

NBI *SmartData* Equity Funds

In partnership with
Goldman Sachs Asset
Management L.P.

A leading asset manager curating top investment talent

Meeting evolving investor needs with tailored investment solutions and services.

Providing a curated selection of top investment talent from the best global portfolio management firms.



\$ 109B and growing

AUM



144 Funds and ETFs

Complete offering



62 partners

Best-in-class portfolio management firms



93 teams

Proven portfolio management teams

Canada's leading open architecture investment firm

OP4+ evaluation and selection process

- Organization**
Strong organization with top-tier investment culture
- People**
Stable team of investment professionals
- Process**
Proven management processes to select securities, build portfolios and manage risk
- Portfolio**
Optimized portfolio construction to ensure sound diversification
- Performance**
Competitive and predictable risk-adjusted returns
- +**
Adoption of responsible investment practices

More than 60 portfolio management partners - Subset below

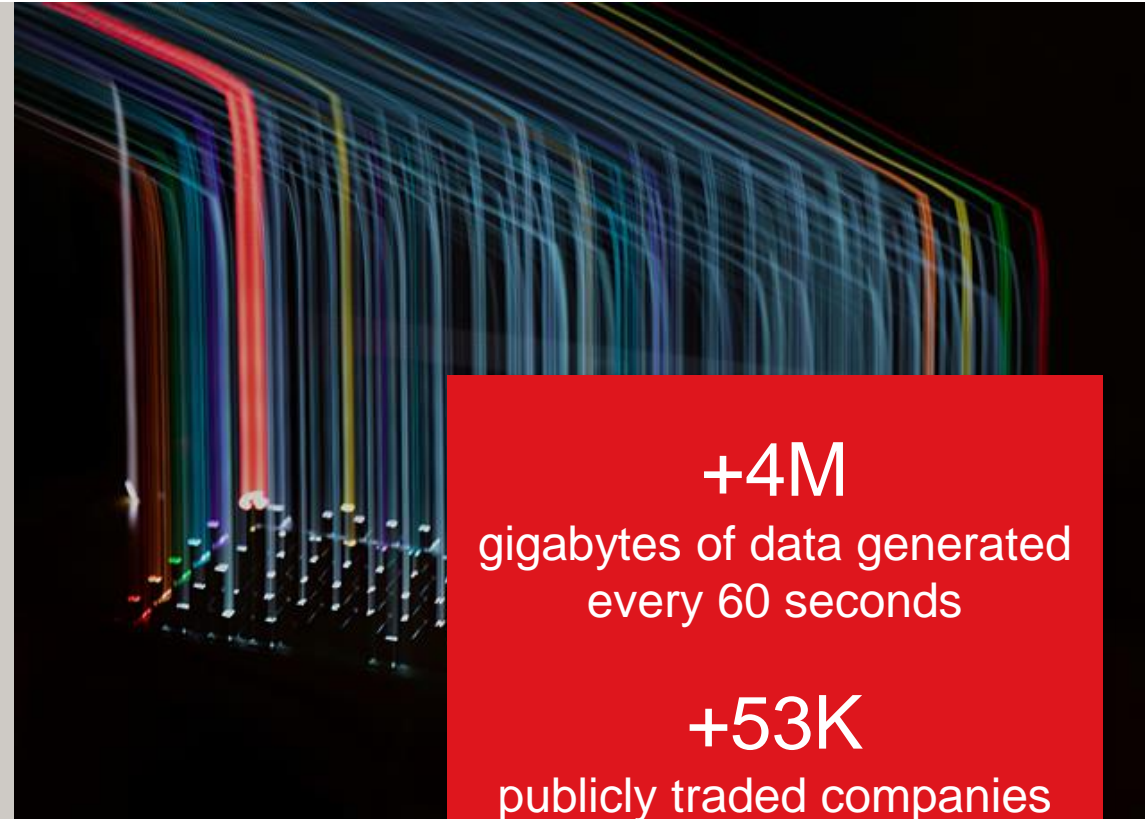
Funds and ETFs

Private investments

01	Context & opportunity
02	Why the NBI <i>SmartData</i> Funds
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Quant investing is turning data into investment opportunities

- Data is exploding, and the vast majority remains untapped
 - Data generation is expected to double every 2-3 years*
 - < 1% of global data currently used*
- AI clearly outperforming the human brain in terms of processing speed and pattern detection
- Going from Big Data to Smart Data



+4M
gigabytes of data generated
every 60 seconds

+53K
publicly traded companies

Leveraging AI to extract unique insights and opportunities from data

01

Context & opportunity

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Why the NBI *SmartData* Funds

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Summary

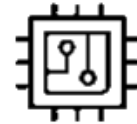
Goldman Sachs created its Quantitative Investment Strategies (QIS) team to harness the power of AI

The QIS Equity Alpha team leverages Natural Language Processing (NLP) techniques and advanced transformer technology within deep learning models to analyze text and audio.



