Global Insight Weekly

A closer look

U.S. equities: What's baked in?

Kelly Bogdanov – San Francisco

Markets have been giddy with the prospect of fiscal stimulus boosting the U.S. economy and some wonder if earnings expectations have moved too far. But we don't see the current optimism as offside and meaningful fiscal catalysts could set up earnings growth to exceed our expectations.

The U.S. equity market has rallied sharply since the election. The Dow Jones Industrial Average is up 7.6% and the S&P 500 has risen 5.8%—much of the gains occurred before year end. The S&P SmallCap 600 has surged 14.7%, the best-performing major U.S. index.

Small-cap indexes, along with the S&P 500, Dow, and tech-heavy NASDAQ reached new all-time highs recently.

Given this strong rally and as the new presidential administration takes control, investors are asking: Are the Trump fiscal stimulus proposals already baked into earnings estimates and the market?

Setting the bar

We don't think fiscal stimulus is fully baked in, although the consensus forecast seems to incorporate exuberance that is normally found at the beginning of the year.

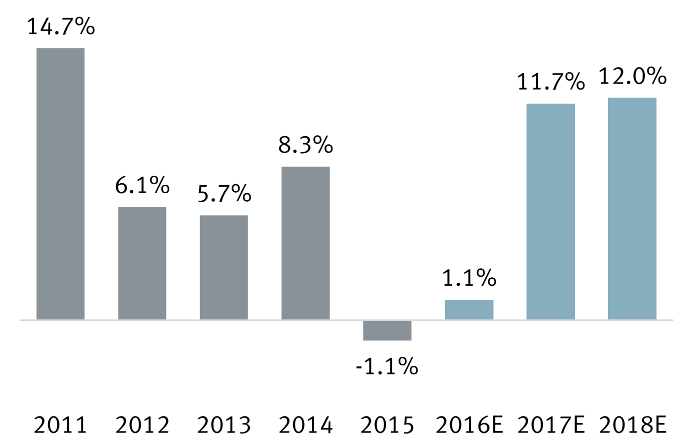
Since the election, the S&P 500 consensus earnings estimate for 2017 has barely budged. It ticked lower by $0.08 to $132.66 per share, according to Thomson Reuters I/B/E/S, rather than increasing sizably.

RBC Capital Markets, LLC's Chief Equity Strategist Jonathan Golub believes the S&P 500 can deliver $128 per share in earnings in 2017 without major fiscal stimulus measures such as tax cuts and a regulatory overhaul. That would be 7.8% higher than the expected level for 2016—pretty good considering profits barely rose last year and declined slightly in 2015.

If the higher $133 consensus forecast bears out, earnings would grow 11.7% y/y, an above-average pace.

This year's earnings could increase the most since 2011

S&P 500 y/y earnings growth (actual – gray; consensus estimate – blue)



Source - RBC Wealth Management, Thomson Reuters I/B/E/S; data through 1/18/17

Market pulse

Click here for authors' contact information.
Priced (in USD) as of 1/19/17 market close, EST (unless otherwise stated).
For important and required non-U.S. analyst disclosures, see Page 6.

RBC Wealth Management

The consensus forecast represents the aggregate number from the army of Wall Street industry analysts; it's the so-called bottom-up estimate. At first glance, one might assume it fully embeds forthcoming fiscal stimulus, but that's not necessarily the case. The bottom-up consensus forecast almost always starts the year about 2%–4% too high and gets ratcheted down as the calendar progresses. The fact that Golub's $128 estimate is lower than the $133 consensus forecast is not unusual or concerning to us.

Furthermore, we doubt most market participants are banking on $133 per share—at least not now. It's well known that industry analysts' beginning-of-the-year estimates are usually optimistic, and many top-down strategists and equity traders seem to be penciling in around $128–$130 per share at this stage and are leaving room for higher numbers should fiscal stimulus materialize.

Trump bump

If the Trump team and Congress are able to pass meaningful stimulus measures, we believe GDP growth would improve and, in turn, earnings growth would accelerate beyond our $128 per share forecast.

