investimentos
Taxa de Administração: 0.55%
Taxas de Administração Total: 1.50%
Sem taxa de Performance

HISTÓRICO DE RENTABILIDADE
Rentabilidade mês a mês: Acadian Global Managed Volatility Equity FIA IE

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ano	Acumulado
2016	**Fundo**								-1,40%	0,83%	-5,56%	6,34%	1,80%	1,97%	-1,97%
	MSCI								0,32%	0,85%	-3,85%	7,55%	1,78%	2,75%	2,75%
2017	**Fundo**	-0,87%	2,09%	0,71%	3,55%	4,04%	2,59%	4,23%	0,75%	1,30%	4,61%	2,93%	1,63%	20,49%	18,12%
	MSCI	-0,80%	1,42%	1,39%	2,91%	3,66%	2,36%	-3,43%	0,68%	2,66%	5,65%	1,87%	1,82%	21,82%	25,18%
2018	Fundo	-0,14%	-2,75%	0,47%	6,45%	7,52%	3,31%	0,04%	9,60%	-0,41%	-12,94%	4,95%	-6,62%	7,47%	26,94%
	MSCI	1,40%	-2,35%	-0,89%	7,06%	7,54%	3,09%	-0,06%	9,72%	-0,50%	-14,77%	4,92%	-7,74%	5,15%	31,63%
2019	**Fundo**	0,00%	4,61%	4,19%	1,41%	-2,16%	3,00%	-1,06%	8,87%	2,49%	-2,35%	6,00%	-2,27%	23,82%	57,17%
	MSCI	1,42%	5.66%	5,32%	3,71%	-5,93%	4,13%	-1,28%	7,33%	2,44%	-0,61%	7,71%	-2,08%	30,04%	71,17%
2020	Fundo	5,98%	-3,85%	4,46%	12,96%	1,08%	0,77%	1,28%	6,48%	-0,09%	-1,66%	-0,59%	-0,14%	25,58%	97,37%
	MSCI	5,80%	-3,97%	-0,18%	16,32%	3,25%	3,41%	0,60%	11,75%	-0,73%	1,17%	5,00%	0.77%	46,97%	151,56%
2021	**Fundo**	5,14%	0,07%	6,34%	-2,47%	-0,17%	-4,73%	6,48%	1,57%	0,25%	6,73%	-1,21%	5,55%	25,22%	147,16%
	MSCI	4,59%	4,44%	4,21%	0,23%	-2,29%	-3,16%	11,75%	2,01%	0,81%	9,02%	-2,04%	2,99%	29,27%	225,19%
2022	**Fundo**	9,57%	-3,19%	-5,42%	1,53%	-6,74%	4,78%	3,07%	-3,42%	-4,28%	4,36%	5,36%	-1,18%	-14,95%	110,22%
	MSCI	9,96%	-5,29%	-5,81%	-4,69%	-4,00%	0,10%	7,34%	-3,96%	-6,66%	3,13%	7,83%	-3,11%	-23,64%	148,32%
2023	**Fundo**	-2,11%	-0,10%	0,20%	1,36%	-1,18%	-2,47%							-4,27%	101,23%
	MSCI	3,00%	0,00%	-0,23%	-0,12%	0,56%	-0,18%							3,04%	156,29%

ACADIAN GLOBAL MANAGED VOLATILITY EQUITY FIC FIM IE

Principais Características

CNPJ	24.825.306.476/0001-86
Público Alvo	Investidores Qualificados
Gestor do Fundo Estrangeiro	Acadian Asset Management
Gestor Local	Gama Investimentos LTDA.
Administrador Local	BNY Mellon Serviços Financeiros DTVM S.A.
Custodiante	Banco BNY Mellon S.A.
Moeda	Cota em Reais (BRL) / Exposição cambial em dólar (USD)
Taxa de Administração do Fundo	0.55%
Taxa de Administração do Local Institucional	0.20%
Taxa de Administração no Exterior	0.75%
Taxa de Administração Total	1.50%
Taxa de Performance	Não há.
Aplicações (cotização)	D + 1
Cotização do Resgate	D + 1
Liquidação do Resgate	5º d.u. após cotização
Benchmark	MSCI World Index em R$
Investimento Mínimo	R$ 500.00

HISTÓRICO DE RENTABILIDADE

Rentabilidade mês a mês: Acadian Global Managed Volatility Equity FIC FIA IE

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ano	Acumulado
2016	**Fundo**								-1,40%	0,83%	-5,56%	6,34%	1,80%	1,97%	-1,97%
	MSCI								0,32%	0,85%	-3,85%	7,55%	1,78%	2,75%	2,75%
2017	**Fundo**	-0,87%	2,09%	0,71%	3,55%	4,04%	2,59%	4,23%	0,75%	1,30%	4,61%	2,93%	1,63%	20,49%	18,12%
	MSCI	-0,80%	1,42%	1,39%	2,91%	3,66%	2,36%	-3,43%	0,68%	2,66%	5,65%	1,87%	1,82%	21,82%	25,18%
2018	Fundo	-0,14%	-2,75%	0,47%	6,45%	7,52%	3,31%	0,04%	9,60%	-0,41%	-12,94%	4,95%	-6,62%	7,47%	26,94%
	MSCI	1,40%	-2,35%	-0,89%	7,06%	7,54%	3,09%	-0,06%	9,72%	-0,50%	-14,77%	4,92%	-7,74%	5,15%	31,63%
2019	**Fundo**	0,00%	4,61%	4,19%	1,41%	-2,16%	3,00%	-1,06%	8,87%	2,49%	-2,35%	6,00%	-2,27%	23,82%	57,17%
	MSCI	1,42%	5,66%	5,32%	3,71%	-5,93%	4,13%	-1,28%	7,33%	2,44%	-0,61%	7,71%	-2,08%	30,04%	71,17%
2020	Fundo	5,98%	-3,85%	4,46%	12,96%	1,08%	0,77%	1,28%	6,48%	-0,09%	-1,66%	-0,59%	-0,14%	25,58%	97,37%
	MSCI	5,80%	-3,97%	-0,18%	16,32%	3,25%	3,41%	0,60%	11,75%	-0,73%	1,17%	5,00%	0,77%	46,97%	151,56%
2021	**Fundo**	5,14%	0,07%	6,34%	-2,47%	-0,17%	-4,73%	6,48%	1,57%	0,25%	6,73%	-1,21%	5,55%	25,22%	147,16%
	MSCI	4,59%	4,44%	4,21%	0,23%	-2,29%	-3,16%	11,75%	2,01%	0,81%	9,02%	-2,04%	2,99%	29,27%	225,19%
2022	**Fundo**	9,57%	-3,19%	-5,42%	1,53%	-6,74%	4,78%	3,07%	-3,42%	-4,28%	4,36%	5,36%	-1,18%	-14,95%	110,22%
	MSCI	9,96%	-5,29%	-5,81%	-4,69%	-4,00%	0,10%	7,34%	-3,96%	-6,66%	3,13%	7,83%	-3,11%	-23,64%	148,32%
2023	**Fundo**	-2,17%	-0,16%	0,11%	1,28%	-1,25%	-2,53%							-4,68%	87,10%
	MSCI	3,00%	0,00%	-0,23%	-0,12%	0,56%	-0,18%							3,04%	143,66%