Experience

- Perform due diligence to select the best data providers
- Decide when to use which AI techniques to potentially maximize ROI



Infrastructure

- Secure required computing power
- Analyze complex, high-quality data sets
- Perform cost-benefit analyses



Knowledge

- Provide highly specialized and experienced human capital
- Experiment with advanced technologies safely and knowledgeably

4 key activities performed by the QIS team to **generate Alpha** for investors



HARNESS BIG DATA & AI

Analyze large datasets
using machine learning
and AI



BUILD QUANTITATIVE MODELS

Develop models to
optimize return vs. risk



CONTINUOUS INNOVATION

Update models
with new data sources
and techniques



DISCIPLINED EXECUTION

Actively oversee portfolios
and manage risk

Translating data into investment information through machine learning algorithms

Generating differentiated returns through an **informational advantage**

Goldman Sachs Asset Management strongly believes that:

Non-traditional data
+
Proprietary
machine-learning
software



Portfolio Manager
oversight and
judgement



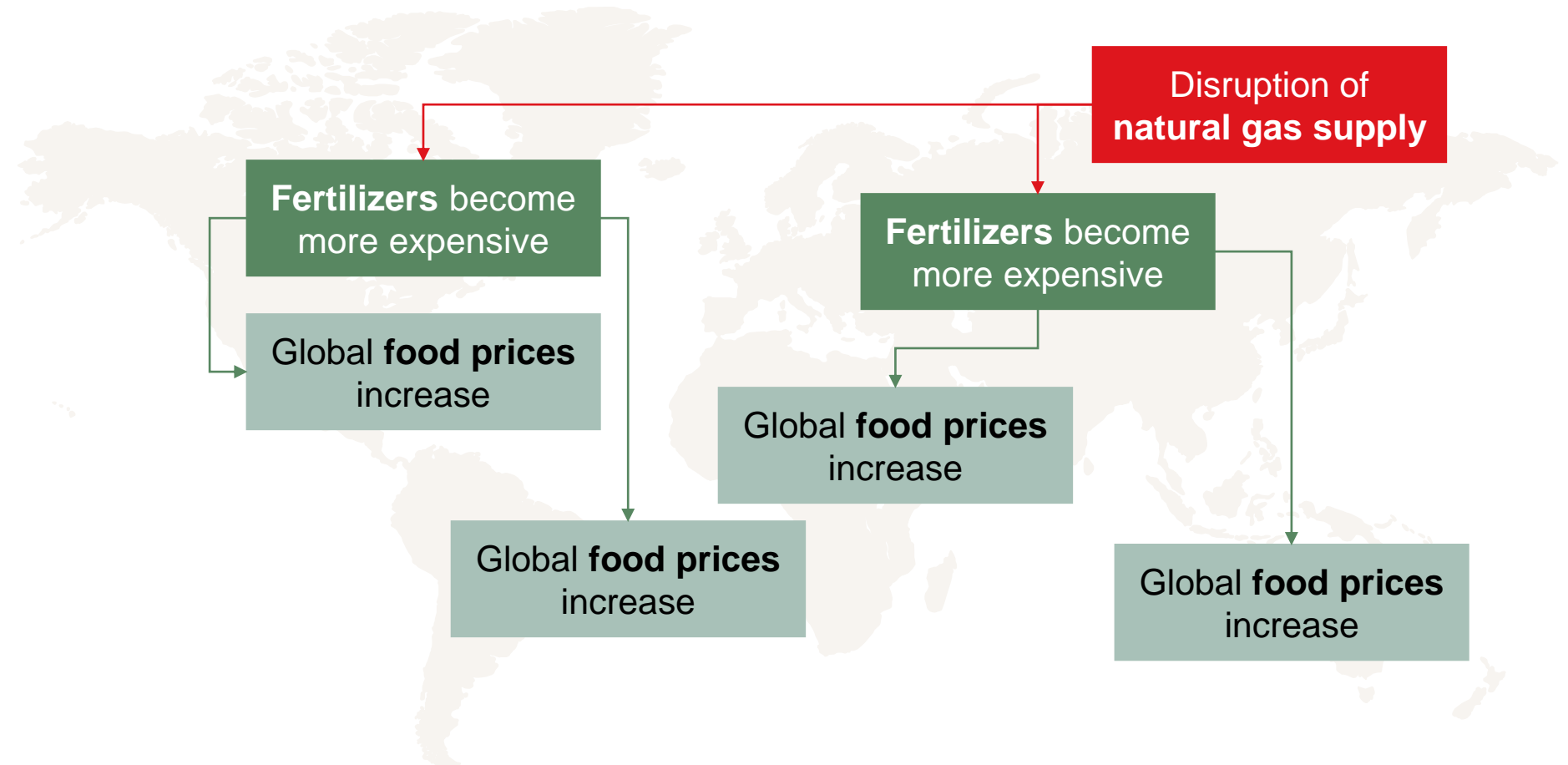
Differentiated
sources of return

Human judgement enhanced by non-traditional data and advanced analytics

Example: Uncovering hidden linkages between companies

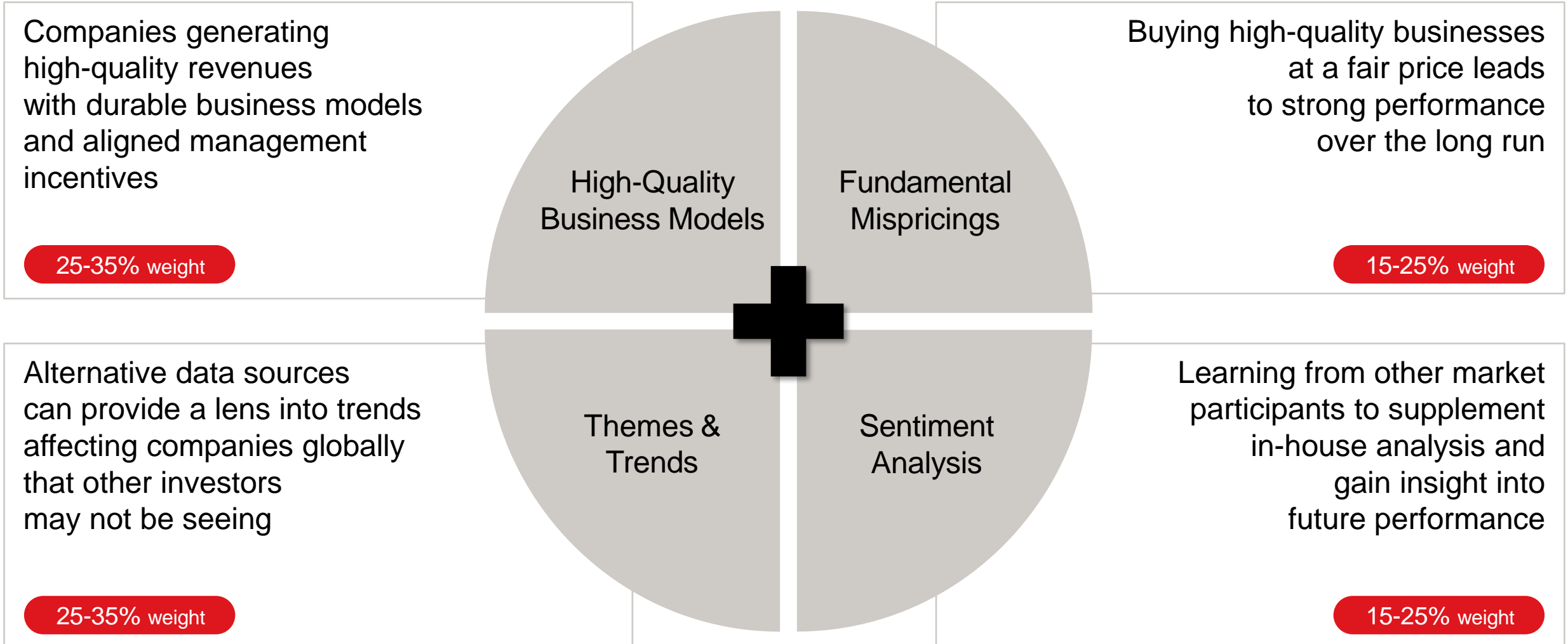
Understanding the economic linkages between companies can help anticipate ripple effects resulting from market events that can impact equity returns

Understanding how a **global event** triggers **first** and **second** order effects