It could be $5 or so higher in 2017 if tax cuts and deregulation occur. In this case, instead of $128 per share, S&P 500 earnings could reach $133 or more. So, rather than our current expectation of 7.8% earnings growth, we could get 12% growth or better—a big difference.

And, as a result, instead of the current lofty $133 per share estimate getting whittled down as the year progresses, it could stay largely unchanged or push higher should multiple fiscal stimulus plans move forward.

A taxing situation

We view corporate tax cuts, including repatriation of overseas cash, as linchpins of above-trend earnings growth for 2017.

The Trump plan proposes reducing the corporate tax rate from 35% to 15%, while the House Republican plan would cut it to 20%, and both would allow for cash repatriation at reduced rates. Golub's team estimates corporate tax cuts "could easily add 5%–7% to profits annually going forward."

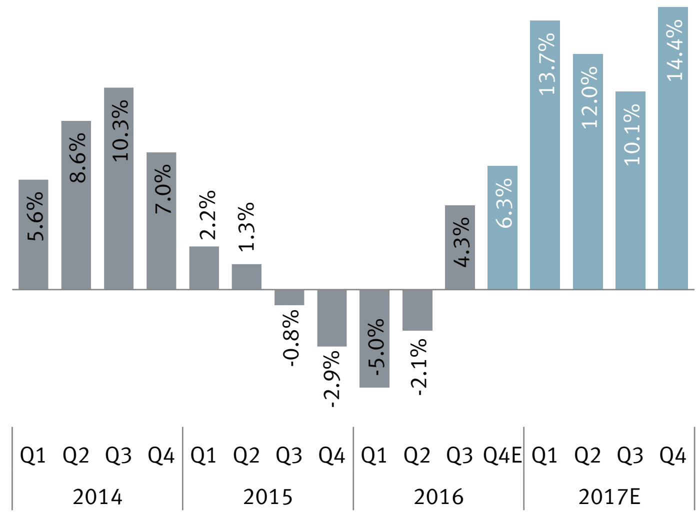
We don't think this is incorporated into the 2017 consensus earnings estimate. It seems most industry analysts have refrained from adjusting tax rates lower given the legislative uncertainties and because corporate executives have not yet incorporated tax cuts into their guidance.

The current $133 consensus forecast seems lofty to us now, but it may be realistic or even too low if corporate tax cuts pass.

This is a key reason we would continue to Overweight U.S. equities and would take advantage of any periods of weakness in the market.

U.S. earnings growth likely to accelerate in Q1 2017

S&P 500 q/q earnings growth (actual – gray; consensus estimate – blue)



Source - RBC Wealth Management, Thomson Reuters I/B/E/S; estimates as of 1/18/17

Eight sectors could see a big change in growth in 2017

Consensus estimates for S&P 500 sector y/y earnings growth

	2016E	2017E	Materially higher 2017 estimates
Consumer Discretionary	10.4%	9.4%	
Consumer Staples	4.3%	6.9%	✓
Energy	-77.7%	371.9%	✓
Financials	3.4%	11.0%	✓
Health Care	8.2%	8.4%	
Industrials	1.0%	5.1%	✓
Materials	-0.9%	15.0%	✓
Real Estate	-2.0%	6.2%	✓
Technology	4.3%	11.8%	✓
Telecommunications	0.6%	3.3%	✓
Utilities	5.7%	0.2%	
S&P 500	1.1%	12.4%	✓

