JUNE 2015

RBC WEALTH MANAGEMENT

GLOBAL INSIGHT

SPECIAL REPORT

Japan: The Road to Reflation

Is Shinzo Abe's revitalization strategy ushering in a secular bull market for Japanese equities?

Jay Roberts & Yufei Yang

For Important and Required Non-U.S. Analyst Disclosures, see page 12.

RBC Wealth Management

There's Wealth in Our Approach.™

Special
Report

Japan: The Road to Reflation

We upgraded Japanese equities to Overweight in June 2013, and updated our thesis last June in our report *Abe, Abe, & Away*. We revisit the core of the thesis, introduce several new items for the consideration of equity investors, and provide an outlook for the equity market. We maintain our Overweight stance.

Jay Roberts
Hong Kong, China
jay.roberts@rbc.com

Yufei Yang
Hong Kong, China
yufei.yang@rbc.com

Hard Times

It has been two-and-a-half years since Shinzo Abe took the reins as Japan's prime minister and, aided by Haruhiko Kuroda, Bank of Japan (BoJ) governor, introduced his aggressive policy regime[1] with one purpose above all: to clear the Dickensian fog of deflation that had engulfed Japan, the world's third-largest economy, for close to a generation. It has been a bumpy ride. Growth has been uneven and sometimes negative, while industrial production has underwhelmed. Retail sales have nose-dived recently, although the extent of the decline has been distorted by the front-loading of purchases last year in anticipation of Japan's sales tax increase—the first in 17 years. Exports have been a brighter spot.

Yet, equity performance has been particularly good. Japanese stocks rose by 52% in 2013, 8% in 2014, and 19% in 2015 at time of writing. Low equity valuations and significant yen depreciation helped kick-start the party. But the rally has continued this year despite equities no longer being at rock-bottom prices and with minimal movement in the USD/JPY exchange rate in the first quarter. While there are multiple reasons for continued equity outperformance, including renewed investor interest in Japanese stocks and continued earnings growth amid undemanding valuations, we believe the inflation story remains the main pillar of support.

A Tale of Two Inflation Rates

For equity investors, Japan's inflationary ambition is critical on a number of fronts. Inflation provides companies with more pricing power; moderate inflation promotes consumption, for in a deflationary environment, the impetus is to delay spending and wait for cheaper prices in the future; and investor behavior is quite different in a deflationary environment where the real value of cash increases over time, bonds can do well, and equities are prone to struggle.

Have the authorities been successful in stoking prices? Japan's consumer price inflation (CPI) and core CPI[2] were generally negative for 15 years before the current policy initiative began. Both CPI and core CPI hit bottom in Q1 2013, but have been rising since then. However, the pace of gains has slowed consistently over the past

[1] The BoJ expanded its quantitative easing program in October 2014. The new purchase target is ¥80T in assets per year, mostly in government bonds, versus ¥60–70T previously. Thus, the Japanese program is far larger than the U.S. program relative to GDP. The BoJ also announced it would extend the average maturity of its bond holdings to 10 years and triple its purchases of stocks and property funds.

[2] All prices excluding fresh food.

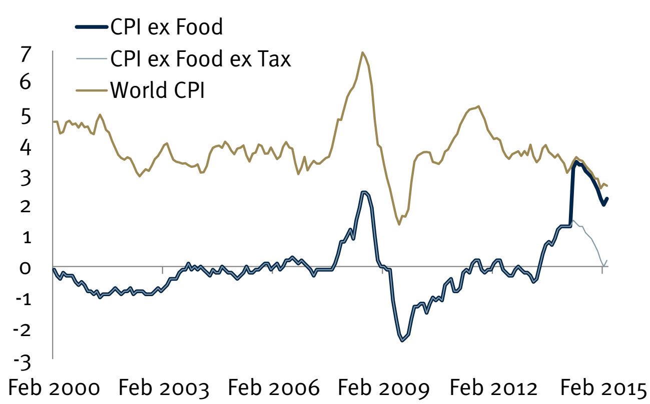
year. Moreover, if we remove the inflationary impact of the April 2014, sales tax increase, which by definition raised prices instantly, price increases have all but evaporated in recent months.

One could characterize this as a policy failure. Such criticism would be harsh. In 2013, Governor Kuroda targeted a 2% inflation rate within roughly two years. Although the target has not been achieved, the primary measure of success should surely be that policy has created sustained price increases of any size, even if below target.