RENTABILIDADE

Rentabilidade: Acadian Global Managed Volatility Equity FIC FIM IE
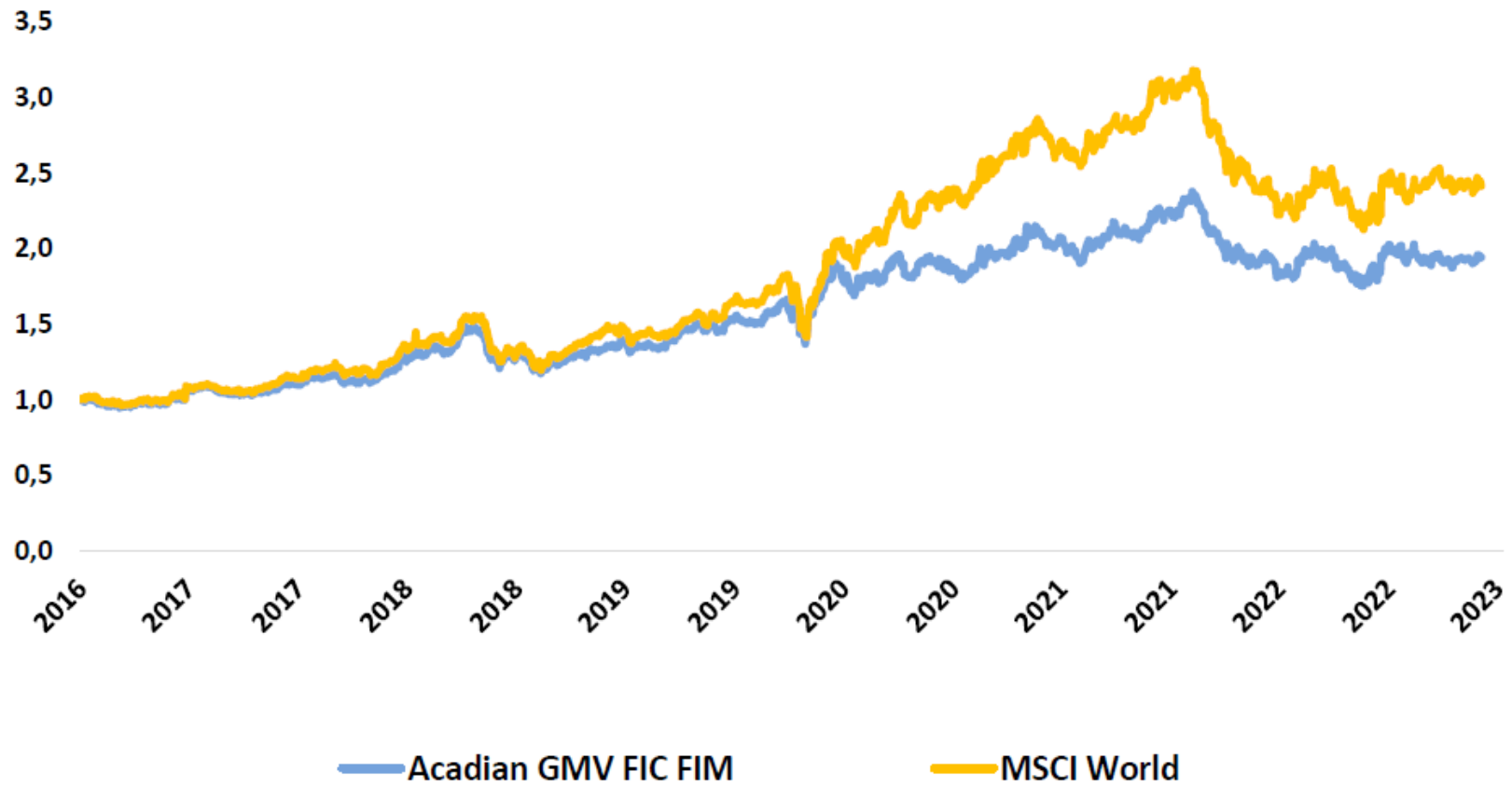
MATERIAL DE SUPORTE