Source - RBC Wealth Management, Thomson Reuters I/B/E/S; estimates as of 1/18/17

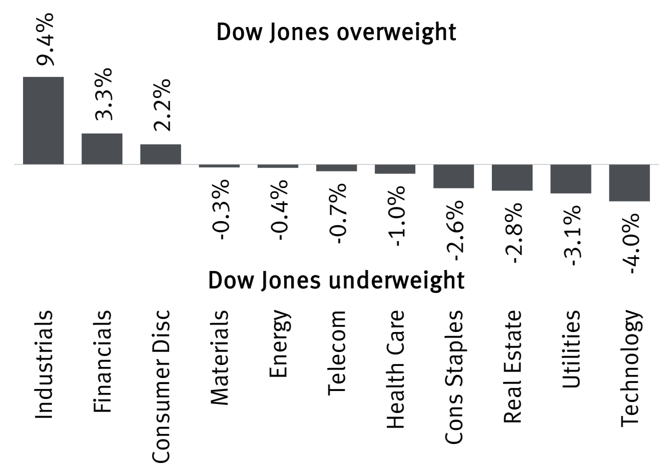
United States

Kelly Bogdanov – San Francisco

- Since the election, investors have been scratching their heads about **divergences between the S&P 500 and the Dow Jones Industrial Average**. Right after the election and into year end, the Dow materially outperformed. But so far this year, the S&P 500 has outperformed.
- These indexes have diverged because the **Dow includes a greater share of economically-sensitive (cyclical) stocks** compared to the S&P 500. The Dow has a very large 19.7% weighting for highly-cyclical Industrials while the S&P 500 has a 10.3% weighting, a meaningful 9.4% difference. As the chart shows, the Dow also has a higher weighting of Financials and Consumer Discretionary and it is less exposed to defensive sectors.
- The method by which stocks contribute to index returns also makes a difference. **The Dow is price-weighted**: the higher a stock's price, the greater influence it has on Dow performance. And because the Dow only includes 30 stocks, a handful of stocks has a much-higher weighting than the average S&P 500 stock. In contrast, **the S&P 500 is capitalization weighted**: Stocks with larger overall market values have a greater influence on the index.
- For long-term investors, **we wouldn't make too much out of the differences and recent divergences**. Usually the performance differences sort themselves out and the two indexes end up delivering similar returns over multi-year time frames. For more on this topic, see the Dow 20,000 report.

The Dow tilts toward cyclical sectors

Sector weightings – Dow Jones Industrial Average minus S&P 500



Source - RBC Capital Markets, FactSet, Dow Jones, S&P; data as of 1/13/17

Canada

Farazeh Mahboob & Patrick McAllister – Toronto

- Despite a formalized agreement to restrict crude output among OPEC and certain non-OPEC partners that we expect will hasten the rebalancing of the global oil market, the **S&P/TSX Energy sector has started 2017 on a down note**. We nevertheless view this sector as core to our positive stance on the domestic equity market as our base case of higher crude prices, increased production volumes, and stronger margins drives expanded cash flows.
- **Valuations of high-quality food retailers continue to look attractive relative to recent levels**. Food price deflation, driven by stabilization in the Canadian dollar, continues to serve as a potential moderating force on earnings, but RBC Capital Markets anticipates food price inflation will normalize in Q2. Furthermore, RBC Capital Markets' analysis suggests industry square-footage growth remains well below peak levels, contributing to stable competitive intensity.
- **CEO Hunter Harrison has negotiated a separation agreement from Canadian Pacific Railway Ltd.** (CP), forfeiting approximately CA$118M in future benefits and awards in the process. Press reports (e.g., *The Wall Street Journal*, January 18, 2017) indicate Harrison may team up with an activist investor in a bid to shake up management at rival rail CSX Corp. None of the parties have responded to the press reports. Those reports, in addition to comments from incoming CP CEO Keith Creel, served to stoke **investor hopes of industry consolidation** with share prices industry-wide moving higher. Consolidation expectations have come and gone in recent years, and we would advocate basing rail-related investment decisions on fundamentals and valuations over potential merger benefits at this juncture.
- **U.S. President-elect Donald Trump denounced a cornerstone of a Republican-crafted plan to overhaul corporate taxes**. Trump dismissed border-adjustment taxes that would tax imports and exempt exports as "too complicated." While it is our view, as well as that of RBC Capital Markets, that such a system is unworkable for a host of reasons, we believe it holds potentially dramatic repercussions for the Canadian economy and as such is a risk worth monitoring.

