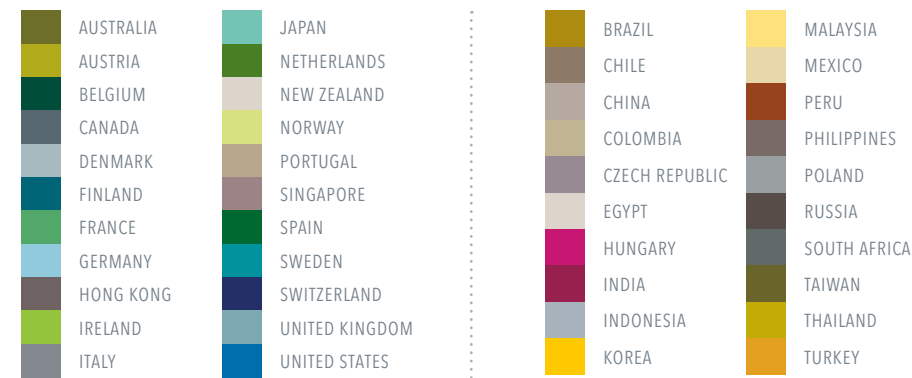


The RANDOMNESS of GLOBAL EQUITY RETURNS



INVESTMENT OPPORTUNITIES EXIST ALL AROUND THE GLOBE. Across more than 40 countries, there are over 15,000 publicly traded companies. If you listen to the news, however, some countries may seem like better places to invest than others based on how their economies and stock markets are doing at the time. Fluctuations in performance from year to year only add to the complexity, providing little useful information about future returns.

Daunted by the prospects of sorting it out, some investors look to the place they know best—their home market. There can be good reasons, such as tax benefits, for prioritizing an investment close to home, but too much home bias could mean underweighting or missing out on part of the investment universe.

Australia, for example, represents 2% of the global equity market. An Australian who aims to build a global equity portfolio may have cause for investing a greater amount at home. However, this would come with the tradeoff of reduced investment in other countries. The same is true for a Japanese investor, whose home country represents 8% of the global equity market. Even the US equity market—the world’s largest by far—is only about half of the global opportunity set.

Fortunately, no one needs to be an expert in every region to benefit from the opportunities those regions present. Equity markets process information continuously, leveraging knowledge from millions of buyers and sellers each day as they set security prices. Investors can trust market prices to provide an up-to-the-minute snapshot of global investment opportunities.

Because prices do such a good job incorporating information about securities in every market, they also offer the best prediction of future prospects. No sensible story or compelling empirical research suggests investors can consistently outguess those prices and pick winning countries. **A well-diversified global portfolio can help capture the returns of markets around the world and deliver more reliable outcomes over time.**