TIME DE MANAGED VOLATILITY

Brendan Bradley. Ph.D. Executive Vice President. Chief Investment Officer	Ph.D. em matemática aplicada pela Boston University B.A. em física pela Boston College
Ryan Taliaferro. Ph.D. Senior Vice President. Director. Equity Strategies	Ph.D. em economia de negócios. *business economics (finance). pela* Harvard University; A.M. em economia pela Harvard University; A.M. e A.B. em física pela Harvard University; M.B.A. em finanças e economia pela University of Chicago
Mark Birmingham. CFA Senior Vice President. Lead Portfolio Manager	A.B. em ciência da computação pela Princeton University CFA charterholder e membro da CFA Society Boston
Dan Le. CFA Vice President. Portfolio Manager	B.A. em psicologia pela Brown University CFA charterholder e membro da CFA Society Boston
Sean Geary. CFA Vice President. Portfolio Manager	M.B.A. pela Boston College M.S. em engenharia mecânica pela Boston University B.S. em física pela James Madison University CFA charterholder e membro da CFA Society Boston
Wan Hua Tan. CFA Vice President. Associate Portfolio Manager	M.S.E. em engenharia biomédica pela John Hopkins University B.A.Sc em ciência da engenharia pela University of Toronto CFA charterholder e membro da CFA Society Boston
Michele Goe. Ph.D. Assistant Vice President. Analyst. Research	Ph.D. em ciências materiais pela Rochester Institute of Technology M.S.E. em pesquisa de operações pela University of Michigan B.S.E. em engenharia mecânica pela University of Michigan

TIME ADICIONAL DE INVESTIMENTO

John Chisholm. CFA
Co-Chief Executive Officer

Kurt Livermore. CFA
Senior Vice President. Portfolio Manager

Malcolm Baker. Ph.D.
Director. Research

Mark Roemer
Senior Vice President. Portfolio Manager

Vladimir M. Zdorovtsov . Ph.D.
Director. Research

David Purdy
Vice President. Portfolio Manager

Katrina Khoupongsy. CFA
Senior Vice President. Portfolio Management and Research

PRICE-TO-BOOK

U.S. 1975 – 2019

Legend:
- Low-beta P/B 25%
- Low-beta P/B median
- Low-beta P/B 75%
- High-beta P/B 25%
- High-beta P/B median
- High-beta P/B 75%

PADRÕES DE PERFORMANCE DE LONGO PRAZO

S&P 500 Versus Portfólio Hipotético de Variância Mínima

Percentage of Time Minimum Variance Outperforms

Rolling Years

Distribution of 10YR Annualized Returns over Cash

95th Percentile
80th Percentile
50th Percentile
20th Percentile
5th Percentile

S&P 500   Minimum Variance

RECUPERANDO DE DRAWDOWNS

- Compensar de uma grande queda requer um ganho ainda maior

- Investidores muitas vezes não compreendem os impactos que grandes perdas podem causar nos retornos do portfolio

Markets Losses	Required % Return to Get Back Even
10%	11%
20%	25%
30%	43%
40%	67%
50%	100%
60%	150%
70%	233%
80%	400%
90%	900%

MERCADO DE AÇÕES E SENSIBILIDADE À TAXAS DE JUROS

1966 – 2019

Equity market and interest-rate sensitivities of sectors and two hypothetical low-beta portfolios

BIOGRAFIAS

TIME DE INVESTIMENTO DA ACADIAN

John R. Chisholm. CFA – Co-Chief Executive Officer
- 34 years of investment experience
- Member of the Acadian Executive Committee
- M.S. in business/finance from MIT
- B.S. in engineering from MIT
- CFA charterholder and a member of the CFA Society Boston
- Member of the editorial board of the Journal of Investment Strategies

Brendan O. Bradley. Ph.D. – Executive Vice President. Chief Investment Officer
- 20 years of investment experience
- Member of the Acadian Executive Committee
- Ph.D. in applied mathematics from Boston University
- B.A. in physics from Boston College

Malcolm P. Baker. Ph.D. – Director. Research
- 16 years of investment experience
- Research consultant since 2006
- Robert G. Kirby Professor of Finance. Harvard Business School
- Ph.D. from Harvard University
- M.Phil. From Cambridge University; B.A. from Brown University

James Dufort. CFA – Senior Vice President. Director. Investment Analytics & Data
- 17 years of Investment experience
- M.B.A. from Indiana University. Kelley School of Business
- B.S. in electrical engineering from Tufts University
- CFA charterholder

Ilya A. Figelman. CFA – Senior Vice President. Director. Multi-Asset Class Strategies
- 18 years of investment experience
- M.S. in mathematics of finance from New York University
- B.S. in systems engineering from Washington University
- CFA charterholder

Michael Gleason – Senior Vice President. Director. Long/Short Strategies
- 23 years of investment experience
- M.S.F. from Northeastern University
- B.S. in management science from Bridgewater State University

Ryan D. Taliaferro. Ph.D. – Senior Vice President. Director. Equity Strategies
- 17 years of professional experience
- Member of the Acadian Executive Committee
- Ph.D. in Business Economics (Finance) from Harvard University
- A.M. in economics from Harvard University
- A.M. and A.B. in physics from Harvard University
- M.B.A. in finance and economics from the University of Chicago

Alexandre N. Voitenok – Senior Vice President. Director. Implementation
- 18 years of investment experience
- Member of the Acadian Executive Committee
- M.Sc. in software engineering from Minsk Radio Engineering Institute

Vladimir M. Zdorovtsov. Ph.D. – Senior Vice President. Director. Global Equity Research
- 18 years of investment experience
- Ph.D. in finance from University of South Carolina
- M.B.A. from University of Arkansas
- B.A. in international economics from Sumy University. Ukraine

Joseph M. Bacchi – Senior Vice President. Head of Trading & Investment Operations. Multi Asset Class Strategies
- 23 years of investment experience
- M.B.A. in international/executive management from St. John's University
- B.S. in finance from St. John's University

Jean Christophe (J.C.) De Beaulieu. CFA – Senior Vice President. Head of Investments. Australia
Acadian Asset Management (Australia) Limited
- 21 years of investment experience
- Advanced Master in financial techniques from ESSEC Business School
- D.E.A. in numerical analysis from Pierre and Marie Curie University and Ecole Polytechnique
- M.S. in mathematics from Pierre and Marie Curie University
- CFA Charterholder and member of CFA Society Boston

Brian Buzzelli – Senior Vice President. Head of Data Governance
- 27 years of professional experience
- M.B.A. from Katz Graduate School of Business. University of Pittsburgh
- M.S. in management of information systems from Katz Graduate School of Business. University of Pittsburgh
- B.S. in information and decision systems from Carnegie Mellon University

