FTSE North America Minimum Variance Indices

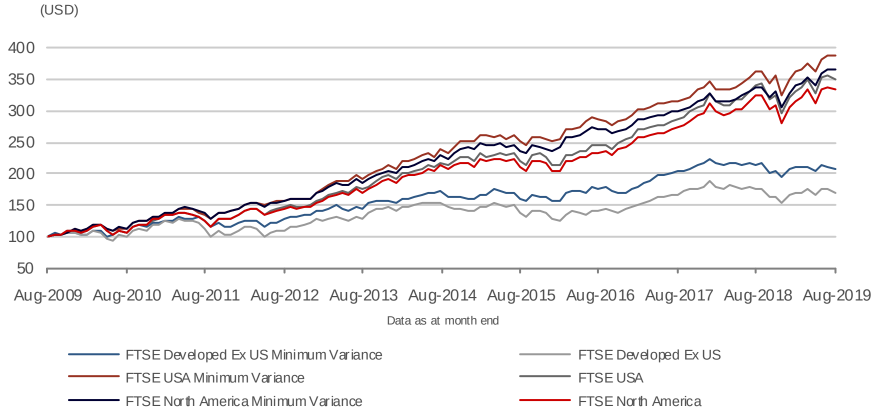
Data as at: 30 August 2019

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	1.7	-0.7	7.0	-3.2	18.4	21.4	5.8	3.9	8.6	9.4	10.4
FTSE Developed Ex US	1.9	0.1	9.9	-3.4	20.1	11.5	6.3	2.2	10.6	11.0	12.4
FTSE USA Minimum Variance	7.0	7.5	19.3	7.3	35.7	63.3	10.7	10.3	12.2	9.3	9.6
FTSE USA	6.7	5.9	18.3	2.8	43.2	60.6	12.7	9.9	16.4	11.8	12.0
FTSE North America Minimum Variance	7.6	8.1	20.2	8.3	35.3	60.0	10.6	9.9	11.5	9.2	9.6
FTSE North America	6.6	5.9	18.4	2.8	42.2	56.6	12.4	9.4	16.0	11.7	12.0

* 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

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.

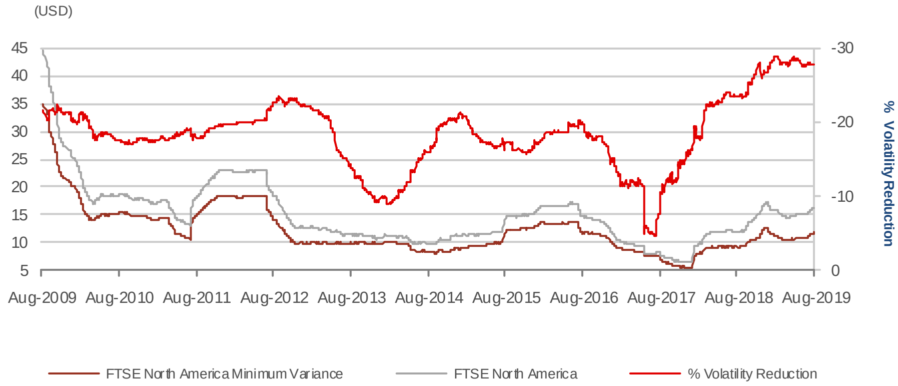
Industry Classification Benchmark

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

Year-on-Year Performance - Total Return

Index % (USD)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
FTSE Developed Ex US Minimum Variance	31.8	14.8	-4.2	16.4	15.8	1.6	2.4	4.4	27.3	-10.3
FTSE Developed Ex US	35.4	9.8	-12.0	17.8	20.6	-4.0	-1.9	3.4	26.3	-14.1
FTSE USA Minimum Variance	29.1	17.2	8.6	14.3	31.8	18.9	1.6	12.2	16.9	-3.3
FTSE USA	27.2	15.1	1.7	16.3	32.8	13.3	1.0	11.8	22.1	-4.5
FTSE North America Minimum Variance	31.9	18.2	7.0	14.0	27.5	18.0	-0.7	13.5	17.1	-4.1
FTSE North America	29.0	15.4	0.5	15.8	30.7	12.6	-0.4	12.4	21.8	-5.1

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	-0.4	0.6	0.4	0.7	-12.7	-16.2	-16.6	-16.6
FTSE Developed Ex US	-0.4	0.5	0.2	0.4	-15.7	-21.0	-22.5	-27.2
FTSE USA Minimum Variance	0.6	1.1	1.1	1.4	-15.5	-15.5	-15.5	-15.9
FTSE USA	0.2	1.0	0.8	1.1	-19.5	-19.5	-19.5	-19.5
FTSE North America Minimum Variance	0.7	1.1	1.0	1.4	-14.9	-14.9	-14.9	-15.5
FTSE North America	0.2	1.0	0.8	1.0	-19.4	-19.4	-19.4	-19.4