The slowdown in inflation should be transitory.

Besides, waning inflation should be a transitory phenomenon, in our view. The slowdown in inflation over the past year almost mirrors the decline in global inflation over the same period itself led by the precipitous decline in energy prices (see chart). Following a tumultuous 12 months, the energy complex appears to have at least stabilized for the time being.

Consumer Price Inflation: Japan & Global



Source - RBC Wealth Management, Bloomberg; data through March 2015

The recent downturn in Japanese inflation closely mirrors the global pattern.

Importantly, inflation expectations remain positive. The BoJ's quarterly Tankan survey released in March shows that companies expect prices to rise by 1.5% over the next year and by 1.6% per annum over the next three and five years. In April, Kuroda stated that he expects inflation to "gradually accelerate" as the impact of the decline in energy prices lessens.

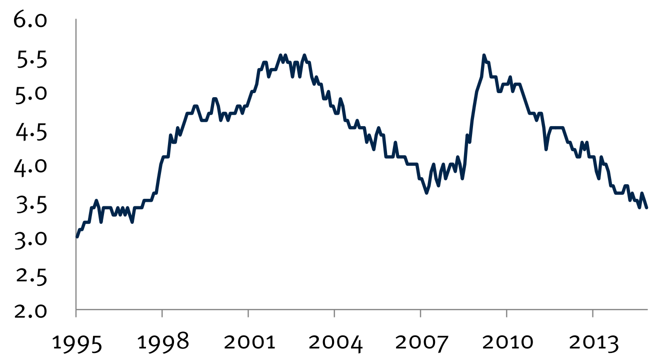
The BoJ expects to achieve its 2% target around mid-2016. If this does not occur, we believe investors should expect further stimulus from the BoJ. Kuroda stated that "if underlying price dynamics (are) not what we are expecting than we do not hesitate to adjust or make additional monetary easing."

Great Wage Expectations

A vital component of the reflationary effort is to promote wage inflation which has mirrored price deflation during the malaise. Achieving sustainable price growth without wage inflation is a tall order. Besides, rising prices without commensurately rising wages effectively taxes the consumer.

The good news is that Japan's employment situation is quite robust, with its 3.2% unemployment rate the lowest since 1997. The Tankan survey indicates that employment conditions are continuing to tighten. For small and medium-sized enterprises (SMEs), the largest employers in the country, employment conditions are at their tightest levels since the early 1990s.

Japanese Unemployment Rate (Seasonally Adjusted)

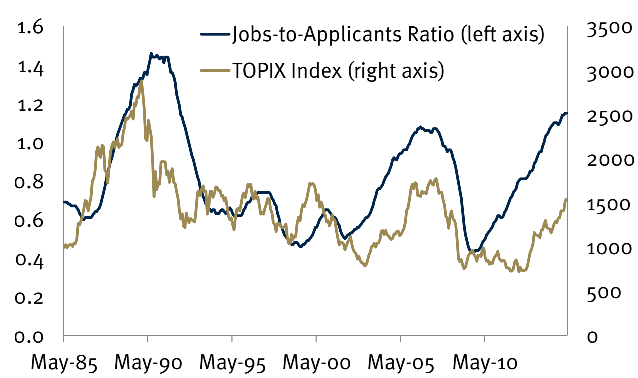


Source - RBC Wealth Management, Bloomberg; data through March 2015

Japanese unemployment has reached its lowest level since the 1990s.

One important trend has been the consistent increase in the jobs-to-applicants ratio. For the better part of 20 years, the ratio sat below 1.0, meaning there were more applicants than jobs available. The ratio broke through 1.0 at the end of 2013 and is now at 1.15, meaning that for every 115 jobs, there are only 100 applicants. The last time the ratio was at that level was 1992. (We note that the movement of this ratio bears more than a passing resemblance to broad trend in the benchmark TOPIX Index).