Joel Feinberg – Senior Vice President. Head of Trading
- 13 years of investment experience
- MSIM from Boston University
- B.B.A. in finance from the University of Massachusetts

Mark J. Birmingham. CFA – Senior Vice President. Lead Portfolio Manager. Managed Volatility
- 24 years of investment experience
- A.B. in computer science from Princeton University
- CFA charterholder and member of CFA Society Boston

TIME DE INVESTIMENTO DA ACADIAN

Harry Gakidis. Ph.D. – Senior Vice President. Lead Portfolio Manager. Core
- 18 years of investment experience
- Ph.D. in economics from MIT
- A.B. in economics from Harvard University

Boris I. Kovtunenko. Ph.D. – Senior Vice President. Lead Portfolio Manager. Portfolio Research and Oversight
- 15 years of investment experience
- Ph.D. in economics from Harvard University
- M.A. in economics from New Economics School
- M.S. in physics from Moscow State University

Asha Mehta. CFA – Senior Vice President. Lead Portfolio Manager
- 19 years of investment experience
- M.B.A. with Honors from the Wharton School. University of Pennsylvania
- A.B. and B.S. from Stanford University
- CFA charterholder and a member of CFA Society Boston

Scott J. Brymer. CFA – Senior Vice President. Portfolio Manager
- 21 years of professional experience
- B.B.A. in finance from the University of Massachusetts Amherst
- CFA charterholder and a member of CFA Society Boston

Thomas Dobler. Ph.D. – Senior Vice President. Portfolio Manager. Multi-Asset Class Strategies
- 23 years of investment experience
- Ph.D. in mathematics from Columbia University
- M.S. in mathematics from University of Illinois
- B.S. in mathematics from University of Vienna. Austria

Maxim Golts – Senior Vice President. Portfolio Manager. Multi Asset Class Strategies
- 14 years of investment experience
- Ph.D. in mathematics from Yale University

Stella M. Hammond – Senior Vice President. Portfolio Manager. Implementation
- 44 years of experience in institutional investing
- M.Phil. in mathematics from Yale University
- B.S. in mathematics from Stanford University

Ron Hirsch – Senior Vice President. Portfolio Manager. Implementation
- 23 of years of professional experience
- Member of Acadian's Portfolio Construction and Trading Team
- Postgraduate diploma in computer science. Tel Aviv University. Israel
- B.Sc. in mechanical engineering. Tel Aviv University. Israel

Katrina Khoupongsy. CFA – Senior Vice President. Portfolio Management and Research
Acadian Asset Management (Australia) Limited
- 23 years of professional experience
- Bachelor in mathematics and finance (Hons) from the University of Technology. Sydney
- Graduate Diploma in applied finance and investments from the Securities Institute of Australia
- CFA charterholder

James Li. CFA – Senior Vice President. Portfolio Manager. Research – Dynamic Strategies
- 8 years of investment experience
- M.S. in operations research from Columbia University
- B.E. in industrial engineering from Tsinghua University
- CFA charterholder

Kurt Livermore. CFA – Senior Vice President. Portfolio Manager
- 22 years of investment experience
- B.S. in business administration from University of Arizona
- CFA charterholder

Michael D. McCart. CFA – Senior Vice President. Portfolio Manager. Implementation
- 21 years of investment experience
- B.S. in engineering and economics. University of Pennsylvania
- CFA charterholder and a member of CFA Society Boston

Devin Nial – Senior Vice President. Portfolio Manager. Research
- 15 years of professional experience
- M.S. in finance from Boston College
- M.A. in computer science from Boston University
- B.A. in English literature from SUNY Albany

Dmitry S. Olevsky. CFA – Senior Vice President. Portfolio Manager. Research
- 17 years of investment experience
- M.B.A. from Harvard Business School
- B.S. in structural engineering from Michigan Technological University
- FRM designation and CFA charterholder

David E. Purdy – Senior Vice President. Portfolio Manager
- 19 years of professional experience
- M.B.A. with a concentration in investments from Northeastern University
- M.S. in finance from Northeastern University
- B.A. in economics from Wheaton College

TIME DE INVESTIMENTO DA ACADIAN

Mark P. Roemer – Senior Vice President. Portfolio Manager
Acadian Asset Management (U.K.) Limited
- 21 years of professional experience
- M.S. in finance from London Business School
- M.S. in engineering from Stanford University
- B.S. in mechanical engineering from Virginia Polytechnic Institute & State University

Francis Seah. CFA – Senior Vice President. Portfolio Manager
Acadian Asset Management (Singapore) Pte Ltd
- 15 years of investment experience
- B.S. and M.S. from Nanyang Technological University
- CPA. Institute of Certified Public Accountants Singapore
- CFA charterholder and a member of CFA Singapore
- Computational Finance Certificate from Carnegie Mellon University
- CFA charterholder

Bin Shi. Ph.D.. CFA – Senior Vice President. Portfolio Manager. Research
- 13 years of investment experience
- Ph.D. in engineering statistics from Georgia Institute of Technology
- M.S. in operations research from Georgia Institute of Technology
- B.S. in mechanical engineering from Southeast University. China
- CFA charterholder

Caroline X. Shi. CFA – Senior Vice President. Portfolio Manager. Research Analyst
- 15 years of investment experience
- M.B.A. and M.S. in finance from Boston College
- B.S. and M.S. in engineering from Donghua University. China
- CFA charterholder and a member of CFA Society Boston

Mark Webster – Senior Vice President. Portfolio Manager
Acadian Asset Management (U.K.) Limited
- 28 years of investment experience
- B.A. (Hons) in financial services from Bournemouth University
- Member of the CFA Society United Kingdom

Hiroaki Yamazaki. CFA. CMA – Senior Vice President. Portfolio Manager
Acadian Asset Management (Japan)
- 27 years of investment experience
- M.A. in Social Engineering from Tokyo Institute of Technology
- B.A. in Social Engineering from Tokyo Institute of Technology
- Chartered Member of the Security Analysts Association of Japan (CMA)