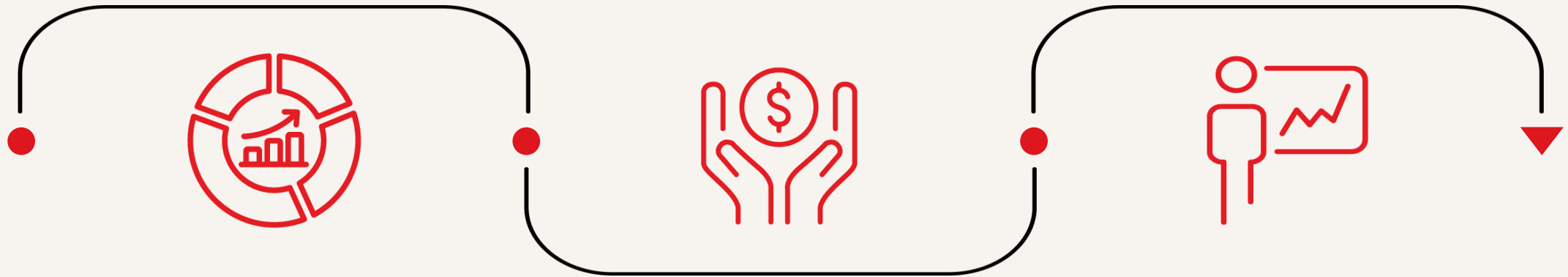
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4 quantitative investment pillars combined to uncover potential opportunities



Pillar #1: High-quality business models

Seeking to identify growing, profitable firms that are likely to surprise on the upside



REVENUE GROWTH PROSPECTS

Companies poised for strong revenue growth from a microeconomic and macroeconomic perspective.

EFFICIENT CAPITAL DEPLOYMENT

Companies that utilize capital efficiently, deploy cash with a high return on investments, and operate in a shareholder-friendly manner.

STABLE OPERATIONS & MANAGEMENT

Companies that generate relatively stable cash flows and whose management teams operate prudently with a long-term focus.

Pillar #2: Fundamental mispricings

Seeking to combine multiple valuation-based considerations to assess intrinsic value



VALUATION VERSUS PEERS

Observing the actions
of other market participants



CHANGES IN VALUATION

Identifying compelling entry points
based on a company's historical
valuation premium



INDUSTRY-TAILORED VALUATION

Leveraging a broad spectrum
of factors to identify industries
that provide compelling investment
characteristics

Pillar #3: Sentiment analysis

Leveraging different techniques to track sentiment on the firms in the Funds' universe



BUY-SIDE SENTIMENT

Observing the actions of other
market participants



SELL-SIDE SENTIMENT

Employing Natural Language
Processing technology to infer
sell-side sentiment



MANAGEMENT SENTIMENT

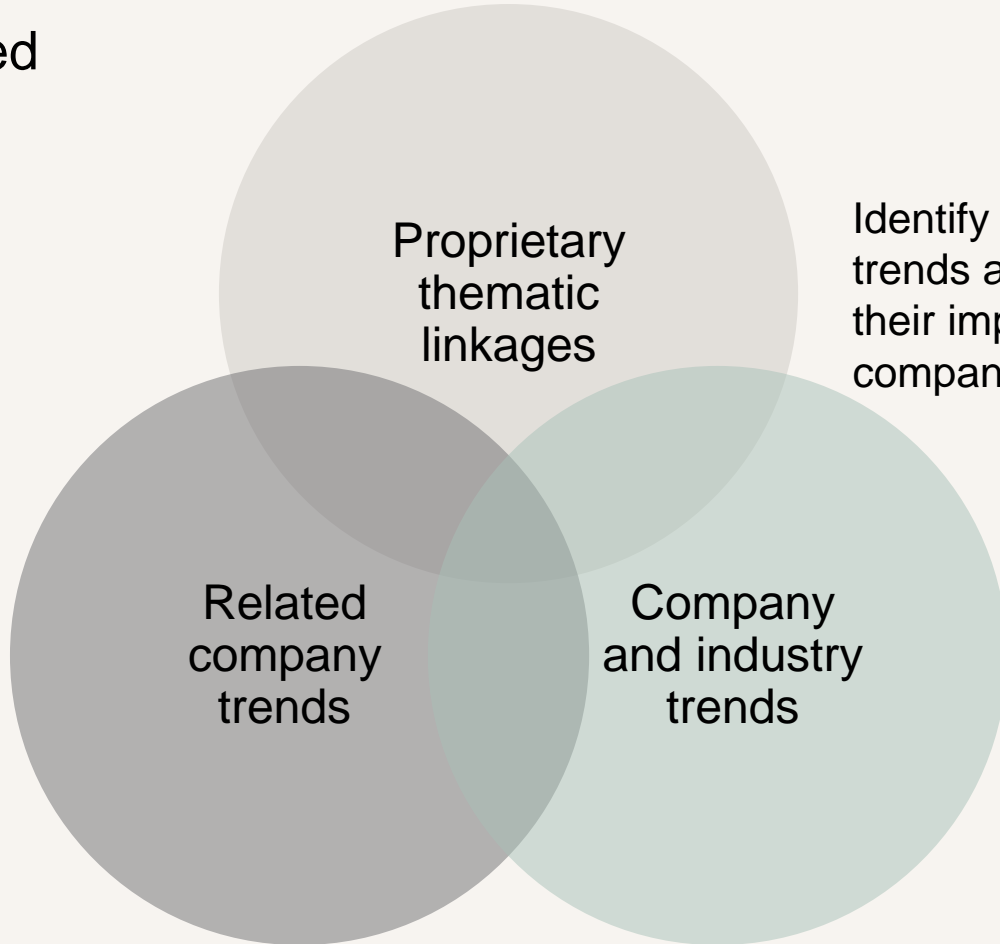
Examining the behaviour and
remarks of corporate managers to
infer their feelings toward their
firms' prospects

