

FTSE North America Minimum Variance Indices

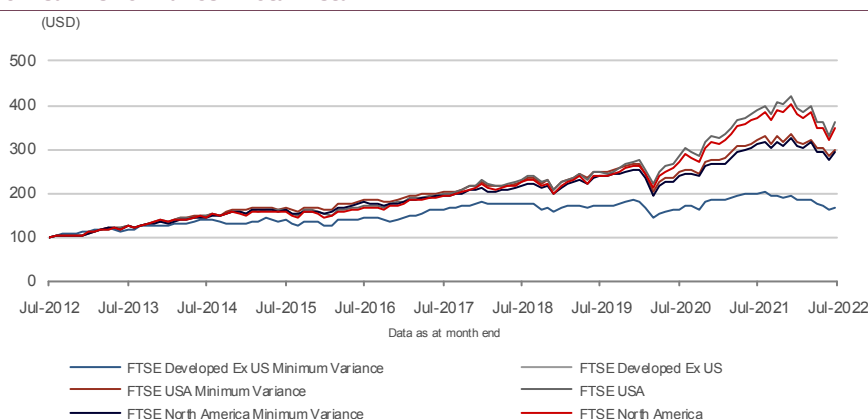
Data as at: 29 July 2022

The FTSE North American Minimum Variance indices aim to deliver reduced index volatility based on historical return information, thereby offering potential improvements to the risk reward trade-off, whilst maintaining full allocation to the equity market.

Reduced volatility is achieved by applying a transparent rules-based approach which minimizes historical variance subject to additional constraints on the weight of individual stocks within the index, and, at aggregate level on the weight of industries represented in the index.

Constituents of the relevant index are selected from the underlying index at the time of the bi-annual review. Aspects such as index reviews and company classification are governed by the FTSE All-World Index Series Ground Rules.

10-Year Performance - Total Return



Performance and Volatility - Total Return

Index (USD)	Return %						Return pa %*		Volatility %**		
	3M	6M	YTD	12M	3YR	5YR	3YR	5YR	1YR	3YR	5YR
FTSE Developed Ex US Minimum Variance	-3.9	-8.5	-13.4	-15.3	-2.3	2.2	-0.8	0.4	11.6	16.3	13.3
FTSE USA Minimum Variance	-0.3	-5.5	-10.6	-6.9	20.4	48.1	6.4	8.2	16.1	21.1	15.9
FTSE USA	0.1	-8.6	-13.7	-6.8	44.6	81.6	13.1	12.7	20.5	22.3	17.7
FTSE North America Minimum Variance	-0.8	-5.0	-9.9	-6.3	23.0	50.5	7.1	8.5	15.5	20.9	15.9
FTSE North America	-0.1	-8.5	-13.4	-6.6	44.2	80.0	13.0	12.5	20.2	22.3	17.7

* Compound annual returns measured over 3 and 5 years respectively

** Volatility – 1YR based on 12 months daily data. 3YR based on weekly data (Wednesday to Wednesday). 5YR based on monthly data

Year-on-Year Performance - Total Return

Index % (USD)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTSE Developed Ex US Minimum Variance	16.4	15.8	1.6	2.4	4.4	27.3	-10.3	16.1	1.6	3.8
FTSE USA Minimum Variance	14.3	31.8	18.9	1.6	12.2	16.9	-3.3	27.6	3.9	21.4
FTSE USA	16.3	32.8	13.3	1.0	11.8	22.1	-4.5	31.6	20.8	26.8
FTSE North America Minimum Variance	14.0	27.5	18.0	-0.7	13.5	17.1	-4.1	28.3	4.7	21.6
FTSE North America	15.8	30.7	12.6	-0.4	12.4	21.8	-5.1	31.5	20.2	27.0

FEATURES

Methodology

The approach applies a rules-based strategy to minimise volatility. Some constraints are applied, for example, to avoid over concentration in any particular stock or sector.

Objective

The indices are designed for the creation of index tracking funds, derivatives and as a performance benchmark.

Investability

Stocks in the underlying universe are free-float weighted to ensure that only the investable opportunity set is included.

Liquidity

Stocks are screened to ensure that the index is tradable.

Transparency

The indices use a transparent, rules-based construction process. Index Rules are freely available on the FTSE website.