Europe

Frédérique Carrier & Thomas McGarrity – London

- **U.K. Prime Minister Theresa May unveiled her 12-point plan for U.K. Brexit negotiations**. The U.K. will prioritise regaining **full control of immigration** at the expense of continued membership in the EU's single market and customs unions. Alongside Britain pursuing its own trade deals, May wants the U.K. to maintain **tariff-free trade with Europe**. However, as stated by many prominent EU policymakers, having a "pick-and-choose" approach to the U.K.'s new relationship with the EU will not work, and without accepting all of the pillars of the EU—free movement of people included—it seems it will be difficult for her to accomplish such a feat, in our opinion.

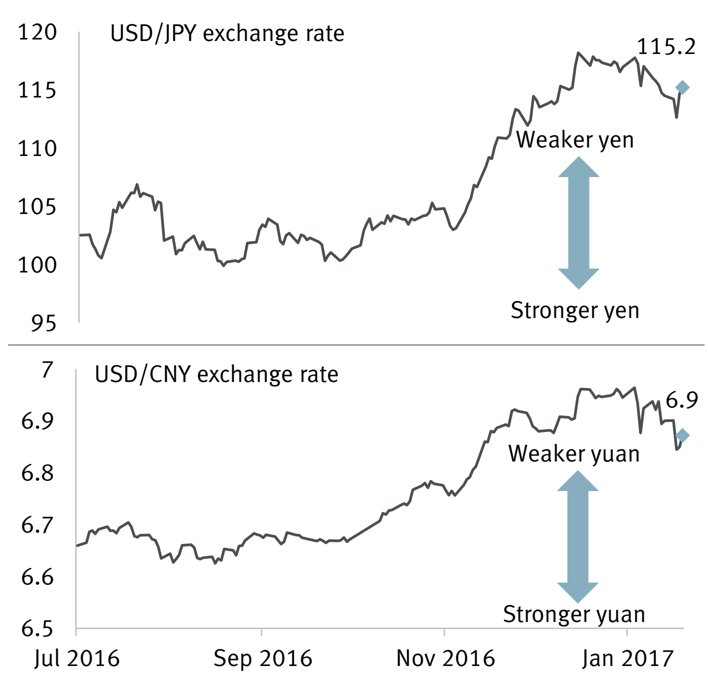
- In a bid for domestic unity, May also stated **both Houses of Parliament will vote on the Brexit deal**. We think this will likely moderate an extreme outcome because the government will have to respond to the various political party views throughout the process.
- At 1.6% y/y, **U.K. inflation** (CPI measure) ended 2016 at its **highest level since July 2014**, driven by petrol, airfares, and food. The rise of late is largely a function of **deflation disappearing in the goods sector**, moving to 0.7% y/y from -1.6% y/y in mid-2016. The inflationary consequences of sterling's depreciation means this **theme is likely to continue** given the import-intensive nature of the goods sector. A steep pickup in U.K. inflation, resulting in consumer prices outpacing wages, could put a squeeze on consumers and potentially lead to a slowdown in U.K. consumption.
- As widely expected, the **European Central Bank** (ECB) **held rates and its asset purchase program steady**. ECB President Mario Draghi retained his dovish bias by playing down inflation risks, while not giving any hint toward "tapering" stimulus measures. However, the recent inflation uptick in Germany, the eurozone's largest economy, may further challenge the ECB's current policy mix during 2017.