Focusing on the sentiment of the most important market players

Pillar #4: Themes and trends

Discovering underappreciated thematic trends and economic relationships between companies

Capitalize upon the interconnectedness of companies, whether as competitors or suppliers



Proprietary thematic linkages

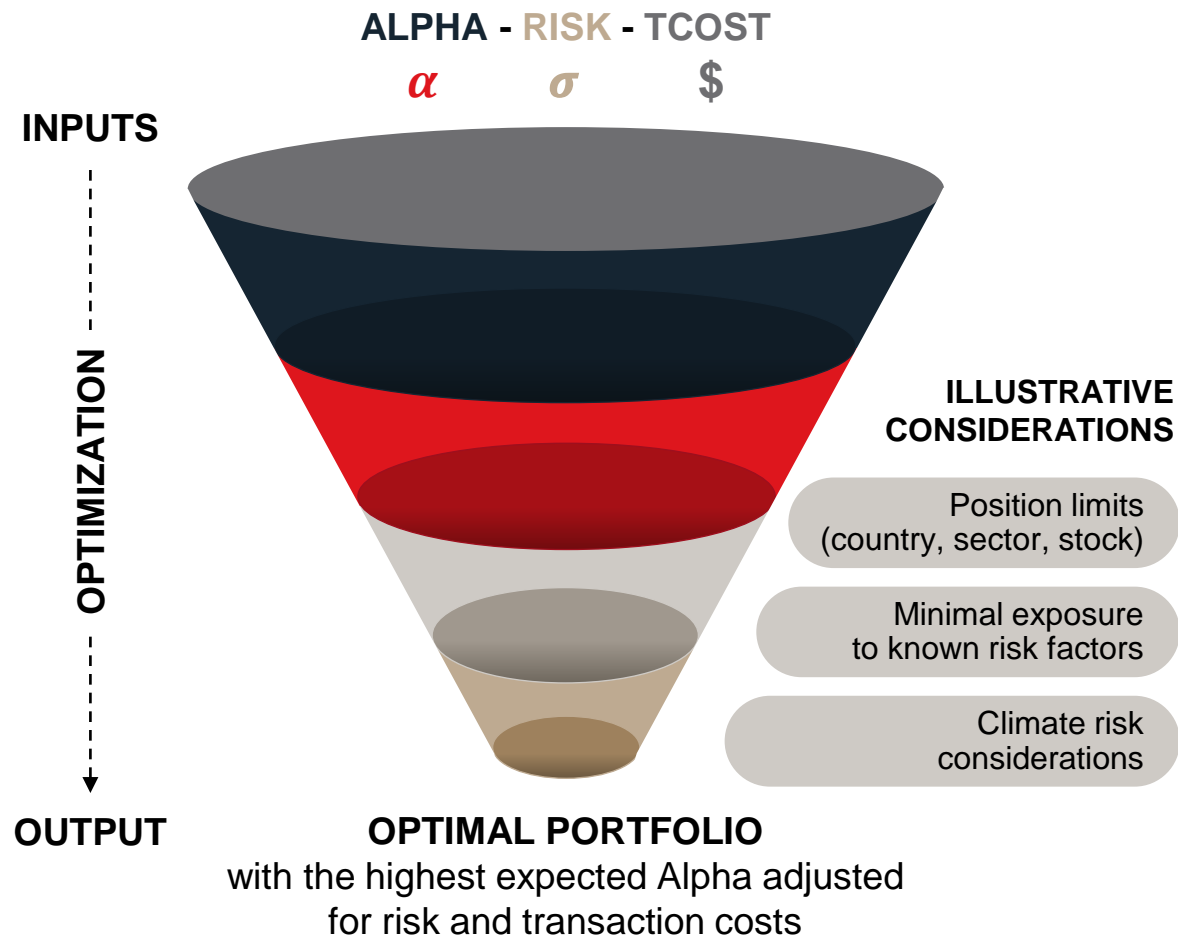
Identify important global macro trends and capitalize upon their impact on individual companies