Reading the Checkerboard

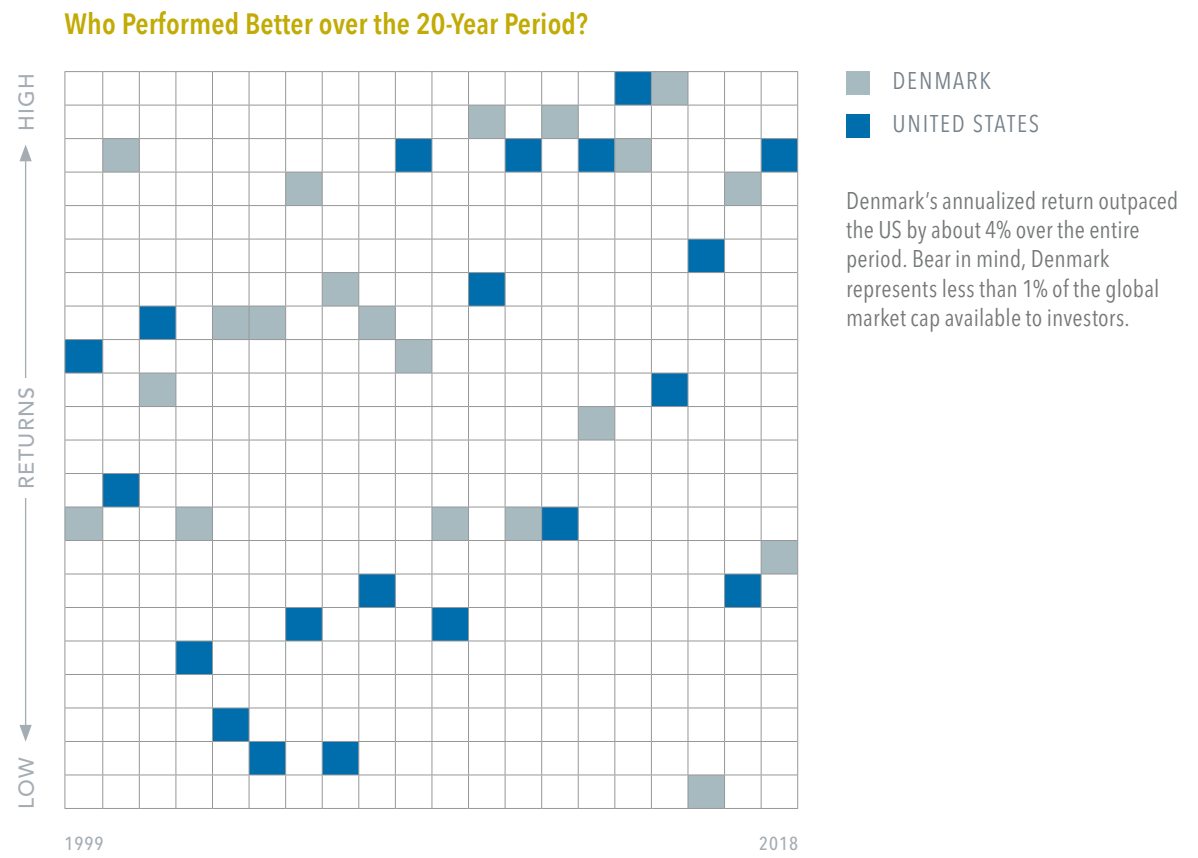
These tables illustrate 20 years of annual equity returns for developed and emerging markets. (Full-size tables and data sources.) Each color represents a different country. Each column is sorted top down, from the highest-performing country to the lowest.

Taken together, these tables powerfully demonstrate the randomness of global equity returns. In either table, pick a color in the first column and follow it through to the right. Does any country seem to follow a pattern that gives clues about its future performance?



Consider the performance of the US and Denmark, shown below. Is it immediately clear which country had the higher return over the past two decades?

Denmark, in fact, was the best performer among all developed markets, with an annualized return of 9.1%. Surprisingly perhaps, Denmark had the best calendar year return only once, in 2015. The US, despite some strong returns in the last several years, placed ninth overall with an annualized return of 4.9%.



From First to Worst

Denmark also provides an example of the unpredictability in short-term results. After posting the highest developed market return in 2015, Denmark had the lowest return in 2016. Countries have also moved in the opposite direction, from worst to first, in consecutive years. In 2000, New Zealand had the lowest return among developed markets followed by the highest return in both 2001 and 2002. In emerging markets, Hungary and Russia went from the bottom two performers in 2014 to the top two performers in 2015.

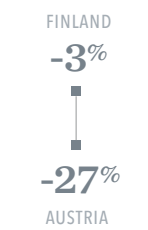
Going to Extremes

In a single year, the difference between the return of the highest-performing country and the lowest can be dramatic. Among developed markets over the last 20 years, the difference between the best and worst performers has ranged from a low of 24% in 2018 to as much as 81% in 2009. The differences in emerging markets are even more pronounced, ranging from 39% in 2013 to 160% in 2005. In fact, the difference in emerging markets has exceeded 100% in several years.

These extreme differences in outcomes, combined with the examples of countries that experienced sharp reversals in their return rankings, highlight the risk of trying to predict future returns by looking at the past and emphasize the importance of diversification across countries.

