

## XTF Rating & Methodology



Out of 10

The XTF Rating for an ETF is based on a proprietary statistical analysis of Structural Integrity and Investment Metric producing a score between 0 and 10 with 10 being the best. The Structural Integrity measure quantifies the ETFs structural characteristics such as cost, efficiency, tracking error, liquidity, and capital gains distributions. The Investment Metrics measure quantifies the ETFs investment characteristics such as risk-adjusted performance, earnings yield, dividend yield, momentum, diversification and more. The Structural Integrity and Investment Metric ranking (show on page two below) allows investors to make relative comparisons of an ETFs fundamentals among all ETFs in the same asset class. XTF uses a transparent empirical approach to evaluate each ETF using a minimum of six months data. This approach allows investors to quickly and accurately compare ETFs.

## Fund Objective

Vanguard FTSE Emerging Markets ETF is an exchange-traded fund incorporated in the USA. The Fund employs an indexing investment approach by investing substantially all (approximately 95%) of its assets in the common stocks included in the FTSE Emerging Index, while employing a form of sampling to reduce risk. The FTSE Emerging Index includes approximately 851 common stocks of companies located in emerging markets around the world. As of May 31, 2013, the largest markets covered in the Index were China, Brazil, Taiwan, and India (which made up approximately 20%, 15%, 13%, and 9%, respectively, of the Index's market capitalization).

Price	Today's Change	Price Range	52 Week Range	Volume
<b>\$42.15</b>	<b>↓-.01 (-.02%)</b>	<b>\$41.53 - \$42.16</b>	<b>\$29.95 - \$45.92</b>	<b>11.08M</b>

### Performance Details

3 Month Price Performance (as of 09/25/20)



NAV	\$42.27	Market Cap	\$58.94B
Bid/Ask Spread Ratio	0.02%	Net Expense Ratio	0.12%
Premium(Discount) (Prior 1 Month Average)	-0.13%	Net Assets	\$59.10B
Premium(Discount) (Prior Day's Close)	-0.28%	Net Flows (Prior Trading Day)	\$39.74K
Average Trade Size (shares)	369	Net Flows (Prior Month)	\$8.36M
Average Daily Volume (6 months)	14.27M	Annual /SEC Yield	2.88% /2.32%
7 Day Average Volume	11.45M	Last Dividend Paid / Date	0.43 / 09/21/2020
90 Day Average Volume	11.05M	Capital Gains Dist.	0%
Short Interest / Days to Cover	0.5% / 0	Fund Turnover	106 Days
Options Traded	Y	Futures Traded	Y

<b>Launch Date</b> 03/10/2005	<b>Sponsor</b> Vanguard	<b>Underlying Index</b> FTSE Emerging Markets All Cap China A Inclusion Index	<b>Similar Funds</b> SCHE - Schwab Emerging Markets Equity ETF
<b>Legal Structure</b> Open-End Investment Company	<b>Investment Philosophy</b> Passively Managed	<b>Index Composition</b> Cap-Weighted	EEM - iShares MSCI Emerging Markets ETF
<b>Geography Objective</b> Emerging Markets			IEMG - iShares Core MSCI Emerging Markets ETF
<b>Asset Class / Style</b> Equity / Core or Blend			HEEM - iShares Currency Hedged MSCI Emerging Markets ETF
<b>Sector</b> Not Specified			PBEE - Invesco PureBetaSM FTSE Emerging Markets ETF

# Vanguard FTSE Emerging Markets ETF VWO



Exchange Traded Fund | Equity Broad/Multi Cap Core or Blend Fund | Listed on NYSE Arca

Data as of September 25, 2020

## Top 10 Holdings

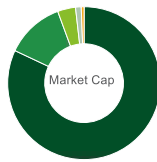
VWO has **1612 total holdings** (Showing only the top 10 holdings by weight.)