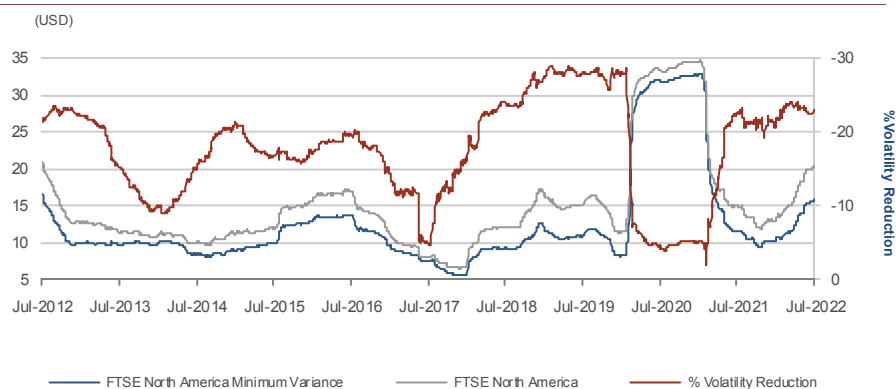
Availability

The indices are calculated based on price and total return methodologies, both real time (US index only) and end-of-day.

Industry Classification Benchmark

Index constituents are categorized in accordance with the Industry Classification Benchmark (ICB), the global standard for industry sector analysis.

Annualised Rolling 252 Volatility - Total Return



Return/Risk Ratio and Drawdown - Total Return

Index (USD)	Return/Risk Ratio				Drawdown (%)			
	1YR	3YR	5YR	10YR	1YR	3YR	5YR	10YR
FTSE Developed Ex US Minimum Variance	-1.3	-0.1	0.0	0.5	-22.3	-32.3	-32.3	-32.3
FTSE Developed Ex US	-	-	-	-	-	-	-	-
FTSE USA Minimum Variance	-0.4	0.3	0.5	0.9	-19.4	-37.1	-37.1	-37.1
FTSE USA	-0.3	0.5	0.7	1.0	-24.0	-34.1	-34.1	-34.1
FTSE North America Minimum Variance	-0.4	0.3	0.5	0.9	-18.3	-36.9	-36.9	-36.9
FTSE North America	-0.3	0.5	0.7	0.9	-23.4	-34.4	-34.4	-34.4

Return/Risk Ratio – based on compound annual returns and volatility in Performance and Volatility table
 Drawdown - based on daily data

Top 10 Constituents -FTSE Developed ex USA Minimum Variance

Constituent	Country	ICB Sector	FTSE Developed Ex US Minimum Variance (Wgt %)	FTSE Developed Ex US (Wgt %)	Diff %
Qiagen Nv	Germany	Medical Equipment and Services	0.37	-	0.37
Metro Inc.	Canada	Personal Care Drug and Grocery Stores	0.33	-	0.33
Biomerieux	France	Medical Equipment and Services	0.32	-	0.32
Franco-Nevada	Canada	Precious Metals and Mining	0.31	-	0.31
DiaSorin	Italy	Medical Equipment and Services	0.31	-	0.31
ConvaTec Group	UK	Medical Equipment and Services	0.30	-	0.30
Dollarama Inc	Canada	Retailers	0.29	-	0.29
Reckitt Benckiser Group	UK	Personal Care Drug and Grocery Stores	0.29	-	0.29
Bezeq	Israel	Telecommunications Service Providers	0.28	-	0.28
Elbit Systems	Israel	Aerospace and Defense	0.28	-	0.28
Totals			3.08	0.00	

INFORMATION

Index Universe

FTSE All-World Index Series

Index Launch

July 2012 (US), May 2013 (North America), May 2015 (Developed ex US)

Base Date

15 June 2012

Base Value

100

Investability Screen

Actual free float applied and liquidity screened

Index Calculation

Real time (US only) and end of day

End-of-Day Distribution

Via FTP and email

Currency

USD, EUR, GBP, JPY, AUD

Review Dates

March and September

History

Available from September 2001 (US), December 2003 (North America), September 2003 (Developed ex US)