TOPIX Index Versus Jobs-to-Applicants Ratio



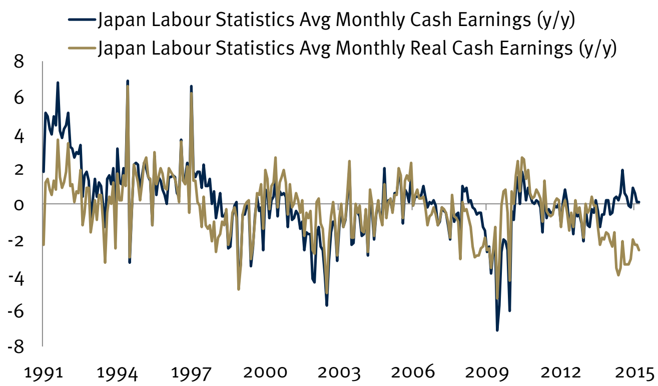
Source - RBC Wealth Management, Bloomberg; data through March 2015

A tighter employment situation has typically coincided with TOPIX gains.

It's true that Japan's declining working-age population, shrinking by 1.5% per year, is impacting the ratio. But whatever the cause, a tighter employment situation implies labour should have more pricing power. The bad news is that while nominal wages have started to rise, albeit at a modest pace, real wage growth has yet to materialize. In short, wages, which have been rising modestly over the past two years, have failed to match inflation (although this is, in part, due to the "artificial" inflationary boost caused by the sales tax, discussed previously). Thus, the current environment is a burden on consumption.

However, we expect wage growth to improve. In March 2015, Kuroda said that "the environment is ready for wage hikes, considering recent employment conditions and corporate earnings." Indeed, in the annual springtime wage negotiations, companies such as Toyota Motor, Nissan Motor, Hitachi, and Panasonic boosted employee wages.

Real & Nominal Wage Growth



Source - RBC Wealth Management, Bloomberg; data through March 2015

Wage growth, albeit positive, has failed to match inflation.

While SMEs, employing most of the Japanese work force, have been raising wages at a slower pace, business conditions in the non-manufacturing sector are at their best levels since the early 1990s, while conditions in manufacturing are not far below the prior cycle-high before the global recession.[3]

The Mystery of the Third Arrow

Abe labeled the three overarching branches of his plan for economic revitalization as "three arrows." The phrase draws from a historical tale in Japan in which a powerful father[4] teaches his three sons that one arrow can be broken easily but three arrows held together cannot—a metaphor to encourage the sons to work together. The metaphor is apt to the extent that Abe is calling for people on all sides to stand together to strengthen Japan and carry out tough reforms. The first and second arrows of his policy are monetary and fiscal policy. The third arrow refers to 10 areas of structural reform, spanning the agricultural sector, corporate governance, the tax system, the labour market, immigration, health care, and free trade agreements.[5] These reforms were set out in full by the government in a 179-page report titled *Japan Revitalization Strategy*[6] (revised in June 2014). This is a fascinating document that demonstrates the truly extensive scope and ambition of Abe's goals.

Analysis of the "third arrow" from an equity investor's perspective is hard: in our view, there are few quick fixes, if any at all, in some areas, due to vested interests, opposing views, and a conservative society. It is also clear that some areas are more important than others for investors. For example, Japanese agricultural reform is important from a number of angles, but the sector constitutes only 1% of Japanese GDP and employs just 3% of the workforce.[7]

---

[3] Source: Bank of Japan Tankan Survey, March 2015.

[4] The father in question is Mori Motonari, a Japanese noble born in 1497.

[5] The Trans-Pacific Partnership (TPP) agreement is a major free trade agreement currently being negotiated among 12 countries, including Australia, Canada, Japan, Mexico, Singapore, and the United States. On balance, we believe Japan should be a beneficiary of the TPP. See: https://ustr.gov/tpp/overview-of-the-TPP. The Japan-EU Economic Partnership Agreement is also under negotiation: http://www.mofa.go.jp/policy/economy/page6e_000013.html.

[6] See: http://www.kantei.go.jp/jp/singi/keizaisaisei/pdf/honbunEN.pdf.

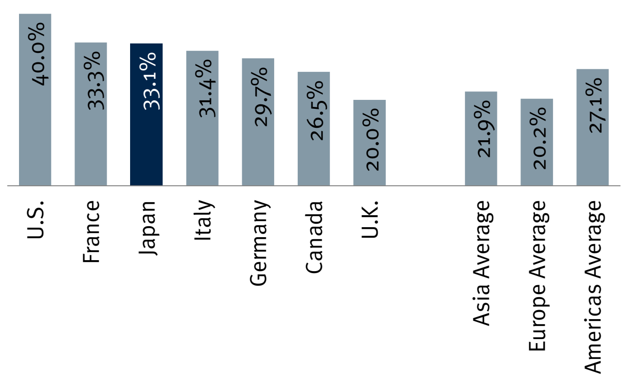
[7] However, subsidies paid by the government to support farmers are sizeable and the highest among modern economies. In our view, the money could be more productively spent elsewhere. The problem of subsidy reduction is measuring its social impact. The average age of a Japanese farmer, who would bear the brunt of subsidy reduction, is around 70 years old.