Symbol	Description	Weight	Currency	Region/Country	Sector	Industry	Security Type
BABA	Alibaba Group Holding Ltd	7.62%	USD	Asia / China	Consumer, Cyclical	Internet & Direct Marketing	Common Equity
700	Tencent Holdings Ltd	5.93%	HKD	Asia / China	Communications	Interactive Media	Common Equity
TSM	Taiwan Semiconductor Manufacturing Co Ltd	5.11%	USD	Asia / Taiwan	Technology	Semiconductors	Common Equity
3690	Meituan Dianping	1.74%	HKD	Asia / China			Common Equity
RIL	Reliance Industries Ltd	1.50%	INR	Asia / India	Energy	Oil Refining & Marketing	Common Equity
NPN	Naspers Ltd	1.16%	ZAr	Africa / South Africa	Communications	Cable & Satellite	Common Equity
JD	JD.Com Inc	1.06%	USD	Asia / China	Consumer, Cyclical	Internet & Direct Marketing	Common Equity
2318	Ping An Insurance Group Co of China Ltd	0.98%	HKD	Asia / China	Financials	Insurance	Common Equity
939	China Construction Bank Corp	0.96%	HKD	Asia / China	Financials	Banks	Common Equity
INFO	Infosys Ltd	0.80%	INR	Asia / India	Technology	IT Consulting & Data Services	Common Equity

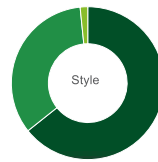
## Portfolio Exposure



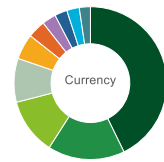
Common equity 98.5%  
Preferred stock 1.5%



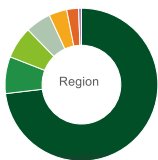
Large cap 82.0%  
Mid cap 12.4%  
Small cap 3.8%  
Micro cap 1.2%  
Unknown 0.6%



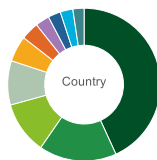
Blend 64.3%  
Growth 34.1%  
Value 1.6%



China renminbi 42.0%  
Taiwan dollar 16.0%  
Other 11.7%  
Indian rupee 9.1%  
Brazilian real 5.3%  
S. African rand 3.7%  
Saudi riyal 2.9%  
Thai baht 2.6%  
Russian ruble 2.6%  
Malaysian ringgit 2.3%



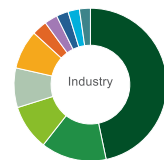
Asia 73.2%  
Latin America 7.8%  
Europe 6.8%  
Middle East 5.4%  
Africa 3.8%  
Asia-Pacific 2.5%  
North America 0.6%



China 42.0%  
Taiwan 16.0%  
Other 10.8%  
India 9.1%  
Brazil 5.3%  
South Africa 3.7%  
Saudi Arabia 2.9%  
Russia 2.6%  
Thailand 2.6%



Financials 17.5%  
Consumer, Cyclical 14.7%  
Other 14.5%  
Technology 14.0%  
Communications 12.4%  
Basic Materials 7.6%  
Energy 5.6%  
Consumer, Non-Cyclical 5.5%  
Industrials 4.7%



Other 42.4%  
Banks 12.6%  
Internet & Direct Marketing 8.7%  
Semiconductors 7.6%  
Interactive Media 7.5%  
Real Estate 2.9%  
Insurance 2.5%  
Electronic Components 2.3%  
Pharmaceuticals 2.2%

## Glossary

**Annual Yield.** The annual percentage measure of income (dividends and interest) of the fund based on all actual distributions made over the past year. The yield is annualized only in the case where the fund is less than one year old.

**Asset Class Exposure.** A classification of an ETPs exposure based on its underlying constituent's structure, performance and risk characteristics. Examples include, but not limited to equities, fixed income, real estate and cash.

**Benchmark Type Exposure.** A classification of a commodity index based on its constituent pricing. It can include either the physical (spot) price or derivative (future) price of the underlying hard asset.

**Cap-Weighted .** The weight of each security will be assigned based on its market capitalization relative to the market capitalization of all securities in the basket.