Asia Pacific

Jay Roberts – Hong Kong

- The MSCI AC Asia Pacific Index has moved higher through January. **Asian equity markets have been relatively steady** as we approach the leadership change in the U.S.
- **The yen has been appreciating modestly against the dollar** since mid-December following a big selloff after the U.S. election that saw the pair move from around USDJPY104 to 118. The outlook for the yen is a matter of debate, although the **move higher in U.S. bond yields**, expectations for **Fed rate hikes to pick up speed**, and renewed **inflationary pressures** from higher energy prices **may tip the balance toward additional weakness** in the currency.
- One area of **market volatility** recently has been in the **Chinese currency**, which jumped higher against the dollar. **We maintain the view, however, that the currency will continue on its downward path against the dollar in 2017**. But the volatility could remain: even after his election victory, Donald Trump has continued his invective against China and consistently labelled the currency as undervalued. Also, the **International Monetary Fund upgraded its outlook for China's growth** in 2017 by 0.3% to 6.5%, noting government stimulus, steady consumption, and the end of producer price inflation.
- Reports suggest that the **Chinese authorities appear to have been taking measures once again to ensure stability in the stock market**. This coincides with President Xi Jinping's visit to the World Economic Forum. Some funds were advised not to sell holdings of large benchmark names, while the regulator asked funds and brokerages to "trade prudently." The **Shanghai Composite** has moved **slowly and steadily higher** over the past year as the extreme volatility of 2016 moves further into the rear-view mirror.
- The **Bank of Korea** kept its benchmark rate unchanged for a seventh month at a record low of 1.25%, as forecast. The central bank **cut its growth outlook for 2017** from 2.8% to 2.5% and moderately **reduced its inflation forecast** to 1.8%. The main reason for the downgrade to the outlook is the prospect of weaker consumption. **Consumer sentiment** in December reached its **lowest level in over seven years**.

Major Asian currencies have moved in tandem recently, but divergence may occur with a stronger yuan and weaker yen



Source - RBC Wealth Management, Bloomberg; data as of 4:30 pm GMT 1/19/17

MARKET SCORECARD

Data as of January 19, 2017

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	2,263.69	1.1%	1.1%	20.3%	12.1%
Dow Industrials (DJIA)	19,732.40	-0.2%	-0.2%	23.2%	12.7%
NASDAQ	5,540.08	2.9%	2.9%	23.7%	19.5%
Russell 2000	1,345.74	-0.8%	-0.8%	35.3%	14.4%
S&P/TSX Comp	15,409.81	0.8%	0.8%	28.4%	7.7%
FTSE All-Share	3,909.41	0.9%	0.9%	21.0%	10.4%
STOXX Europe 600	362.85	0.4%	0.4%	9.0%	2.7%
German DAX	11,596.89	1.0%	1.0%	20.0%	13.2%
Hang Seng	23,049.96	4.8%	4.8%	17.4%	-2.9%
Shanghai Comp	3,101.30	-0.1%	-0.1%	3.1%	-0.5%
Nikkei 225	19,072.25	-0.2%	-0.2%	11.9%	12.1%
India Sensex	27,308.60	2.6%	2.6%	11.6%	-3.4%
Singapore Straits Times	3,008.22	4.4%	4.4%	14.0%	-9.1%
Brazil Ibovespa	63,950.86	6.2%	6.2%	68.0%	33.9%
Mexican Bolsa IPC	46,265.26	1.4%	1.4%	13.4%	12.1%

Commodities (USD)	Price	MTD	YTD	1 yr	2 yr
Gold (spot $/oz)	1,196.26	3.8%	3.8%	10.1%	-3.0%
Silver (spot $/oz)	16.79	5.5%	5.5%	21.8%	1.3%
Copper ($/metric ton)	5,689.75	3.0%	3.0%	31.0%	-6.7%
Oil (WTI spot/bbl)	53.01	-1.3%	-1.3%	74.1%	15.1%
Oil (Brent spot/bbl)	56.08	-1.3%	-1.3%	81.7%	18.2%
Natural Gas ($/mmBtu)	3.38	-9.4%	-9.4%	49.5%	20.8%

Govt bonds (bps chg)	Yield	MTD	YTD	1 yr	2 yr
U.S. 10-Yr Tsy	2.467%	2.2	2.2	41.1	63.0
Canada 10-Yr	1.756%	3.5	3.5	57.7	23.9
U.K. 10-Yr	1.408%	16.9	16.9	-29.1	-11.9
Germany 10-Yr	0.379%	17.1	17.1	-17.0	-6.0
Fixed Income (returns)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Aggregate	2.60%	0.3%	0.3%	2.0%	2.2%
U.S. Invest Grade Corp	3.34%	0.5%	0.5%	6.3%	4.1%
U.S. High Yield Corp	5.85%	1.2%	1.2%	21.9%	13.4%