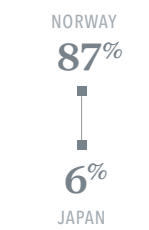
Developed Markets

Smallest range of outcomes in a year



24%

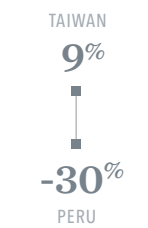
Largest range of outcomes in a year



81%

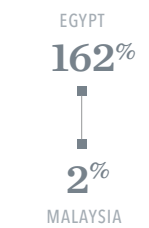
Emerging Markets

Smallest range of outcomes in a year



39%

Largest range of outcomes in a year



160%

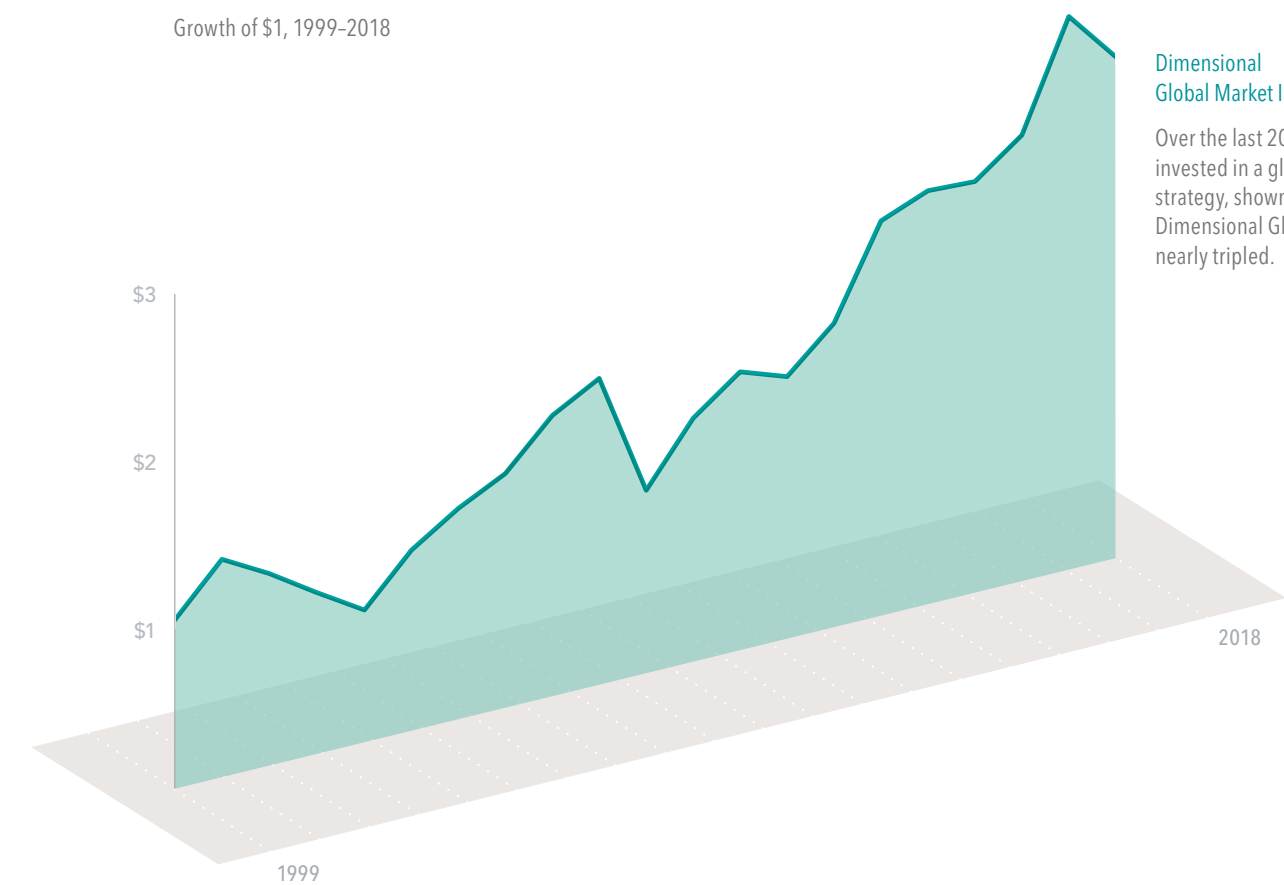
Now, the Good News

This evidence of the randomness in global equity returns, though, is not bad news for investors. Rather than trying to guess which country is going to outperform when, investors committed to a well-structured, globally diversified portfolio are better positioned to capture the performance of the global markets, where and when it occurs.

A globally diversified approach can deliver more reliable outcomes over time with less volatility than investing in individual countries. This can help investors stay on track, through all kinds of markets, toward their long-term goals.

A Picture of Growth

Growth of \$1, 1999-2018



Dimensional Global Market Index

Over the last 20 years, every dollar invested in a globally diversified strategy, shown here by the Dimensional Global Market Index, nearly tripled.