Top 10 Constituents - FTSE North America Minimum Variance

Constituent	Country	ICB Sector	FTSE North America Minimum Variance (Wgt %)	FTSE North America (Wgt %)	Diff %
Royalty Pharma	USA	Pharmaceuticals and Biotechnology	0.74	0.04	0.69
Moderna	USA	Pharmaceuticals and Biotechnology	0.67	0.15	0.52
Zoom Video Communications	USA	Software and Computer Services	0.67	0.07	0.60
Kellogg	USA	Food Producers	0.66	0.05	0.61
Kroger	USA	Personal Care Drug and Grocery Stores	0.65	0.08	0.57
Clorox	USA	Personal Care Drug and Grocery Stores	0.65	0.05	0.60
General Mills	USA	Food Producers	0.62	0.12	0.50
Dollar General	USA	Retailers	0.60	0.15	0.45
J M Smucker	USA	Food Producers	0.58	0.04	0.54
ConAgra Brands Inc	USA	Food Producers	0.57	0.04	0.52
Totals			6.41	0.79	

Top 10 Constituents - FTSE USA Minimum Variance

Constituent	ICB Sector	FTSE USA Minimum Variance (Wgt %)	FTSE USA (Wgt %)	Diff %
Moderna	Pharmaceuticals and Biotechnology	0.80	0.16	0.64
Zoom Video Communications	Software and Computer Services	0.79	0.07	0.72
Kellogg	Food Producers	0.78	0.05	0.73
Clorox	Personal Care Drug and Grocery Stores	0.78	0.05	0.73
Kroger	Personal Care Drug and Grocery Stores	0.78	0.08	0.70
Royalty Pharma	Pharmaceuticals and Biotechnology	0.77	0.04	0.73
General Mills	Food Producers	0.74	0.12	0.62
Dollar General	Retailers	0.70	0.16	0.54
J M Smucker	Food Producers	0.69	0.04	0.65
ConAgra Brands Inc	Food Producers	0.68	0.04	0.64
Totals		7.51	0.81	

ICB Supersector Breakdown

ICB Code	ICB Supersector	FTSE Developed Ex US Minimum Variance		FTSE Developed Ex US		Diff %
		No. of Cons	Wgt %	No. of Cons	Wgt %	
Totals						

ICB Supersector Breakdown

ICB Supersector	FTSE North America Minimum Variance		FTSE North America			FTSE USA Minimum Variance		FTSE USA		
	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Technology	68	10.57	101	27.48	-16.91	62	10.52	98	28.46	-17.94
Telecommunications	20	4.13	21	2.64	1.48	16	3.50	17	2.61	0.89
Health Care	71	17.57	76	13.05	4.52	71	19.88	75	13.63	6.25
Banks	13	1.40	27	4.64	-3.24	5	0.71	21	3.58	-2.87
Financial Services	24	3.56	35	4.75	-1.19	20	3.34	32	4.72	-1.38
Insurance	25	4.05	34	2.34	1.71	18	3.44	28	2.12	1.31
Real Estate	27	4.03	37	2.93	1.10	26	4.17	37	3.06	1.11
Automobiles and Parts	6	0.92	13	2.63	-1.70	6	1.00	12	2.70	-1.70
Consumer Products and Services	15	3.10	23	1.72	1.38	15	3.43	23	1.79	1.64
Media	14	1.91	17	1.20	0.71	14	2.10	17	1.26	0.85
Retailers	20	4.81	27	6.90	-2.10	17	4.41	24	7.05	-2.64
Travel and Leisure	17	3.05	27	1.91	1.15	14	3.35	26	1.95	1.40
Food Beverage and Tobacco	26	9.02	26	3.42	5.60	25	10.13	25	3.55	6.58
Personal Care Drug and Grocery Stores	13	5.49	15	2.16	3.34	10	4.81	12	2.15	2.65
Construction and Materials	6	1.31	8	0.42	0.89	6	1.52	8	0.44	1.08
Industrial Goods and Services	71	11.42	90	11.47	-0.05	64	12.05	88	11.56	0.49
Basic Resources	10	2.56	13	0.79	1.77	6	1.01	8	0.54	0.47
Chemicals	9	1.01	13	1.26	-0.25	8	0.90	12	1.19	-0.29
Energy	10	1.63	30	5.04	-3.41	6	1.58	23	4.41	-2.84
Utilities	35	8.47	38	3.27	5.20	31	8.14	34	3.22	4.91
Totals	500	100.00	671	100.00		440	100.00	620	100.00	