"Restoring Japan's Earnings Power" is the first item listed in Abe's *Japan Revitalization Strategy*.

However, of direct relevance to investors, there is a clear focus on improved corporate performance. Indeed, the first policy measure listed in the Strategy is "Restoring Japan's Earnings Power," with subheadings including "enhancing corporate governance," "promoting the supply of risk money," and "improving the productivity of service industries." We examine three feathers of the third arrow: reductions in corporate taxes, labour market reform, and changes to public funds' asset allocation.

Corporate Taxes: At the start of 2015, Japan has among the highest corporate tax rates in the developed world with an effective rate of around 35%. In March, the Diet approved a 3.29% reduction over a two-year period. The administration would like to reduce the rate to under 30% over a five-year period. Detractors argue that tax cuts are a red herring as only one-third of Japanese companies pay corporate tax. Even so, one-third of companies *do* pay. Moreover, progressive tax cuts send a positive message to potential overseas investors in the economy. At present, there is a particularly low level of foreign direct investment (FDI) flowing into Japan. High corporate taxes may be one cause.

Corporate Tax Rates in G7 Countries and Regional Averages



Source - RBC Wealth Management, KPMG; data through March 2015

Japan's corporate tax rate is among the highest in developed economies, even after the recent cut.

Labour Market: Labour market reform is extremely important. "Cultivating Human Resources – Promoting women's social participation and reforming working styles" is listed as the second key policy measure in the *Strategy*. Japan's working-age population is in decline, meaning Japan needs to get more out of what it has if it hopes to improve productivity. In our previous report, we discussed the challenge of significant growth in part-time and contract employees in Japan over many years, partly as a response to economic uncertainty and partly due the difficulties that Japanese companies face in making changes to their full-time workforce. Among major labour issues under discussion are the importance of boosting female participation in the workforce (discussed below) and increasing immigration, which is low in Japan.

Japan's female labour force participation is relatively low (a problem shared in a number of other Asian countries). And many women are employed in lower-paid part-time or contract positions. The percentage of women employed in senior managerial roles is particularly low.[8]

[8] The OECD Economic Survey for Japan, April 2015, provided a review of some of the challenges in the labour market.

Most women choose not to return to work after having children, in part due to constraints on childcare resources as well as the loss of certain social services when a spouse earns over a certain amount. Moreover, working hours are generally long in Japan, not conducive to creating an attractive work/life balance for mothers. The government itself discussed the problem of long working hours in its document of June 2014, with no-nonsense talk such as “introducing a system to reward workers for performance instead of time spent on work” and “enhancing measures to prevent overwork.”

There is a seismic shift underway in the asset allocation of Japan’s public funds.

Clearly, these are deep-seated issues, not easily addressed quickly. But the government is already pushing forward measures to provide a substantial increase in childcare facilities by 2018, as well as to push companies to hire more women into senior positions.

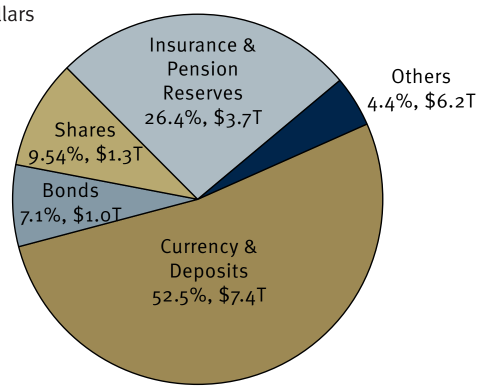
Public Fund Reform: Arguably the most important part of the third arrow for equity investors, at least in the short term, is the reform of public funds. In last year’s report, we noted that the Government Pension Investment Fund (GPIF), the largest such fund in the world with approximately US$1.1T of assets, would likely make significant changes to its asset allocation. Indeed, in October 2014, the GPIF announced it would increase its equity allocation to 50% from 24%, largely at the expense of domestic bonds and resulting in several hundred billion dollars moving into stocks. The portion of domestic stocks would be raised to 25% from 12%.