Jian Pan. CFA – Senior Vice President. Lead Analyst. Integration
- 25 years of professional experience
- M.S. in computer science from the University of Massachusetts
- B.S. industrial automation control from Nanjing University of Technology. China

Rob Ricciarelli. CFA – Senior Vice President. Lead Analyst. IPD
- 24 years of professional experience
- M.B.A from Suffolk University
- B.S. in management and B.A. in psychology from the University of Massachusetts. Boston
- CFA charterholder

Yury Tsitkou. Ph.D. – Senior Vice President. Lead Analyst. Implementation
- 19 years of investment experience
- Ph.D. in mathematics from Belarus National University
- M.A. in economics from Binghamton University

Xiaoting Zhang. CFA. – Senior Vice President. Lead Analyst. Integration
- 9 years of investment experience
- M.B.A. from the University of Chicago
- M.S. in financial mathematics from the University of Chicago
- M.S. in computer science from Loyola University Chicago
- B.A. in architecture from Tianjin University. China
- Certified FRM and CFA charterholder

Deborah B. Waters – Senior Vice President. Senior Trader. Implementation
- 28 of years of professional experience
- Senior member of the Acadian Portfolio Construction Team
- B.S. in finance from Northeastern University

Daniel P. Adamson – Vice President. Portfolio Manager. Implementation
- 14 years of professional experience
- Member of Acadian's Portfolio Construction and Trading Team
- M.B.A. from Boston College
- B.A. in accountancy and management information systems from Miami University

Giuliano Amantini. Ph.D. – Vice President. Portfolio Manager
- 13 years of professional experience
- Ph.D. in engineering and applied sciences from Yale University
- M.S. in mathematical finance from Bocconi University
- M.S. in mechanical engineering from Yale University
- M.S. in aerospace engineering from La Sapienza University
- B.S. in mechanical engineering from Tor Vergata University

Pavel Bandarchuk. Ph.D. CFA – Vice President. Portfolio Manager. Research
- 12 years of investment experience
- Ph.D. in international economics and finance from Brandeis University
- M.S. in finance from Brandeis University
- diploma in international economics from Belarusian State University
- Certified FRM and CFA charterholder

Heidi Chen. CFA – Vice President. Portfolio Manager
- S.M. in computational science and engineering from Harvard University
- B.A. with Honors in mathematics from Williams College
- CFA charterholder and member of CFA Society Boston

TIME DE INVESTIMENTO DA ACADIAN

Sean Geary. CFA – Vice President. Portfolio Manager
- 11 years of professional experience
- M.B.A. from Boston College
- M.S. in mechanical engineering from Boston University
- B.S. in physics from James Madison University
- CFA charterholder and member of CFA Society Boston

Denys Glushkov. Ph.D. – Vice President. Portfolio Manager. Research
- 13 years of professional experience
- Ph.D. in finance. University of Texas at Austin
- M.S. in economic Cybernetics. Dnipropetrovsk State University (Ukraine)
- M.A. in economics. Central European University (Hungary)

Clifton D. Hill – Vice President. Portfolio Manager. Multi-Asset Class Strategies
- 20 years of investment experience
- B.A. in political science from Brown University

Dan M. Le. CFA – Vice President. Portfolio Manager
- 14 years of professional experience
- B.A. in psychology from Brown University
- CFA charterholder and a member of CFA Society Boston

Joanna Nash. Ph.D.. CFA – Vice President. Portfolio Manager
Acadian Asset Management (Australia) Limited
- 13 years of professional experience
- Ph.D. in economics from Yale University
- M.Phil. in economics from Yale University
- M.A. in economics from Yale University
- Bachelor of Economics (Honours) from the University of New South Wales. University Medal
- Bachelor of Laws from the University of New South Wales
- CFA charterholder

Shailesh Parmar – Vice President. Portfolio Manager. Multi Asset Class Strategies
- 13 years of investment experience
- M.B.A. in finance and economics from Columbia Business School
- B.A. in chemistry from Columbia University

Matthew Picone. CFA – Vice President. Portfolio Manager
Acadian Asset Management (Australia) Limited
- 14 years of professional experience
- Bachelor of Commerce in finance and econometrics from the University of Sydney
- CFA charterholder
- Member of the PRI Australian Advisory Committee

Michael Ponikiewicz – Vice President. Portfolio Manager. Multi Asset Class Strategies
- 9 years of investment experience
- M.B.A. with concentration in asset management from Boston College
- M.S. in finance from Boston College
- B.S. in industrial engineering from Pennsylvania State University

Olivia Tang. Ph.D.. CFA – Vice President. Portfolio Manager. Research
- 9 years of professional experience
- Ph.D. in systems engineering. with a concentration in operations research. from Boston University
- B.S. in mathematics from Peking University (China)
- CFA Charterholder

Dominique Abdi – Vice President. Associate Portfolio Manager. Multi Asset Class Strategies
- 8 years of investment experience
- M.S. in mathematics from New York University
- B.S. in mathematics with a minor in economics from University of Miami
- B.B.A in finance with a minor in accounting from the University of Miami

Ioannis Baltopoulos – Vice President. Associate Portfolio Manager
- 10 years of professional experience
- M.Sc. in advanced computing from Imperial College London
- B.Sc. in computer science from the University of Kent

Zhe Chen. Ph.D. – Vice President. Associate Portfolio Manager. Research
Acadian Asset Management (Australia) Limited
- 10 years of professional experience
- Ph.D. in empirical finance from Macquarie University
- Bachelor of Engineering (bioinformatics). First Class Honours and University Medal. from the University of New South Wales
- Bachelor of Commerce (finance) from UNSW

Katherine Hodsdon – Vice President. Associate Portfolio Manager. Research
- 8 years of professional experience
- M.S. in mathematics in finance from New York University
- B.S. in information & systems engineering from Lehigh University
- B.S. in integrated business & engineering from Lehigh University

Charles V. Johnson – Vice President. Associate Portfolio Manager
- 16 years of professional experience
- M.S. in finance from Northeastern University
- M.B.A. from Northeastern University
- B.S. in finance from the University of Massachusetts at Dartmouth