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 %
Barrick Gold	Canada	Mining	0.45	0.21	0.24
Agnico Eagle Mines	Canada	Mining	0.45	0.09	0.36
Thomson Reuters	Canada	Media	0.36	0.08	0.28
Skylark Holdings	Japan	Travel & Leisure	0.36	0.02	0.34
Hydro One	Canada	Electricity	0.36	0.04	0.32
Meridian Energy	New Zealand	Electricity	0.35	0.02	0.33
Franco-Nevada	Canada	Mining	0.35	0.11	0.24
Mapletree Commercial Trust	Singapore	Real Estate Investment Trusts	0.34	0.02	0.32
Nice Ltd	Israel	Technology Hardware & Equipment	0.34	0.06	0.28
Contact Energy	New Zealand	Electricity	0.33	0.02	0.31
Totals			**3.69**	**0.67**	

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 %
Newmont Goldcorp	USA	Mining	1.41	0.12	1.29
Barrick Gold	Canada	Mining	0.79	0.13	0.66
Agnico Eagle Mines	Canada	Mining	0.76	0.05	0.70
Franco-Nevada	Canada	Mining	0.69	0.07	0.62
Southern Co	USA	Electricity	0.66	0.23	0.43
Evergy	USA	Electricity	0.65	0.06	0.59
Wheaton Precious Metals	Canada	Mining	0.64	0.05	0.60
WEC Energy Group	USA	Gas Water & Multiutilities	0.63	0.11	0.52
American Elec Power Com	USA	Electricity	0.63	0.17	0.46
Hershey Company	USA	Food Producers	0.62	0.09	0.53
Totals			**7.48**	**1.08**	

Top 10 Constituents - FTSE USA Minimum Variance

Constituent	ICB Sector	FTSE USA Minimum Variance (Wgt %)	FTSE USA (Wgt %)	Diff %
Newmont Goldcorp	Mining	0.98	0.13	0.85
Southern Co	Electricity	0.78	0.24	0.54
Evergy	Electricity	0.76	0.06	0.70
L3Harris Technologies	Technology Hardware & Equipment	0.74	0.18	0.56
WEC Energy Group	Gas Water & Multiutilities	0.74	0.12	0.62
American Elec Power Com	Electricity	0.74	0.18	0.56
NextEra Energy Inc	Electricity	0.71	0.41	0.30
Entergy Corp	Electricity	0.71	0.08	0.63
Hershey Company	Food Producers	0.71	0.09	0.62
XCEL Energy	Electricity	0.70	0.13	0.57
Totals		**7.57**	**1.62**	

ICB Supersector Breakdown

		FTSE Developed Ex US Minimum Variance		FTSE Developed Ex US		
ICB Code	ICB Supersector	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
0500	Oil & Gas	32	2.72	53	6.12	-3.40
1300	Chemicals	29	1.98	70	3.16	-1.17
1700	Basic Resources	19	2.97	58	3.37	-0.40
2300	Construction & Materials	42	2.60	68	2.55	0.05
2700	Industrial Goods & Services	120	11.05	251	12.80	-1.75
3300	Automobiles & Parts	30	2.07	62	4.03	-1.97
3500	Food & Beverage	70	8.31	78	5.88	2.43
3700	Personal & Household Goods	61	6.13	96	7.44	-1.31
4500	Health Care	65	6.03	103	10.86	-4.83
5300	Retail	77	9.78	96	3.60	6.18
5500	Media	29	3.18	41	1.58	1.60
5700	Travel & Leisure	61	6.94	75	2.79	4.15
6500	Telecommunications	32	4.87	39	3.56	1.31
7500	Utilities	59	8.99	62	3.54	5.45
8300	Banks	62	4.86	111	11.45	-6.59
8500	Insurance	57	5.55	64	5.50	0.05
8600	Real Estate	63	8.01	81	3.08	4.93
8700	Financial Services	16	1.23	70	2.66	-1.42
9500	Technology	30	2.73	75	6.03	-3.30
Totals		**954**	**100.00**	**1553**	**100.00**	