We also noted that this move would send a strong signal to other institutional asset managers. In March, three other pension funds announced they would shift their allocations to match the GPIF allocation. By size, the funds are the Pension Fund Association for Local Government Officials, the Federation of National Public Service Personnel Mutual Aid Associations, and the Promotion and Mutual Aid Corporation for Private Schools of Japan. The funds have combined assets of approximately US$250B. Separately, the *Financial Times* reported that two very significant Japanese financial institutions are also considering raising their allocation to equities.

Arguably, though, the elephant in the room remains Japanese households, who hold nearly US$14T in financials assets, with over 50% in cash[9] (as was appropriate for a

Allocation of Japanese Households’ Financial Assets (Q4 2014)

in U.S. Dollars



Source - RBC Wealth Management, Bank of Japan; data through March 2015

Japanese households hold over US$7T in cash, approximately 150% of GDP.

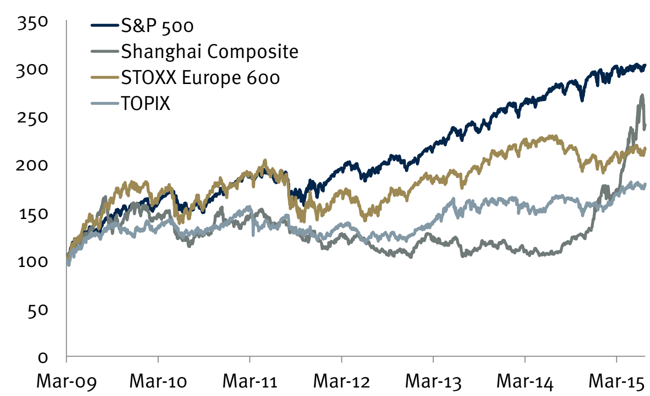
[9] As of Q4 2014, 52.5% of Japanese household financial assets were held in cash & deposits. This is approximately 150% of GDP. Source: Bank of Japan

deflationary environment). These savers have yet to buy into the inflationary story in Japan: asset allocation has hardly changed over the past year.

Equity Twist

Since the global equity bull market began in 2009, U.S. equities have returned around 300%, while Europe, Japan, and China, in local currency terms, have returned 243%, 229%, and 221%, respectively. The Japanese bull market only began in 2012 and was undoubtedly the result of the new policy regime. Earnings growth was initially propelled by a significant depreciation in the yen. In dollar terms, the return on Japanese equities since 2009 is 179%.

Cumulative Index Return Post Crisis (in USD)

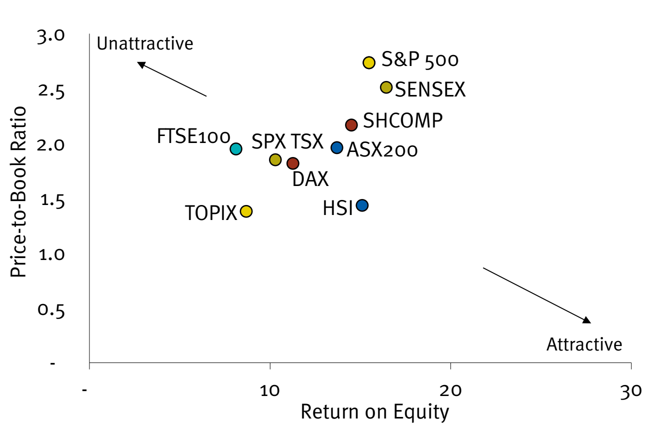


Source - RBC Wealth Management, Bloomberg; data through 6/23/15

When adjusted for currency movements against the U.S. dollar, the TOPIX bull market is eclipsed by the S&P 500, the Shanghai Composite, and the STOXX Europe 600.