**Capitalization Exposure.** A classification of an ETPs exposure based on its underlying constituent's market size (shares outstanding multiplied by price per share). Examples include, large, mid, and small/micro cap.

**Concentration Risk.** Concentration Risk quantifies the level of diversification within an Exchange Traded Product. Concentration Risk takes into account the number of securities in the fund as well as their relative weights. The lower the concentration risk the better because the risk is being distributed among the funds components.

**Coupon Type Objective.** The Coupon Type Objective describes a fixed income ETPs interest payments on the bonds that it holds. Coupons are normally described in terms of the coupon rate that the bondholder receives during the time between when the bond is issued and when it matures. The types of objectives that can be classified are as follows: fixed, variable (floating, adjustable), inflation indexed, zero coupon, or blend.

**Credit Grade Exposure.** A classification of an ETPs exposure according to the credit grade(s) of the constituent debt. Credit grade refers to the quality rating based on the securities risk profile as assigned by a rating agency, such as Standard & Poor's. Examples include: 'AAA' (highest credit quality), Investment Grade, and High Yield (below investment grade). The percentage may not total to 100% if an ETP holds non-fixed income securities such as cash and equities. If a security is rated by two or more of the credit rating firms of S&P, Moody or Fitch, then the most conservative (lowest) rating is used. If only one of those firms rates the security, that rating is used. If a security is not rated by any of those firms, it is classified as "Not Rated."

**Custom-Weighted.** The weight of each security will be based on a set of rules that are either proprietary or do not fall into any other category.

**Debt Issuer Exposure.** A classification of an ETPs exposure according to the issuer(s) of the constituent debt. Examples include: corporate, government and collateralized.

**Dividend Yield-Weighted.** The weight of each security will be based on the company's annual dividend payments divided by the market cap of that security relative to the dividend yield of all the security's in the basket.

**Dividend-Weighted.** The weight of each security will be based on the annual distribution (total dividend) amount paid by the firm in terms of dollars or appropriate currency.

**Efficiency.** Efficiency quantifies how well an Exchange Traded Product outperforms its stated index/benchmark as a measure of excess profit or loss relative to the index/benchmark. The higher the efficiency the better as it illustrates the fund manager's aptitude of including higher returning securities in the funds portfolio.

**Equal-Weighted .** Each security in the basket will be of equal weight regardless of the price or market cap of the company.

**ETP type.** The type of Exchange Traded Product as defined by the funds structure and composition; the choices are ETF and ETN.

**Exchange Traded Fund (ETF).** An ETF is an investment fund traded on a stock exchange. An ETF holds assets such as stocks or bonds and trades at approximately the same price as the net asset value of its underlying assets over the course of the trading day.

**Exchange Traded Note (ETN).** An ETN is a senior, unsecured, unsubordinated debt security issued by an underwriting bank. Similar to other debt securities, ETNs have a maturity date and are backed only by the credit of the issuer. ETNs are traded on an exchange and are linked to the return of a benchmark index.

**Fund Flows.** The net change in ETP assets. The performance is not taken into account, only redemptions (outflows) and creations (inflows) are tracked. Fund flows can be used to track the movement of assets between geographical boundaries, asset classes, sectors, and industries in order to measure investor sentiment, and track trends within these markets.

**Fund Turnover.** A measure of how many days it takes for the entire market cap of the fund to trade on average.

**Index Composition.** A portfolio of securities that are selected based on the objective and rules as stated by the index methodology. Each index has its own proprietary calculation methodology and composition as defined by the index provider. This methodology is used to select and weight the constituent securities and then rebalance them according to predefined metrics.

**Index Composition (Alternative).** Alternatively weighted methodologies weight securities based on non-traditional and non-fundamental metrics while usually attempting to generate excess returns. Examples include: Option Strategy, Production-Weighted, Volume-Weighted and Custom-Weighted.

**Index Composition (Fundamental).** Fundamentally weighted methodologies weight securities based on fundamental metrics while attempting to generate excess returns. Examples include: Dividend-Yield weighted, Dividend-weighted, Revenue weighted and Various Fundamentals.