Country Breakdown

Country	FTSE Developed Ex US Minimum Variance		FTSE Developed Ex US		
	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Totals				0.00	

Country Breakdown

Country	FTSE North America Minimum Variance		FTSE North America		
	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Canada	42	10.06	51	4.29	5.78
USA	458	89.94	620	95.71	-5.78
Totals	500	100.00	671	100.00	

Index Characteristics

Attributes	FTSE Developed Ex US Minimum Variance	FTSE Developed Ex US
------------	---------------------------------------	----------------------

Index Characteristics

Attributes	FTSE North America Minimum Variance	FTSE North America	FTSE USA Minimum Variance	FTSE USA
Number of constituents	500	671	440	620
Dividend Yield %	1.83	1.63	1.78	1.55
Constituent (Wgt %)				
Average	0.20	0.15	0.23	0.16
Largest	0.74	6.55	0.80	6.85
Median	0.18	0.06	0.20	0.06
Top 10 Holdings (Wgt %)	6.41	25.56	7.51	26.74

© 2022 London Stock Exchange Group plc and its applicable group undertakings (the "LSE Group"). The LSE Group includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE Global Debt Capital Markets Inc. and FTSE Global Debt Capital Markets Limited (together, "FTSE Canada"), (4) FTSE Fixed Income Europe Limited ("FTSE FI Europe"), (5) FTSE Fixed Income LLC ("FTSE FI"), (6) The Yield Book Inc ("YB") and (7) Beyond Ratings S. A. S. ("BR"). All rights reserved. FTSE Russell® is a trading name of FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB and BR. "FTSE", "Russell", "FTSE Russell", "FTSE4Good", "ICB", "The Yield Book", "Beyond Ratings" and all other trademarks and service marks used herein (whether registered or unregistered) are trademarks and/or service marks owned or licensed by the applicable member of the LSE Group or their respective licensors and are owned, or used under licence, by FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB or BR. FTSE International Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator.

All information is provided for information purposes only. All information and data contained in this publication is obtained by the LSE Group, from sources believed by it to be accurate and reliable. Because of the possibility of human and mechanical error as well as other factors, however, such information and data is provided "as is" without warranty of any kind. No member of the LSE Group nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the accuracy, timeliness, completeness, merchantability of any information or of results to be obtained from the use of FTSE Russell products, including but not limited to indexes, data and analytics, or the fitness or suitability of the FTSE Russell products for any particular purpose to which they might be put. Any representation of historical data accessible through FTSE Russell products is provided for information purposes only and is not a reliable indicator of future performance.

No responsibility or liability can be accepted by any member of the LSE Group nor their respective directors, officers, employees, partners or licensors for (a) any loss or damage in whole or in part caused by, resulting from, or relating to any error (negligent or otherwise) or other circumstance involved in procuring, collecting, compiling, interpreting, analysing, editing, transcribing, transmitting, communicating or delivering any such information or data or from use of this document or links to this document or (b) any direct, indirect, special, consequential or incidental damages whatsoever, even if any member of the LSE Group is advised in advance of the possibility of such damages, resulting from the use of, or inability to use, such information.

No member of the LSE Group nor their respective directors, officers, employees, partners or licensors provide investment advice and nothing contained herein or accessible through FTSE Russell products, including statistical data and industry reports, should be taken as constituting financial or investment advice or a financial promotion.

Past performance is no guarantee of future results. Charts and graphs are provided for illustrative purposes only. Index returns shown may not represent the results of the actual trading of investable assets. Certain returns shown may reflect back-tested performance. All performance presented prior to the index inception date is back-tested performance. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. However, back-tested data may reflect the application of the index methodology with the benefit of hindsight, and the historic calculations of an index may change from month to month based on revisions to the underlying economic data used in the calculation of the index.

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of the LSE Group. Use and distribution of the LSE Group data requires a licence from FTSE, Russell, FTSE Canada, MTSNext, Mergent, FTSE FI, YB, BR and/or their respective licensors.

Data definitions available from
info@ftserussell.com

To learn more, visit www.ftserussell.com;
 email info@ftserussell.com; or
 call your regional Client Services Team office:

EMEA

+44 (0) 20 7866 1810

North America

+1 877 503 6437

Asia-Pacific

Hong Kong +852 2164 3333

Tokyo +81 3 6441 1430

Sydney +61 (0) 2 8823 3521