Related company trends

Company and industry trends

Capitalize upon the fact that industries exhibit trending behaviour which can be indicative of future returns

Constructing an optimal portfolio that balances Alpha alongside risks and transaction costs



THE OPTIMAL PORTFOLIO SEEKS TO DELIVER:



Consistent & persistent excess returns

A wide range of data and advanced analytics to gain an informational advantage.



Pure style profile

Delivering a style-pure portfolio in line with the benchmark with a focus on risk management.



Differentiated returns

Seeking to provide differentiated returns that can be complementary within a portfolio.

There is no guarantee that these objectives will be met. For illustrative purposes only.
 Past correlations are not indicative of future correlations, which may vary.
 The portfolio risk management process includes an effort to monitor and manage risk but does not imply low risk.

4 types of portfolio manager oversight

EVENT-BASED RISK OVERSIGHT

Company, geopolitical, and macro risk events.

DAILY MODEL OVERSIGHT

Data quality; signal calculation; stock view.

TRADING & EXECUTION

Review trades; post-trade analysis; performance attribution.

PORTFOLIO CONSTRUCTION AND REBALANCE OVERSIGHT

Portfolio expected return & risk profile; corporate actions; flows; turnover.



Portfolio managers oversee and advance every part of the investment process

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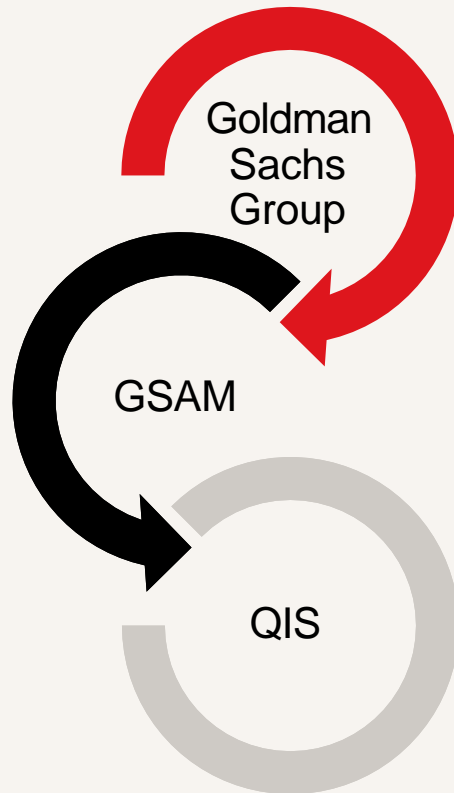
Portfolio management team

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Summary

Goldman Sachs' Quantitative Investment Strategies (QIS) team

- Part of Goldman Sachs' Global Asset Management (GSAM) team
- QIS is a globally integrated team currently managing ~US\$126 billion in AUS*
- Strong track record of quantitative investing aided by its parent organization's scale benefits