In USD. Past performance is not a guarantee of future results.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.

Diversification does not eliminate the risk of market loss. Investing risks include loss of principal and fluctuating value. International investing involves special risks, such as currency fluctuation and political instability. Investing in emerging markets may accentuate these risks. There is no guarantee an investing strategy will be successful.

Data presented in the Growth of \$1 charts is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The charts are for illustrative purposes only and are not indicative of any investment.

The Randomness of Global Equity Returns

As of December 31, 2018

These two tables rank historical annual stock market performance for different developed and emerging markets from highest to lowest in each year. Each color corresponds to a different country, and the patchwork dispersion of colors shows no predictable pattern in either the developed or the emerging markets.

Developed Markets Percentage of Annual Returns

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HIGH	Finland	Switzerland	New Zealand	New Zealand	Sweden	Austria	Canada	Spain	Finland	Japan	Norway	Sweden	Ireland	Belgium	Finland	USA	Denmark	Canada	Austria	Finland
	152.6	5.9	8.4	24.2	64.5	71.5	28.3	49.4	48.7	-29.2	87.1	33.8	13.7	39.6	46.0	12.7	23.4	24.6	58.3	-3.4
	Singapore	Canada	Australia	Austria	Germany	Norway	Japan	Portugal	Hong Kong	Switzerland	Australia	Denmark	New Zealand	Denmark	Ireland	New Zealand	Ireland	New Zealand	Hong Kong	New Zealand
	99.4	5.3	1.7	16.5	63.8	53.3	25.5	47.4	41.2	-30.5	76.4	30.7	5.5	31.3	41.2	7.3	16.5	18.4	36.2	-4.0
	Sweden	Denmark	Ireland	Australia	Spain	Belgium	Austria	Ireland	Germany	USA	Singapore	Hong Kong	USA	Singapore	USA	Denmark	Belgium	Norway	Singapore	USA
	79.7	3.4	-2.8	-1.3	58.5	43.5	24.6	46.8	35.2	-37.6	74.0	23.2	1.4	31.0	31.8	6.2	12.1	13.3	35.6	-5.0
	Japan	Norway	Austria	Norway	Austria	Ireland	Denmark	Singapore	Norway	Spain	Sweden	Singapore	UK	Germany	Germany	Hong Kong	Japan	Australia	Denmark	Hong Kong
	61.5	-0.9	-5.6	-7.3	57.0	43.1	24.5	46.7	31.4	-40.6	64.2	22.1	-2.6	30.9	31.4	5.1	9.6	11.4	34.7	-7.8
	Hong Kong	Italy	Belgium	Italy	New Zealand	Sweden	Norway	Norway	Canada	France	Hong Kong	Canada	Switzerland	New Zealand	Spain	Belgium	Austria	Austria	Netherlands	Norway
	59.5	-1.3	-10.9	-7.3	55.4	36.3	24.3	45.1	29.6	-43.3	60.2	20.5	-6.8	29.3	31.3	4.1	3.5	11.3	32.2	-8.6
	Canada	Netherlands	Spain	Japan	Canada	New Zealand	Finland	Sweden	Singapore	Canada	Belgium	Japan	Norway	Hong Kong	Netherlands	Singapore	Italy	USA	France	Switzerland
	53.7	-4.1	-11.4	-10.3	54.6	35.2	16.7	43.4	28.4	-45.5	57.5	15.4	-10.0	28.3	31.3	3.0	2.3	10.9	28.7	-9.1
	Norway	France	Norway	Switzerland	Australia	Italy	Switzerland	Denmark	Australia	Germany	Canada	USA	Belgium	Austria	Belgium	Ireland	Finland	France	Italy	Singapore
	31.7	-4.3	-12.2	-10.3	49.5	32.5	16.3	38.8	28.3	-45.9	56.2	14.8	-10.6	25.9	27.6	2.3	2.0	4.9	28.4	-9.4
	France	Australia	USA	Singapore	Denmark	Denmark	Australia	Belgium	Denmark	Singapore	New Zealand	Australia	Australia	Australia	Japan	Canada	Netherlands	Netherlands	Norway	Portugal
	29.3	-10.0	-12.4	-11.0	49.3	30.8	16.0	36.7	25.6	-47.4	50.4	14.5	-11.0	22.1	27.2	1.5	1.3	4.8	28.3	-11.1
	USA	Portugal	UK	Canada	Norway	Australia	Singapore	Austria	Portugal	Denmark	Spain	Switzerland	Netherlands	Sweden	Switzerland	Switzerland	Portugal	Portugal	Germany	Australia