Currencies	Rate	MTD	YTD	1 yr	2 yr
U.S. Dollar Index	101.1400	-1.0%	-1.0%	2.2%	9.3%
CAD/USD	0.7511	0.9%	0.9%	9.5%	-10.3%
USD/CAD	1.3315	-0.9%	-0.9%	-8.7%	11.5%
EUR/USD	1.0662	1.4%	1.4%	-2.3%	-8.1%
GBP/USD	1.2336	0.0%	0.0%	-12.9%	-18.4%
AUD/USD	0.7560	4.9%	4.9%	9.4%	-7.9%
USD/CHF	1.0063	-1.2%	-1.2%	0.3%	14.4%
USD/JPY	114.8400	-1.8%	-1.8%	-2.4%	-2.3%
EUR/JPY	122.4400	-0.4%	-0.4%	-4.6%	-10.3%
EUR/GBP	0.8643	1.3%	1.3%	12.2%	12.5%
EUR/CHF	1.0730	0.1%	0.1%	-2.0%	5.1%
USD/SGD	1.4257	-1.5%	-1.5%	-0.8%	6.9%
USD/CNY	6.8720	-1.1%	-1.1%	4.5%	10.5%
USD/BRL	3.2018	-1.6%	-1.6%	-21.2%	20.8%

Source - Bloomberg. Note: Equity returns do not include dividends, except for the German DAXand Brazilian Ibovespa. Bond yields in local currencies. Copper and Agriculture Index data as of Thursday's close. Dollar Index measures USD vs. six major currencies. Currency rates reflect market convention (CAD/USD is the exception). Currency returns quoted in terms of the first currency in each pairing. Data as of 8:35 pm GMT 1/19/17.

Examples of how to interpret currency data: CAD/USD 0.75 means 1 Canadian dollar will buy 0.75 U.S. dollar. CAD/USD 0.9% return means the Canadian dollar rose 0.9% vs. the U.S. dollar year to date. USD/JPY 114.84 means 1 U.S. dollar will buy 114.84 yen. USD/JPY -1.8% return means the U.S. dollar fell 1.8% vs the yen year to date.

UPCOMING EVENTS

104 S&P 500 companies are scheduled to report earnings during the week of January 23.

Fri, Jan 20	Tue, Jan 24	Wed, Jan 25	Thu, Jan 26, cont.
ECB Survey of Prof. Forecasters	Japan Exports/Imports	China Industrial Profits	U.S. Markit Services/Comp. PMI
U.K. Retail Sales (7.5% y/y)	Eurozone Markit Manufacturing PMI	Germany IFO Expectations	U.S. New-Home Sales (-1.2% m/m)
Canada CPI & Retail Sales	Eurozone Markit Services PMI	U.S. FHFA House Price Index	U.S. Leading Index (0.5% m/m)
Mon, Jan 23	Eurozone Markit Composite PMI	**Thu, Jan 26**	**Tue, Jan 31**
China Conf. Board Dec. Leading Index	Germany Markit Manufacturing PMI	Japan CPI	BoJ Meeting
Japan Nikkei Manufacturing PMI	Germany Markit Services PMI	Germany Consumer Confidence	**Wed, Feb 1**
Eurozone Q3 Government Debt	Germany Markit Composite PMI	U.K. Q4 GDP	Fed Meeting
Eurozone Q3 Government Deficit	U.S. Markit Manufacturing PMI (54.0)	U.K. Index of Services	**Thu, Feb 2**
Eurozone Consumer Confidence	U.S. Existing-Home Sales (-1.7% m/m)	U.S. Chicago Fed Nat'l Activity	BoE Meeting

The dates reflect North American time zones. All data reflect Bloomberg consensus forecasts where available.

Authors

Kelly Bogdanov – San Francisco, United States
kelly.bogdanov@rbc.com; RBC Capital Markets, LLC

Farazeh Mahboob – Toronto, Canada
farazeh.mahboob@rbc.com; RBC Dominion Securities Inc.