**Index Composition (Traditional).** Traditionally weighted methodologies weight securities without attempting to generate excess returns. Examples include: Cap-weighted, Equal weighted, Price-weighted and Shares Out-weighted.

**Index Provider.** An index provider is the company which creates an index.

**Investment philosophy.** A classification of a fund's overall strategy that guides its investment principles. Examples include the use of a passive or enhanced index or a benchmark for use in an actively managed fund.

**Investment philosophy (Actively managed).** An ETP that does not follow any particular index. The fund manager actively selects the components and assigns weights using a methodology that falls within the parameters of the investment objective as stated in the prospectus. A benchmark can be assigned to evaluate the funds performance.

**Investment philosophy (Enhanced Index).** Enhanced Index is an index designed to track a segment of the market by holding either all of the securities or a "representative" sample while attempting to weight or select the securities in order to deliver excess returns.

**Investment philosophy (Passive Index).** Passive Index is an index designed to track a segment of the market by holding either all of the securities or a "representative" sample without attempting to weight or select the securities in order to deliver excess returns.

**Launch Date.** The date that an ETP first started trading on an exchange.

**Legal Structure.** The structure of an ETP as legally defined and stated in the prospectus. There are three primary legal structures: open-end investment companies (most typical), unit investment trusts, and grantor trusts.

**Leverage Factor.** A multiplier that identifies the leverage exposure. A leveraged fund provides the investor with exposure greater than 100% as compared to the underlying index. It can also be negative to provide inverse exposure.

**Market Impact.** Market Impact quantifies the liquidity of each ETP by measuring the price impact of executing a hypothetical trade of 50,000 ETP shares (equivalent to one creation unit). It is calculated by multiplying the daily ETP price volatility by the square root of the ratio of one creation unit to the average daily volume. The market impact percentage can then be multiplied by the ETP price to determine the additional cost of execution due to slippage from the mid-point of the bid/ask spread.

**Maturity Exposure.** A classification of an ETPs exposure according to the maturity of the constituent debt. Maturity refers to the length of time until the principal amount of a bond must be repaid. Bonds are typically classified into the following three categories: **Short-Term (bills):** maturities between one and five years; (instruments with maturities less than one year are called Money Market Instruments)

**Intermediate-Term (notes):** maturities between six to ten years; **Long-Term (bonds):** maturities greater than ten years.

**Option Strategy.** The weight of each security will be determined whereby a derivative of the underlying security (such as an option), rather than the security itself, plays a key role.

**Price-Weighted.** The weight of each security will be based on its price regardless of the shares outstanding of the company.

**Production-Weighted.** Similar to market capitalization, but usually used for a commodity. The weight of each security will be based on the average quantity of production of the underlying hard asset.

**Rebalance Frequency .** How often the fund or index rebalances its constituents. Leveraged ETPs typically rebalance daily.

**Revenue-Weighted.** The weight of each security will be based on the annual revenue generated by the company.

**SEC Yield.** A standard yield calculation developed by the Securities and Exchange Commission (SEC) that allows for a fairer comparison of funds. It is based on the most recent 30-day period covered by the fund's filings with the SEC. The yield figure reflects the dividends and interest earned during the past 30 days after the deduction of the fund's expenses.

**Sector/Industry Exposure.** A classification taxonomy of an ETPs exposure according to an area of the economy which can be defined by the types of products or services being produced. Each publicly traded company belongs to one of ten economic sectors and companies within the same sectors tend to have relatively similar performance characteristics. Industries further classify companies according to more specific goods or services allowing investors to compare industry trends between well-defined subsectors; there are over 100 industries which roll-up into their corresponding sectors.

**Shares Out-Weighted.** The weight of each security will be based on the number of shares outstanding regardless of market price.

**Short Interest.** Percentage of the outstanding shares that have been sold short.

**Similar ETPs.** A list of ETPs dynamically generated by an XTF proprietary algorithm which have the closest characteristics to a specified ETP. ETP characteristics are weighted according to priority and include geography, investment philosophy, style, market capitalization, credit grade, return correlations and more.