	21.9	-10.3	-14.0	-13.2	48.1	30.3	14.4	36.5	24.0	-47.6	43.5	11.8	-12.1	22.0	26.6	-0.1	0.9	3.6	27.7	-12.0
	Germany	UK	Denmark	Portugal	Ireland	Spain	Netherlands	Germany	Spain	Netherlands	UK	Norway	Spain	France	France	Finland	USA	Germany	Spain	France
	20.0	-11.5	-14.8	-13.8	43.8	28.9	13.9	36.0	24.0	-48.2	43.3	10.9	-12.3	21.3	26.3	-0.7	0.7	2.8	27.0	-12.8
	Australia	Austria	Hong Kong	Belgium	Portugal	Hong Kong	Sweden	France	Netherlands	UK	Austria	Finland	Canada	Netherlands	Denmark	Australia	Switzerland	Japan	Japan	Japan
	17.6	-12.0	-18.6	-15.0	43.0	25.0	10.3	34.5	20.6	-48.3	43.2	10.3	-12.7	20.6	25.2	-3.4	0.4	2.4	24.0	-12.9
	New Zealand	Ireland	Canada	UK	France	Portugal	Germany	Italy	France	Sweden	Netherlands	Austria	Japan	Switzerland	Sweden	Netherlands	France	Hong Kong	Portugal	Netherlands
	12.9	-12.7	-20.4	-15.2	40.2	24.7	9.9	32.5	13.2	-49.9	42.3	9.9	-14.3	20.4	24.5	-3.5	-0.1	2.3	23.8	-13.1
	UK	USA	Switzerland	Spain	Hong Kong	Singapore	France	Netherlands	New Zealand	Italy	Portugal	UK	Sweden	Norway	UK	Japan	Hong Kong	Singapore	Switzerland	Sweden
	12.5	-12.8	-21.4	-15.3	38.1	22.3	9.9	31.4	8.9	-50.0	40.4	8.8	-16.0	18.7	20.7	-4.0	-0.5	1.4	22.5	-13.7
	Denmark	Finland	Portugal	Denmark	Italy	Canada	Belgium	Australia	UK	Australia	Denmark	Germany	Denmark	USA	Italy	Spain	Germany	Sweden	Finland	UK
	12.1	-14.2	-22.0	-16.0	37.8	22.2	9.0	30.9	8.4	-50.7	36.6	8.4	-16.0	15.3	20.4	-4.7	-1.9	0.6	22.5	-14.2
	Netherlands	Hong Kong	Netherlands	Hong Kong	Singapore	UK	Hong Kong	UK	Italy	Hong Kong	France	New Zealand	Hong Kong	UK	Austria	UK	Sweden	UK	UK	Denmark
	6.9	-14.7	-22.1	-17.8	37.6	19.6	8.4	30.6	6.1	-51.2	31.8	8.3	-16.0	15.3	13.4	-5.4	-5.0	-0.1	22.3	-15.4
	Spain	Germany	France	Netherlands	Japan	France	UK	Hong Kong	USA	Portugal	Italy	Netherlands	France	Finland	New Zealand	Sweden	New Zealand	Spain	USA	Spain
	4.8	-15.6	-22.4	-20.8	35.9	18.5	7.4	30.4	5.4	-52.2	26.6	1.7	-16.9	14.6	11.3	-7.5	-6.3	-1.0	21.2	-16.2
	Italy	Spain	Germany	France	Belgium	Germany	USA	Finland	Switzerland	New Zealand	USA	Belgium	Singapore	Italy	Hong Kong	Italy	UK	Finland	Sweden	Canada
	-0.3	-15.9	-22.4	-21.2	35.3	16.2	5.1	29.9	5.3	-53.8	26.3	-0.4	-17.9	12.5	11.1	-9.5	-7.6	-4.7	20.6	-17.2
	Switzerland	Belgium	Singapore	USA	Switzerland	Japan	Spain	Switzerland	Austria	Finland	Switzerland	France	Germany	Canada	Portugal	France	Australia	Switzerland	Australia	Italy
	-7.0	-16.8	-23.4	-23.1	34.1	15.9	4.4	27.4	2.2	-55.2	25.3	-4.1	-18.1	9.1	11.0	-9.9	-10.0	-4.9	19.9	-17.8
	Portugal	Sweden	Italy	Ireland	UK	Switzerland	Italy	Canada	Sweden	Norway	Germany	Portugal	Portugal	Japan	Norway	Germany	Norway	Ireland	Belgium	Germany
	-8.9	-21.3	-26.6	-26.2	32.1	15.0	1.9	17.8	0.6	-64.2	25.2	-11.3	-23.1	8.2	9.4	-10.4	-15.0	-7.1	18.6	-22.2
	Austria	Singapore	Sweden	Finland	USA	Netherlands	New Zealand	New Zealand	Belgium	Belgium	Ireland	Italy	Italy	Ireland	Canada	Norway	Spain	Belgium	Ireland	Ireland
	-9.1	-27.7	-27.2	-30.3	28.4	12.2	1.7	16.6	-2.7	-66.5	12.3	-15.0	-23.2	5.7	5.6	-22.0	-15.6	-7.6	18.1	-25.3
	Ireland	Japan	Japan	Sweden	Netherlands	USA	Portugal	USA	Japan	Austria	Finland	Ireland	Finland	Portugal	Australia	Austria	Singapore	Italy	Canada	Belgium
	-12.6	-28.2	-29.4	-30.5	28.1	10.1	-1.9	14.7	-4.2	-68.4	11.1	-18.1	-31.9	3.5	4.2	-29.8	-17.7	-10.5	16.1	-26.9
LOW	Belgium	New Zealand	Finland	Germany	Finland	Finland	Ireland	Japan	Ireland	Ireland	Japan	Spain	Austria	Spain	Singapore	Portugal	Canada	Denmark	New Zealand	Austria
	-14.3	-33.5	-38.2	-33.2	19.4	6.1	-2.3	6.2	-20.1	-71.9	6.3	-22.0	-36.4	3.0	1.7	-38.2	-24.2	-15.8	11.7	-27.4