TIME DE INVESTIMENTO DA ACADIAN

Sam Mavandadi. CFA – Vice President. Associate Portfolio Manager. Research
- 5 years of investment experience
- M.B.A. from INSEAD
- Ph.D. in electrical engineering from the University of Toronto
- M.A.Sc. in computer engineering from the University of Toronto
- B.A.Sc. in engineering science from the University of Toronto
- CFA charterholder and member of CFA Society Boston

Aditya Panda – Vice President. Associate Portfolio Manager. Multi Asset Class Strategies
- 11 years of investment experience
- Master of financial engineering from UCLA
- Bachelor of engineering from the School of Electrical and Electronic Engineering. Nanyang Technical University. Singapore

Wan Hua Tan. CFA – Vice President. Associate Portfolio Manager
- 8 years of investment experience
- M.S.E. in biomedical engineering from John Hopkins University
- B.A.Sc in engineering science from the University of Toronto
- CFA charterholder

Charles D. Augello. CFA – Vice President. Lead Analyst. Integration. Multi-Asset Class Strategies
- 16 years of professional experience
- B.A. in engineering sciences and economics from Dartmouth College
- CFA charterholder

Anton S. Kapliy. Ph.D.. CFA – Vice President. Lead Analyst. Implementation
- Ph.D. in high energy physics from University of Chicago
- B.A. in physics from University of Pennsylvania
- CFA charterholder and a member of CFA Society Boston

John King – Vice President. Lead Analyst. Integration
- 19 years of professional experience
- Associate's degree in computer technology from Southern Maine Community College

Karthik Kumar – Vice President. Lead Analyst. Integration
- 8 years of Investment experience
- M.S. in quantitative and computational finance from Georgia Institute of Technology
- Bachelor of Technology. major in mechanical engineering from Indian Institute of Technology – Roorkee

Michael Moy – Vice President. Lead Analyst. Implementation
- 20 of years of professional experience
- Member of Acadian's Portfolio Construction and Trading Team
- B.S. in finance from Suffolk University

Bernard Sim – Vice President. Lead Analyst. IPD
Acadian Asset Management (Singapore) Pte Ltd
- 17 years of professional experience
- Bachelor of Commerce in finance from the Australia National University

Jeffrey A. Sutthoff. CFA – Vice President. Lead Analyst. Integration
- 25 years of professional experience
- M.B.A. in finance from Boston College
- B.S. in mathematics from Stetson University

Mark D. Weissman – Vice President. Lead Analyst. Research
- 13 years of investment experience
- B.S. and B.A. in engineering and computer science. SUNY at Buffalo

Ferdous Alam –Vice President. Senior Analyst. IPD
- 14 years of professional experience
- M.A. in economics from Texas Tech University
- B.B.A. in economics from Texas Tech University

Gary Artinian – Vice President. Senior Analyst. Integration
- 9 years of investment experience
- M.B.A. with a dual concentration in investment and corporate finance from Duke University
- M.S. in industrial engineering from Rensselaer Polytechnic Institute
- B.S. in electrical and computer engineering (dual degree) from Rensselaer Polytechnic Institute

James Coder. CFA – Vice President. Senior Analyst. IPD. Multi Asset Class Strategies
- 8 years of investment experience
- B.S. in finance from the University of Kansas
- CFA charterholder

Bhaskar Edara. CFA – Vice President. Senior Analyst. Integration
- 25 years of professional experience
- M.S. in finance from Boston College
- B.Tech. in mechanical engineering from the National Institute of Technology. India
- Certified FRM and CFA charterholder

Ajay Kalra– Vice President. Senior Analyst. Implementation
- 21 years of professional experience
- M.S. in Mechanical engineering from the University of Pittsburgh
- B.S. in Mechanical engineering from the Indian Institute of Technology (BHU)
- Certificate in Computational Finance from Oregon Graduate Institute

Anna Lang. CFA – Vice President. Senior Analyst. IPD
- 8 years of professional experience
- M.B.A.from Boston University
- B.S. in accounting from the International Slavic University
- CFA charterholder and a member of CFA Society Boston

TIME DE INVESTIMENTO DA ACADIAN

Marc W. Lowenthal – Vice President. Senior Analyst. Integration
- 36 years of professional experience
- M.B.A. in finance and information systems from Pace University
- B.S. in information systems and accounting from Syracuse University

Kamlun Shek. Ph.D.. CFA – Vice President. Senior Analyst. Integration. Multi-Asset Class Strategies
- 22 years of professional experience
- Ph.D. in mechanical engineering from Rensselaer Polytechnic Institute
- M.S. mechanics from Rensselaer Polytechnic Institute
- M.S. in computer science from Rensselaer Polytechnic Institute
- M.S. and B.S. in civil engineering from National Cheng Kung University. Taiwan
- CFA charterholder

Alagappan Solaiappan – Vice President. Senior Analyst. Data Engineering
- 21 years of professional experience
- M.E. in engineering from Anna University
- B.E. in engineering from Madurai Kamaraj University
- Sun Certified Enterprise Architect (SCEA)

Christopher Stevens – Vice President. Senior Analyst. Integration
- 10 years of investment experience
- B.A. in computer science from Boston University

Michael Vashevko – Vice President. Senior Analyst. Implementation
- 23 years of professional experience
- Member of Acadian's Portfolio Construction and Trading Team
- M.S. in applied mathematics and computer science from Belarusian State University

Jason J. Withrow – Vice President. Senior Analyst. Integration
- 22 years of professional experience
- B.A. in computer science from the University of Rhode Island

Ted Zhang. CFA – Vice President. Senior Analyst. IPD
- 14 years of professional experience
- M.S. in finance from Bentley University
- B.S. accounting from Bentley University
- CFA charterholder and a member of CFA Society Boston

Benjamin R. Hutchens – Vice President. Trader. Implementation
- 12 years of professional experience
- M.S. in investment management from Boston University
- B.A. in international affairs and political science from Northeastern University