ICB Supersector Breakdown

	FTSE North America Minimum Variance		FTSE North America			FTSE USA Minimum Variance		FTSE USA		
ICB Supersector	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Oil & Gas	32	2.92	43	5.03	-2.11	26	2.87	33	4.35	-1.48
Chemicals	12	1.50	18	1.70	-0.19	12	1.71	17	1.67	0.05
Basic Resources	7	4.44	12	0.66	3.78	3	1.22	7	0.35	0.87
Construction & Materials	5	0.82	9	0.44	0.38	4	0.86	8	0.45	0.41
Industrial Goods & Services	64	9.13	95	11.92	-2.79	59	9.52	91	11.88	-2.36
Automobiles & Parts	10	1.43	13	0.77	0.65	10	1.65	12	0.75	0.90
Food & Beverage	24	8.35	26	3.13	5.22	23	9.18	25	3.26	5.93
Personal & Household Goods	29	5.12	36	4.02	1.10	28	5.64	36	4.23	1.41
Health Care	43	7.03	59	11.88	-4.85	42	7.75	58	12.45	-4.70
Retail	37	7.19	44	8.47	-1.28	30	5.98	38	8.62	-2.64
Media	24	4.14	26	2.62	1.52	22	4.08	24	2.66	1.42
Travel & Leisure	21	4.51	28	2.70	1.81	20	4.76	27	2.77	1.99
Telecommunications	7	1.93	8	2.17	-0.24	4	1.12	5	2.13	-1.01
Utilities	34	15.74	34	3.35	12.40	31	17.23	31	3.41	13.82
Banks	27	2.85	29	6.28	-3.42	20	2.27	23	5.14	-2.87
Insurance	32	6.00	39	4.30	1.70	24	5.41	32	4.12	1.29
Real Estate	39	9.01	42	3.26	5.75	38	10.24	41	3.40	6.83
Financial Services	13	2.55	40	5.78	-3.23	12	2.97	38	5.89	-2.92
Technology	37	5.33	73	21.52	-16.19	32	5.54	71	22.46	-16.92
Totals	**497**	**100.00**	**674**	**100.00**		**440**	**100.00**	**617**	**100.00**	

Country Breakdown

	FTSE Developed Ex US Minimum Variance		FTSE Developed Ex US		
Country	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Australia	62	6.42	97	6.42	0.01
Austria	5	0.38	8	0.19	0.19
Belgium	9	0.83	12	0.90	-0.07
Canada	52	11.19	57	8.04	3.15
Denmark	17	1.98	22	1.54	0.44
Finland	11	1.16	15	1.04	0.13
France	52	4.49	86	9.34	-4.85
Germany	54	4.73	81	7.44	-2.71
Hong Kong	67	7.83	91	3.36	4.47
Ireland	5	0.62	5	0.20	0.42
Israel	26	3.59	26	0.44	3.16
Italy	18	1.58	37	2.18	-0.60
Japan	281	25.50	512	22.39	3.11
Korea	62	4.30	137	3.79	0.51
Netherlands	17	1.46	27	3.04	-1.58
New Zealand	11	2.37	12	0.27	2.10
Norway	6	0.71	17	0.61	0.09
Poland	2	0.16	14	0.29	-0.13
Portugal	3	0.44	4	0.14	0.30
Singapore	34	4.62	37	1.17	3.45
Spain	21	1.64	30	2.51	-0.87
Sweden	21	1.47	45	2.22	-0.75
Switzerland	31	4.08	49	8.16	-4.08
UK	87	8.44	132	14.34	-5.90
Totals	**954**	**100.00**	**1553**	**100.00**	

Country Breakdown

	FTSE North America Minimum Variance		FTSE North America		
Country	No. of Cons	Wgt %	No. of Cons	Wgt %	Diff %
Canada	45	10.48	57	4.83	5.64
USA	452	89.52	617	95.17	-5.64
Totals	**497**	**100.00**	**674**	**100.00**	

Index Characteristics

Attributes	FTSE Developed Ex US Minimum Variance	FTSE Developed Ex US
Number of constituents	954	1553
Dividend Yield %	3.28	3.34
Constituent (Wgt %)		
Average	0.10	0.06
Largest	0.45	2.09
Median	0.09	0.03
Top 10 Holdings (Wgt %)	3.69	10.52

Index Characteristics

Attributes	FTSE North America Minimum Variance	FTSE North America	FTSE USA Minimum Variance	FTSE USA
Number of constituents	497	674	440	617
Dividend Yield %	2.34	2.01	2.34	1.95
Constituent (Wgt %)				
Average	0.20	0.15	0.23	0.16
Largest	1.41	3.92	0.98	4.12
Median	0.16	0.06	0.18	0.07
Top 10 Holdings (Wgt %)	7.48	19.57	7.57	20.57

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 4563 6346
Sydney +61 (0) 2 8823 3521