Patrick McAllister – Toronto, Canada
patrick.mcallister@rbc.com; RBC Dominion Securities Inc.

Frédérique Carrier – London, United Kingdom
frederique.carrier@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Thomas McGarrity, CFA – London, United Kingdom
thomas.mcgarrity@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Jay Roberts – Hong Kong, China
jay.roberts@rbc.com; RBC Dominion Securities Inc.

Disclosures and Disclaimer

Analyst Certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Important Disclosures

In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc., which is a foreign affiliate of RBC Capital Markets, LLC. This report has been prepared by RBC Capital Markets, LLC. which is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada.

Non-U.S. Analyst Disclosure: Farazeh Mahboob, Patrick McAllister, and Jay Roberts, employees of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc.; and Frédérique Carrier and Thomas McGarrity, employees of RBC Wealth Management USA's foreign affiliate Royal Bank of Canada Investment Management (U.K.) Limited; contributed to the preparation of this publication. These individuals are not registered with or qualified as research analysts with the U.S. Financial Industry Regulatory Authority ("FINRA") and, since they are not associated persons of RBC Wealth Management, they may not be subject to FINRA Rule 2241 governing communications with subject companies, the making of public appearances, and the trading of securities in accounts held by research analysts.

In the event that this is a compendium report (covers six or more companies), RBC Wealth Management may choose to provide important disclosure information by reference. To access current disclosures, clients should refer to http://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2 to view disclosures regarding RBC Wealth Management and its affiliated firms. Such information is also available upon request to RBC Wealth Management Publishing, 60 South Sixth St, Minneapolis, MN 55402.

References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Dividend Growth (RL 8), and the Guided Portfolio: ADR (RL 10), and former lists called the Guided Portfolio: Large Cap (RL 7), the Guided Portfolio: Midcap 111 (RL 9), and the Guided Portfolio: Global Equity (U.S.) (RL 11). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List.

Distribution of Ratings

For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories - Buy, Hold/Neutral, or Sell - regardless of a firm's own rating categories. Although RBC Capital Markets, LLC ratings of Top Pick (TP)/Outperform (O), Sector Perform (SP) and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis (as described below).

Distribution of Ratings - RBC Capital Markets, LLC Equity Research
As of December 31, 2016

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Top Pick & Outperform]	834	52.32	279	33.45
Hold [Sector Perform]	657	41.22	132	20.09
Sell [Underperform]	103	6.46	9	8.74

Explanation of RBC Capital Markets, LLC Equity Rating System

An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average. Although RBC Capital Markets, LLC ratings of Top Pick (TP)/Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis (as described below).

Ratings:

Top Pick (TP): Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio. Outperform (O): Expected to materially outperform sector average over 12 months. Sector Perform (SP): Returns expected to be in line with sector average over 12 months. Underperform (U): Returns expected to be materially below sector average over 12 months.

Risk Rating:

As of March 31, 2013, RBC Capital Markets, LLC suspends its Average and Above Average risk ratings. The Speculative risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.

Valuation and Risks to Rating and Price Target

When RBC Wealth Management assigns a value to a company in a research report, FINRA Rules and NYSE Rules (as incorporated into the FINRA Rulebook) require that the basis for the valuation and the impediments to obtaining that valuation be described. Where applicable, this information is included in the text of our research in the sections entitled "Valuation" and "Risks to Rating and Price Target", respectively.

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of RBC Capital Markets, LLC, and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets, LLC and its affiliates.

Other Disclosures

Prepared with the assistance of our national research sources. RBC Wealth Management prepared this report and takes sole responsibility for its content and distribution. The content may have been based, at least in part, on material provided by our third-party correspondent research services. Our third-party correspondent has given RBC Wealth Management general permission to use its research reports as source materials, but has not reviewed or approved this report, nor has it been informed of its publication. Our third-party correspondent may from time to time have long or short positions in, effect transactions in, and make markets in securities referred to herein. Our third-party correspondent may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any company mentioned in this report.