Leon Lu – Vice President. Trader. Implementation
Acadian Asset Management (Australia) Limited
- 8 years of professional experience
- Master of Commerce in actuarial studies from Macquarie University
- Bachelor of Actuarial Studies and Finance from Australian National University
- Bachelor of Finance from Australian National University
- Actuary of the Institute of Actuaries of Australia

Wesley Jeng – Assistant Vice President. Associate Portfolio Manager. Implementation
- 5 years of investment experience
- Dual Master's Degree from UT Austin and ESCP Europe
- BA (Hons) from University of Nottingham
- CFA charterholder

Leonid Kritz – Assistant Vice President. Associate Portfolio Manager. Multi-Asset Class Strategies
- 4 years of investment experience
- M.S. in finance from the University of Texas—Dallas
- B.S. in mathematics and financial economics from the University of Maryland—Baltimore County
- Certified FRM

Kyle McCarthy. CFA – Assistant Vice President. Associate Portfolio Manager. Implementation
- 12 years of professional experience
- B.S. in finance from Bentley University
- CFA charterholder and member of CFA Society Boston

Brendan O'Leary – Assistant Vice President. Associate Portfolio Manager. Research
- 6 years of professional experience
- B.S.E. in mechanical & aerospace engineering from Princeton University

Shivani Patnaik – Assistant Vice President. Associate Portfolio Manager
- 8 years of professional experience
- M.S. in mathematical finance from Boston University
- B.S. in chemical engineering from University of Maryland

Alexander Rikun – Assistant Vice President. Associate Portfolio Manager
- 9 years of professional experience
- Ph.D. in operations research from Massachusetts Institute of Technology
- B.S. in applied mathematics with a minor in economics from Columbia University

Louis Seng – Assistant Vice President. Associate Portfolio Manager. Implementation
Acadian Asset Management (Singapore) Pte Ltd
- 10 years of investment experience
- B.B.M in finance from Singapore Management University

TIME DE INVESTIMENTO DA ACADIAN

Linda Wang - Assistant Vice President. Associate Portfolio Manager. Research
- 6 years of investment experience
- Master of Finance from MIT's Sloan School of Management
- B.S. in finance and accounting from Drexel University

Rei Cheong. CFA – Assistant Vice President. Senior Analyst. IPD
Acadian Asset Management (Singapore) Pte Ltd
- 16 years of professional experience
- Masters in Business Administration from the Singapore Management University
- Graduate Diploma in Financial Management from the Singapore Institute of Management
- Bachelor of Electrical Engineering from the National University of Singapore

Vadim Storozhuk – Assistant Vice President. Senior Analyst. Implementation
- 24 years of professional experience
- M.S. in physics from Ohio State University
- B.S. in physics from Moscow Institute of Physics and Technology

Michael Szrom – Assistant Vice President. Senior Analyst. Implementation
- B.S. in computer science and computer engineering from Northeastern University

Ruta Gadgil – Assistant Vice President. Analyst. Implementation
- 8 years of professional experience
- Member of Acadian's Portfolio Construction and Trading Team
- M.S. in computer science from Northeastern University
- B.E. in computer engineering from University of Pune. India

Michele Goe. Ph.D. – Assistant Vice President. Analyst. Research
- 2 years of investment experience
- Ph.D. in material science from Rochester Institute of Technology
- M.S.E. in operations research from the University of Michigan
- B.S.E. in mechanical engineering from the University of Michigan

Matthew D. Gunn. Assistant Vice President. Analyst. Global Equity Research
- Ph.D. in finance from the University of Chicago
- M.B.A. with a dual concentration in economics and analytical finance from the University of Chicago
- B.A.S. in economics and symbolic systems with a concentration in artificial intelligence from Stanford University

Shi He – Assistant Vice President. Analyst. Integration
- M.S. in data science from Worcester Polytechnic Institute
- B.S. in computer science from Hubei University of Police. China

Jackie Jin – Assistant Vice President. Analyst. Implementation
- 4 years of investment experience
- M.S. in quantitative and computational finance from Georgia Institute of Technology
- B.S. in math and economics from the Ohio State University

Michael Kelsey – Assistant Vice President. Analyst. Implementation
- 17 years of professional experience
- 10 years of compliance experience
- M.B.A. from Northeastern University
- B.S. from Babson College

Zhenan Li. CFA – Assistant Vice President. Analyst. IPD
- 16 years of investment experience
- M.S. in economics from Boston University
- B.S. in international business and trade from ShanDong University of Science & Technology
- B.S. in business management and administration from Cambridge College
- CFA charterholder

Chang Liu – Assistant Vice President. Analyst. Research
- S.M. in computational science and engineering from Harvard University
- M.S. in finance from Massachusetts Institute of Technology
- B.A. in philosophy. history of mathematics and science from St. John's College

Mengxi Liu – Assistant Vice President. Analyst. Research
- 4 years of professional experience
- Ph.D. in physics from Northeastern University
- B.Sc. in physics and economics from Peking University

Jessica Song – Assistant Vice President. Analyst. Research
- 7 years of professional experience
- B.E. in engineering mechanics. Jilin University. Changchun. China
- M.S. in computer science. SUNY Stony Brook
- M.S. in mathematics in finance. Courant Institute of Mathematical Sciences. NYU

Patrick Burek – Assistant Vice President. Trader. Multi-Asset Class Strategies
- 17 years of professional experience
- B.A. in government from Cornell University

Jason D. Littlefield – Assistant Vice President. Trader. Implementation
- 15 years of professional experience
- M.S. in finance from Northeastern University
- B.S. in business administration. with a dual concentration in accounting and marketing. from Northeastern University

William Pearce. CFA – Assistant Vice President. Trader. Implementation
- 10 years of professional experience
- M.B.A. from Northeastern University
- B.S. in business/finance from Salve Regina University
- CFA charterholder and member of CFA Society Boston

ANEXOS

DISCLOSURE SOBRE A PERFORMANCE HIPOTÉTICA

Hypothetical performance results have many inherent limitations. some of which are described below. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact. there are frequently sharp differences between hypothetical performance results and the actual performance results subsequently achieved by any particular trading program.