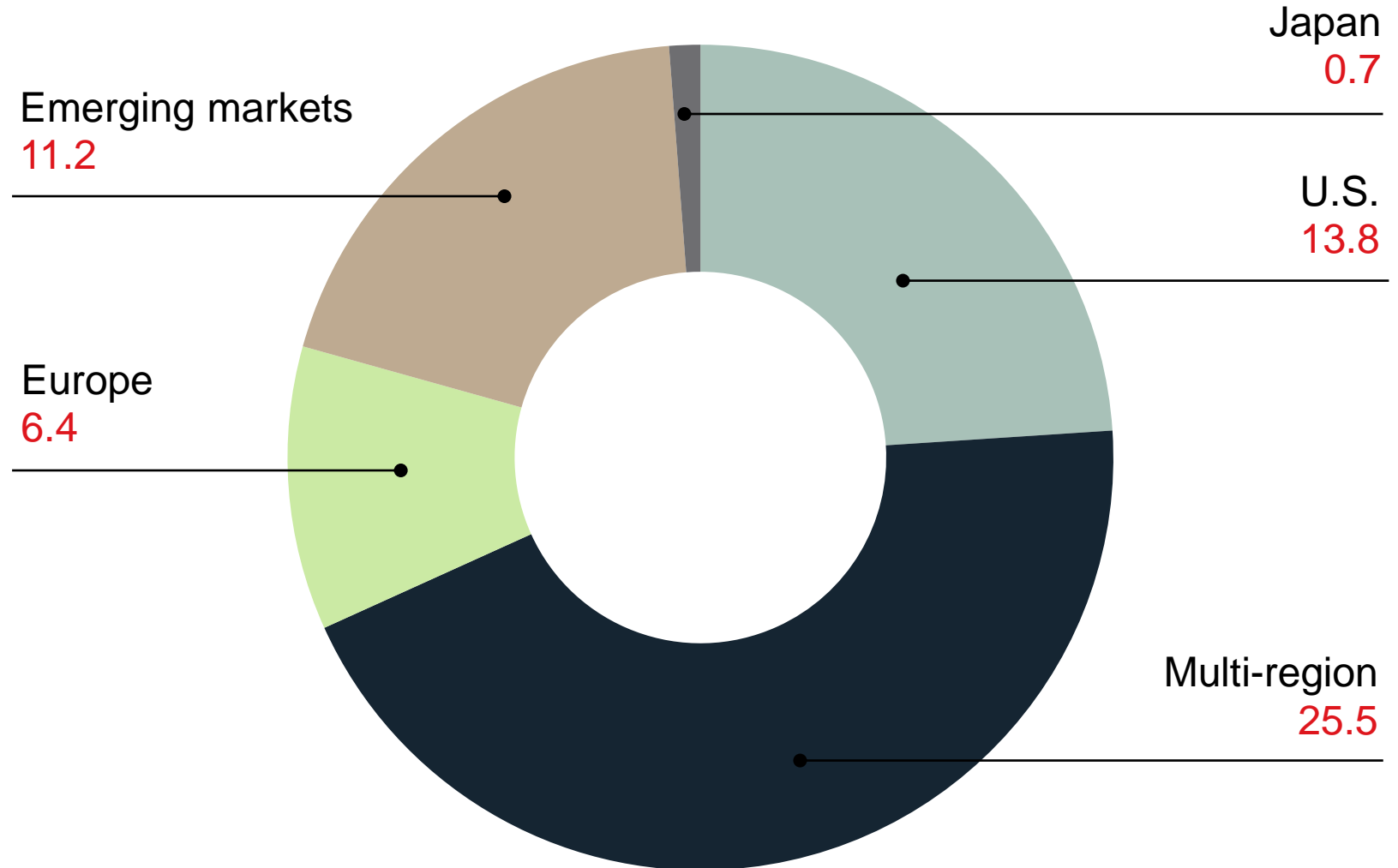


- › Over 150 years of expertise in the financial services industry
- › Over 25% of Goldman Sachs employees are Information Technology engineers
- › Shared datasets and intellectual property between divisions
- › Centralized trading team with a global presence
- › Dedicated and global client relationship management team
- › Heavy investment in recruiting and hiring talented professionals
- › Expertise in machine learning and natural language processing
- › Experience analyzing big data to create a potential informational advantage
- › Disciplined approach

Source: Goldman Sachs Asset Management.
 *AUS as at January 31, 2025. Assets Under Supervision includes assets under management and other client assets for which GSAM does not have full discretion.

The QIS team manages almost \$60B globally

QIS Equity Alpha AUS in USD billions



Source: Goldman Sachs Asset Management.
AUS as at March 31, 2025. Assets Under Supervision includes assets under management and other client assets for which GSAM does not have full discretion.