RBC Wealth Management endeavors to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. In certain investment advisory accounts, RBC Wealth Management will act as overlay manager for our clients and will initiate transactions in the securities referenced herein for those accounts upon receipt of this report. These transactions may occur before or after your receipt of this report and may have a short-term impact on the market price of the securities in which transactions occur. RBC Wealth Management research is posted to our proprietary Web sites to ensure eligible clients receive coverage initiations and changes in rating, targets, and opinions in a timely manner. Additional distribution may be done by sales personnel via e-mail, fax, or regular mail. Clients may also receive our research via third-party vendors. Please contact your RBC Wealth Management Financial Advisor for more information regarding RBC Wealth Management research.

Conflicts Disclosure: RBC Wealth Management is registered with the Securities and Exchange Commission as a broker/dealer and an investment adviser, offering both brokerage and investment advisory services. RBC Wealth Management's Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on our Web site at http://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2. Conflicts of interests related to our investment advisory business can be found in Part II of the Firm's Form ADV or the Investment Advisor Group Disclosure Document. Copies of any of these documents are available upon request through your Financial Advisor. We reserve the right to amend or supplement this policy, Part II of the ADV, or Disclosure Document at any time.

The authors are employed by one of the following entities: RBC Wealth Management USA, a division of RBC Capital Markets, LLC, a securities broker-dealer with principal offices located in Minnesota and New York, USA; by RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada; by RBC Investment Services (Asia) Limited, a subsidiary of RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Hong Kong, China; and by Royal Bank of Canada Investment Management (U.K.) Limited, an investment management company with principal offices located in London, United Kingdom.

Research Resources

This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC WM Portfolio Advisory Group provides support related to asset allocation and portfolio construction for the firm's Investment Advisors / Financial Advisors who are engaged in assembling portfolios incorporating individual marketable securities. The Committee leverages the broad market outlook as developed by the RBC Investment Strategy Committee, providing additional tactical and thematic support utilizing research from the RBC Investment Strategy Committee, RBC Capital Markets, and third-party resources.

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Disclaimer

The information contained in this report has been compiled by RBC Wealth Management, a division of RBC Capital Markets, LLC, from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Wealth Management, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Wealth Management's judgment as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients, including clients who are affiliates of Royal Bank of Canada, and does not have regard to the particular circumstances or needs of any specific person who may read it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. To the full extent permitted by law neither Royal Bank of Canada nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior consent of Royal Bank of Canada. Additional information is available upon request.

To U.S. Residents: This publication has been approved by RBC Capital Markets, LLC, Member NYSE/FINRA/SIPC, which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. RBC Capital Markets, LLC, is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC. International investing involves risks not typically associated with U.S. investing, including currency fluctuation, foreign taxation, political instability and different accounting standards.

To Canadian Residents: This publication has been approved by RBC Dominion Securities Inc. RBC Dominion Securities Inc.* and Royal Bank of Canada are separate corporate entities which are affiliated. *Member-Canadian Investor Protection Fund. ®Registered trademark of Royal Bank of Canada. Used under license. RBC Wealth Management is a registered trademark of Royal Bank of Canada. Used under license.

RBC Wealth Management (British Isles): This publication is distributed by Royal Bank of Canada Investment Management (U.K.) Limited and RBC Investment Solutions (CI) Limited. Royal Bank of Canada Investment Management (U.K.) Limited is authorised and regulated by the Financial Conduct Authority (Reference number: 146504). Registered office: Riverbank House, 2 Swan Lane , London, EC4R 3BF, UK. RBC Investment Solutions (CI) Limited is regulated by the Jersey Financial Services Commission in the conduct of investment business in Jersey. Registered office: Gaspé House, 66-72 Esplanade, St Helier, Jersey JE2 3QT, Channel Islands, registered company number 119162.

To Hong Kong Residents: This publication is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ('SFC'), RBC Investment Services (Asia) Limited and RBC Investment Management (Asia) Limited, both entities are regulated by the SFC. Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ('AFSL') (No. 246521).

To Singapore Residents: This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity granted offshore bank licence by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.