One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition. hypothetical trading does not involve financial risk. and no hypothetical trading record can completely account for the impact of financial risk in actual trading. For example. the ability to withstand losses or to adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results and all of which can adversely affect actual trading results.

ANNUAL PERFORMANCE DISCLOSURE
Global Managed Volatility Equity Composite

	Composite Return (%) Gross-of-Fees	Composite Return (%) Net-of-Fees	Benchmark Return (%)	Secondary Benchmark Return (%)	Dispersion of Returns Within Composite (%)	Three-Year ex-Post Standard Deviation of Absolute Returns			Number of Portfolios in Composite	Assets In Composite ($MMs)	Total Firm Assets Under Management ($MMs)
						Composite	Benchmark	Secondary Benchmark			
2010	12.0	11.6	11.8	12.0	1.2	15.5	23.7	17.2	7	1040	49.032
2011	7.5	7.0	-5.5	7.3	0.8	12.6	20.2	13.3	7	1248	42.200
2012	12.4	12.0	15.8	8.1	0.7	9.3	16.7	9.1	12	3070	51.903
2013	19.8	19.3	26.7	18.6	0.9	8.6	13.5	8.5	14	5338	65.153
2014	8.8	8.4	4.9	11.4	0.7	8.3	10.2	8.3	22	7946	70.339
2015	6.6	6.1	-0.9	5.2	0.7	9.2	10.8	8.9	24	8737	66.834
2016	7.7	7.3	7.5	7.5	0.7	8.5	10.9	8.5	24	8851	74.174
2017	20.5	20.0	22.4	17.3	0.8	7.8	10.2	7.9	30	11640	96.765
2018	-6.9	-7.2	-8.7	-2.0	0.5	8.8	10.4	8.4	31	11864	85.338
2019	21.1	20.6	27.7	23.2	0.7	8.8	11.1	7.6	30	12709	101.232

Performance Inception: August 1. 2006. This composite was created on: September 1. 2006. All figures stated in USD.

Acadian Asset Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Acadian Asset Management has been independently verified for the periods January 1. 1994 through December 31. 2019[1]. A copy of the verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. Reference to the benchmark is for comparative purposes only and is not intended to indicate that the composite will contain the same investments as the benchmark. Investors have the opportunity for losses as well as profits. Past performance is no guarantee of future returns. Past performance may differ significantly from future performance due to market volatility. Acadian Asset Management is an investment adviser specializing in global equity management. Acadian Asset Management is defined to include assets managed by Acadian Asset Management LLC. an investment adviser registered with and regulated by the United States Securities and Exchange Commission. as well as assets managed by its four wholly-owned affiliates. Acadian Asset Management (Australia) Limited (ABN 41 114 200 127). Acadian Asset Management (Japan). registered with the Kanto Local Financial Bureau. Acadian Asset Management Singapore Pte Ltd. (Registration Number: 199902125D) is licensed by the Monetary Authority of Singapore. and Acadian Asset Management (UK) Limited. authorized and regulated by the Financial Conduct Authority of the United Kingdom. On June 30. 2015. Acadian acquired the assets of Acadian's Australian office.

Methodology: Returns are net of estimated foreign withholding taxes on dividends. interest. and capital gains. Since January 1. 2010 Acadian's methodology was augmented to produce a more accurate gross return figure by eliminating modest cash flows such as securities lending income and custodial fees which are regarded as independent of the investment management process; the reinvestment of all income and trading expenses continue to be included. Monthly composite results are asset-weighted by beginning-of-month asset values of member portfolios which are geometrically linked to arrive at the annual composite return. Net-of-fee performance is accrued on a monthly basis and is calculated using the highest management fee listed in the standard fee schedule for accounts shown below. For applicable composites. Net-net-of-fee performance is shown and includes incentive fees which are also accrued on a monthly basis. The standard fee schedule for accounts managed with this product is 0.4% on the first $50 million. 0.3% on the next $50 million. and 0.25% thereafter. Management fees may vary according to the range of services provided. investment performance. and the amount of assets under management. Constituent portfolios are included from the first full month after inception to the present or the last full month prior to cessation of the client relationship with the firm. For example. an account that opened January 15. 2019 will be included beginning February 1. 2019. An account that terminated February 12. 2019 will be included through January 31. 2019. Policies for valuing portfolios. calculating performance. and preparing compliant presentations are available upon request.

Dispersion and Standard Deviation: Acadian's broad definitions are mainly the product of a highly customized process that may result in modest differences with regards to portfolio characteristics among constituents. All accounts managed with directly comparable investment objectives are included. though it's possible for members to utilize slightly different benchmarks in optimization and reporting. Although at times dispersion among constituents may be high. the long-term forecast for each portfolio is consistent with the overall composite. The 'Dispersion' statistic presented above is an annual. asset-weighted standard deviation calculation performed only on those portfolios who have been members for the entire calendar year. These figures are not applicable if there is only one portfolio in the composite for the full year. Thirty-six months are required to calculate the 'Three Year ex-Post Standard Deviation' statistic. These figures are not applicable if thirty-six months of composite returns are not available.

Composite Description: This composite invests globally in developed and opportunistic emerging equity markets. The strategy aspires to provide market-like returns with less-than-market volatility. As of January 1. 2010 this composite was renamed from "Global Low Volatility Equity." A complete list of the firm's composites and their descriptions is available upon request.

Benchmark Description: The primary benchmark for the composite is MSCI World (net of dividend withholding taxes). The MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The secondary benchmark is MSCI World Minimum Volatility (net of dividend withholding taxes) for purposes of additional comparison. The MSCI World Minimum Volatility Index is calculated by optimizing the MSCI World index to produce an index with the least volatility for a given set of constraints and to ensure index replicability and investability.

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[1] Ashland Partners verified Acadian's GIPS Compliance claim through March 31. 2017. ACA Compliance Group acquired Ashland's GIPS Verification unit and provided subsequent verifications.

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