QIS Equity Alpha portfolio management team



Osman Ali
Managing Director (22)
 Co-Head of QIS



Dennis Walsh
Managing Director (20)
 Co-Head of QIS

Alpha Research

29 investment professionals



Takashi Suwabe
Managing Director (30)
 Co-Head of Equity Research



Sharanya Srinivasan
Managing Director (18)
 Senior Alpha Researcher



Sudarshan Gururaj
Managing Director (25)
 Head of Macro Research



Raphael Shen
Vice President (13)
 Senior Alpha Researcher



Philip Yan
Managing Director (14)
 Head of Portfolio Implementation Research



Joseph Kogan
Vice President (11)
 Senior Alpha Researcher

Portfolio Construction

7 investment professionals



Len Ioffe
Managing Director (40)
 Co-Head of Portfolio Construction



Nellie Bronner
Managing Director (22)
 Co-Head of Portfolio Construction

Client Portfolio Management

31 investment professionals



Laurene Azoulay
Managing Director (10)
 Global Co-Head of QIS CPM



Sarah Rich
Vice President (11)
 Lead CPM for Americas Third-Party Wealth



Nick Barker
Vice President (8)
 Global Co-Head of Quant Equity CPM

Stewardship & Sustainable Investing Platform

- 20+ investment professionals
- Provides ESG analytics for clients and develops sustainability considerations across investment strategies

Engineering

- 90+ investment professionals
- Develops and maintains data infrastructure, quantitative and algorithmic analytical tools

Trading

- 10+ investment professionals
- Develops and implements execution strategies

Osman Ali | CFA



Co-head of Quantitative
Investment Strategies

Education

- Chartered Financial Analyst (CFA)
- Master's Degree in Mathematics, Columbia University 2008
- Bachelor's Degree in Computer Science, Cornell University 2003

Professional experience

Goldman Sachs	Global Co-Head of Quantitative Investment Strategies	2022 - present
	Global Co-Head of Quantitative Equity	2020 - 2022
	Head of Global Quantitative Equity Research	2013 - 2020
	Head of U.S. Quantitative Equity Research	2011 - 2013
	Co-Head of Japanese Quantitative Equity Research	2009 - 2011
	Research Analyst, Quantitative Equity	2005 - 2009
	Equity Analyst	2003 - 2005

Dennis Walsh



Co-head of Quantitative
Investment Strategies

Education

- Master's Degree in Finance, Princeton University 2009
- Bachelor's Degree in Computer Science, Dartmouth College 2001

Professional experience

Goldman Sachs	Global Co-Head of Quantitative Investment Strategies	2022 - present
	Co-head of the Quantitative Equity Alpha team, Quantitative Investment Strategies	2020 - 2022
	Co-Head of Equity Research, Quantitative Investment Strategies	2013 - 2020
	Portfolio Manager, Emerging Market Equity, Quantitative Investment Strategies	2011 - 2013
	Equity Research Model Developer, Quantitative Investment Strategies	2009 - 2011
	Equity Research Analyst	2005 - 2009

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01 Seek an informational edge to produce excess returns.

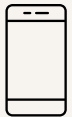
02 Human judgement enhanced by non-traditional data and advanced AI-based analytics.

03 Four quantitative investment pillars: High-Quality Business Models; Fundamental Mispricings; Sentiment Analysis; Themes & Trends.

04 Goldman Sachs' Quantitative Investment Strategies (QIS) team aided by its parent organization's scale benefits.

Stay connected

Advisors



External and National Bank Financial: 1-877-463-7627
Investors: 1-866-603-3601



Consult nbinvestments.ca or
contact us by email dealer.services@nbc.ca

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Thank you!

Appendix



Codes and fees

	Advisor Series	Advisor Series (USD)	H Series	F Series	F Series (USD)	FH Series	ETF Series	ETFH Series
	ISC			-				
Fund code/Ticker	NBC490	NBC423	NBC5190	NBC790	NBC723	NBC5090	NSDU	NSDU.F
Management fees	1.30%			0.30%				
Administration fees	0.05%							
Trailing commissions	1.00%			-				
Management expense ratio*	2.11%			0.99%			New Series	
Distributions	Annual							

Codes and fees

	Advisor Series	Advisor Series (USD)	H Series	F Series	F Series (USD)	FH Series	ETF Series	ETFH Series
	ISC			-				
Fund code/Ticker	NBC491	NBC5493	NBC5191	NBC791	NBC793	NBC5091	NSDI	NSDI.F
Management fees	1.40%			0.40%				
Administration fees	0.10%							
Trailing commissions	1.00%			-				
Management expense ratio*	2.12%			1.01%			New Series	
Distributions	Annual							

Codes and fees

	Advisor Series	F Series
	ISC	-
Fund code/Ticker	NBC482	NBC782
Management fees	1.40%	0.40%
Administration fees	0.10%	
Trailing commissions	1.00%	-
Management expense ratio*	1.71%	0.57%
Distributions	Annual	

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