**Style Exposure.** A classification of an ETPs exposure based on its underlying constituent's value and/or growth characteristics.

**Tracking Error.** Every Exchange Traded Product has an index or benchmark that it is intended to closely replicate before fees on a daily basis. Tracking error quantifies how well the fund is tracking its index/benchmark as a measure of the volatility of returns relative to the index/benchmark. The lower the tracking error the better job it is doing in replicating its index/benchmark.

**Volume-Weighted.** The weight of each security will be determined by the average trading volume of the security over time.

**Weighted Average Coupon (WAC).** The weighted average of the coupon rate of the underlying bonds in the fund. The average coupon of a bond fund is expressed as a percentage.

**Weighted Average Maturity (WAM).** The weighted average of the remaining term to maturity of the underlying bonds in the fund. The maturity of a bond is expressed as the number of years remaining.

**Yield Curve Strategy.** The weight of each security targets a specific level of sensitivity to changes in the yield curve. The yield curve depicts the relationship between U.S. Treasury note maturities and their corresponding yields.

XTF Rating Methodology	Important Information	Disclosures
<p>The XTF overall rating provides XTF's quantitative assessment of the past performance, risk profile and relative costs of a given ETP compared with all ETPs in the same asset class. All ETPs require a minimum of six months of trading prior to consideration of an XTF overall rating. An ETP may receive an overall XTF rating even when the ETP does not have a ranking for each of the 14+ input factors. XTF ratings are updated monthly based on the previous 6 months of daily data. For a complete description of our XTF Ratings methodology please read our whitepaper:</p> <p><a href="https://www.xtf.com/Library/Public/Whitepapers/XTF_RS_Methodology.pdf">https://www.xtf.com/Library/Public/Whitepapers/XTF_RS_Methodology.pdf</a></p> <p><b>XTF Rating.</b> The XTF Rating for an ETP is based on a proprietary statistical analysis of structural integrity and investment metric producing a score between 0 and 10 with 10 being the best. XTF uses a transparent empirical approach to evaluate each ETP using a minimum of six months data. This approach allows investors to quickly and accurately compare ETPs.</p> <p><b>XTF Structural Ranking.</b> An XTF measure quantifying the ETPs structural characteristics such as cost, efficiency, tracking error, liquidity, and capital gains distributions. The Structural Integrity ranking allows investors to make relative comparisons of an ETPs structure among ETPs in the same asset class.</p> <p><b>XTF Investment Metric Ranking.</b> An XTF measure quantifying the ETP's investment characteristics such as risk-adjusted performance, earnings yield, dividend yield, momentum, diversification and more. The Investment Metric ranking allows investors to make relative comparisons of an ETP's fundamentals among ETPs in the same asset class.</p>	<p>Total Return performance is historical and assumes reinvestment of all dividends and capital gains distributions.</p> <p>Exchange Traded Notes carry additional risk similar to other debt securities, they have a maturity date and are backed only be the credit of the issuer.</p> <p>Indexes are unmanaged statistical composites and their returns do not include any fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index.</p>	<p>The XTF Ratings are based on a proprietary methodology intended for informational purposes only and are not a recommendation by XTF or its affiliates to buy, sell, or hold the ETPs, nor is it considered to be investment advice. The data and analysis contained herein are provided "as is" and without warranty of any kind, either expressed or implied. All investment involves risk including the possible loss of principal and that there is no guarantee that any fund will achieve its objective. Please see each ETPs prospectus for the specific risks associated with an investment in the ETP. Past performance is no guarantee of future results.</p> <p>The XTF Ratings accurately reflect our quantitatively driven models. No part of our compensation was, is, or will be, directly or indirectly related to specific ETP Ratings. Sponsors or Issuers of Exchange Traded Products do not pay any fees to XTF for ratings of their ETPs. XTF does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. XTF does not trade for its own account.</p> <p>© 2020 XTF Inc., All rights reserved.</p>