In USD. MSCI country indices (net dividends) for each country listed. Does not include Israel, which MSCI classified as an emerging market prior to May 2010.

Emerging Markets Percentage of Annual Returns

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HIGH	Turkey	Czech Rep.	Russia	Czech Rep.	Thailand	Colombia	Egypt	China	Peru	Colombia	Brazil	Thailand	Indonesia	Turkey	Taiwan	Egypt	Hungary	Brazil	Poland	Peru
	253.1	1.3	55.5	43.7	143.5	132.4	161.6	82.9	94.4	-25.1	128.1	55.7	6.0	64.2	9.1	29.3	36.3	66.2	54.7	1.6
	Russia	Poland	Korea	Indonesia	Turkey	Egypt	Colombia	Indonesia	Brazil	Chile	Indonesia	Peru	Malaysia	Egypt	Egypt	Indonesia	Russia	Peru	China	Russia
	246.9	-4.2	48.0	41.9	125.3	126.2	107.2	73.8	79.6	-35.8	126.2	53.3	0.1	47.1	8.2	26.6	4.2	55.6	54.1	-0.4
	Malaysia	Brazil	Colombia	Peru	Brazil	Hungary	Russia	Peru	Turkey	South Africa	Russia	Chile	Philippines	Philippines	Malaysia	Philippines	India	Russia	Korea	Brazil
	114.3	-11.7	45.1	30.5	114.4	91.5	73.1	62.1	74.1	-37.9	104.2	44.2	-0.9	46.4	7.7	25.6	-6.1	54.8	47.3	-0.5
	Indonesia	Chile	Peru	Hungary	Peru	Czech Rep.	Korea	Philippines	India	Peru	India	Colombia	Thailand	Poland	Korea	India	Korea	Hungary	Chile	Czech Rep.
	93.1	-15.8	19.9	30.3	94.1	85.6	57.0	58.2	73.1	-40.2	102.8	43.4	-2.7	39.2	3.9	23.9	-6.7	35.4	42.2	-4.4
	Korea	Malaysia	Mexico	South Africa	Egypt	Poland	Brazil	Russia	China	Malaysia	Turkey	Malaysia	Colombia	Colombia	China	Turkey	Philippines	Thailand	Hungary	Thailand
	92.0	-16.1	18.4	28.0	91.8	61.1	56.4	55.6	66.2	-41.2	97.5	37.0	-5.0	35.9	3.6	18.7	-6.8	26.6	39.9	-5.5
	Egypt	South Africa	Taiwan	Thailand	China	Indonesia	Turkey	India	Egypt	Mexico	Chile	South Africa	Czech Rep.	Thailand	Poland	Thailand	China	Colombia	India	Malaysia
	89.3	-17.5	10.0	27.3	87.6	50.6	56.1	51.0	58.4	-42.9	85.6	34.2	-6.0	34.5	2.6	16.5	-7.8	26.5	38.8	-6.0
	India	Mexico	Thailand	Colombia	Chile	Mexico	Mexico	Brazil	Czech Rep.	Czech Rep.	Colombia	Indonesia	Korea	Mexico	Russia	Peru	Taiwan	Taiwan	Peru	Hungary
	87.0	-20.5	5.0	24.8	83.3	48.3	49.1	45.3	55.3	-43.1	84.3	33.9	-12.0	29.1	0.8	10.5	-11.7	18.5	38.4	-6.1
	Mexico	India	Malaysia	Russia	India	South Africa	Czech Rep.	Mexico	Indonesia	Taiwan	Taiwan	Philippines	Mexico	India	Mexico	Taiwan	Mexico	South Africa	Turkey	India
	79.8	-22.1	4.6	15.4	78.3	44.9	45.8	41.4	54.2	-46.5	79.2	33.9	-12.1	26.0	0.2	9.4	-14.4	17.9	38.4	-7.3
	Brazil	Peru	Czech Rep.	Korea	Indonesia	Turkey	India	Poland	Malaysia	Thailand	Hungary	Mexico	South Africa	Hungary	Philippines	China	Chile	Indonesia	South Africa	Taiwan
	69.5	-23.9	-2.3	8.3	76.5	41.4	37.6	40.7	46.1	-48.5	77.6	27.6	-14.4	22.8	-2.7	8.0	-17.7	17.0	36.1	-8.9
	South Africa	Hungary	Chile	India	Russia	Brazil	Peru	Malaysia	Thailand	China	Thailand	Korea	China	China	India	South Africa	Czech Rep.	Chile	Czech Rep.	Indonesia
	57.6	-27.0	-3.6	7.9	75.1	35.9	34.7	37.1	46.0	-50.8	76.6	26.7	-18.4	22.7	-3.8	5.2	-18.4	15.6	35.5	-9.2
	Taiwan	Russia	Indonesia	Egypt	Colombia	Chile	South Africa	Czech Rep.	Philippines	Egypt	Peru	Taiwan	Russia	Korea	Hungary	Czech Rep.	Indonesia	Korea	Thailand	Colombia
	52.6	-30.1	-9.0	1.6	66.4	28.0	28.3	33.9	40.4	-52.4	71.9	21.8	-19.6	21.2	-5.8	-4.4	-19.5	8.7	34.5	-11.5
	Thailand	China	Hungary	Poland	Czech Rep.	Philippines	Poland	Hungary	Korea	Philippines	Korea	India	Chile	Peru	South Africa	Mexico	Malaysia	China	Taiwan	Poland
	47.1	-30.3	-9.4	1.0	64.4	25.8	24.2	33.7	31.9	-52.6	71.3	20.9	-20.4	20.2	-6.2	-9.3	-20.1	0.9	27.5	-12.9
	Chile	Colombia	Brazil	Malaysia	South Africa	Korea	Philippines	Chile	Poland	Poland	Philippines	Turkey	Taiwan	South Africa	Czech Rep.	Malaysia	Thailand	Poland	Malaysia	Egypt
	38.5	-38.9	-17.0	-0.7	45.9	22.1	22.6	28.7	25.2	-54.8	65.6	20.8	-20.9	18.7	-10.5	-10.7	-23.5	0.1	25.1	-14.0
	Poland	Egypt	South Africa	Mexico	Taiwan	India	Chile	South Africa	Russia	Korea	China	Russia	Peru	Taiwan	Thailand	Korea	Egypt	India	Philippines	Mexico
	31.3	-43.7	-17.2	-13.3	41.9	19														