Japanese equities have re-rated from a particularly low valuation base of 0.9x book value in 2009 to 1.4x at present. While this multiple is only one-half the S&P 500 price-to-book multiple, return on equity (ROE), an important measure of profitability, is only 8.7% versus 15.5% for the S&P 500.[10] Part of this is the difference

Return on Equity Versus Price-to-Book Ratio



Source - RBC Wealth Management, Bloomberg

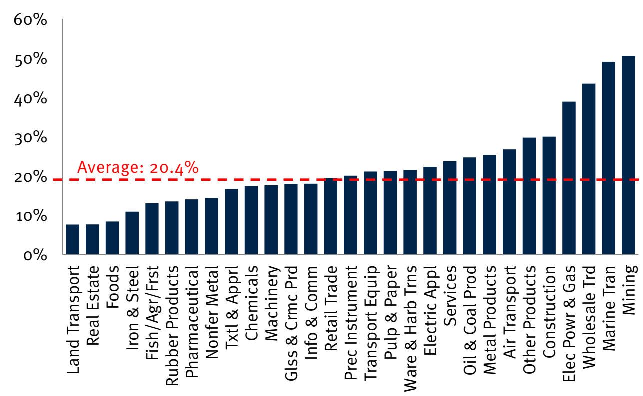
The TOPIX's lower price-to-book multiple may appear justified by its lower ROE, but this is debatable.

[10] Price-to-book value ratios for equities are positively correlated to ROEs. A higher ROE implies the company is growing its book value at a superior rate. Investors are willing to pay more for this, hence a higher ratio of the stock price (equity value as determined by the stock market) versus the book value (accounting equity value on a company's balance sheet).

in sector composition. Sectors such as technology in the U.S. generate higher ROEs. Also, Japanese companies have gone through a lengthy deleveraging cycle during the malaise, pressuring ROEs. The use of debt typically increases a company's ROE.

A separate reason for the low ROE in Japan is the large—and we would argue excessive—amount of cash held on corporate balance sheets. Cash and cash-equivalents account for over 20% of market capitalization of Japanese companies (excluding financials). In some subsectors, this percentage is substantially higher. The Bank of Japan estimated that as of December 2014, the total amount of cash held by all Japanese companies was ¥231T.

Cash and Cash Equivalent % Market Cap (ex Financials)



Source - RBC Wealth Management, Bloomberg

Japanese companies hold a particularly large percentage of cash relative to market capitalization.

Excessive cash balances can bring down a company's ROE (although we also note that Japanese companies' net profit margins are only 4.5% on average, low compared to 6.6% for the NYSE Composite Index and 7.4% for the MSCI World Index).

With these factors in mind, Japanese stocks arguably deserve a higher book value multiple than implied by headline ROEs. In any event, ROEs have also been rising through the cycle.

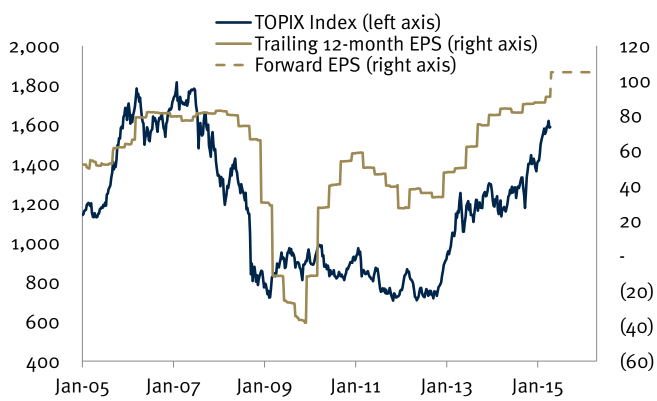
But why are Japanese companies awash with yen? In a deflationary environment, cash is king, both in terms of future purchasing power and peace of mind. We believe it is likely that CEOs operating in the moribund setting of the Japanese economy over the past two decades have slept better at night knowing that their companies are sitting on ever-larger piles of cash. Moreover, when demand is weak, the impetus for businesses to invest is also weak. For example, the last time large Japanese manufacturing businesses experienced "excess demand," a survey point of the Tankan, was in 1990 at the peak of Japan's monstrous equity and real estate bubble. These firms have labored under "excess supply" conditions ever since. Why increase capital investments in an environment of excess supply?

Japan's corporate cash pile could eventually lead to a change in dividend policies. The Strategy document does mention the distribution of dividends as a means of "returning the benefits of economic growth."

Little Merit

Despite the solid performance of Japanese stocks, we believe—as we did a year ago—that investors are not giving enough credit to current developments. Earnings

TOPIX Index, Earnings, and Earnings Estimates



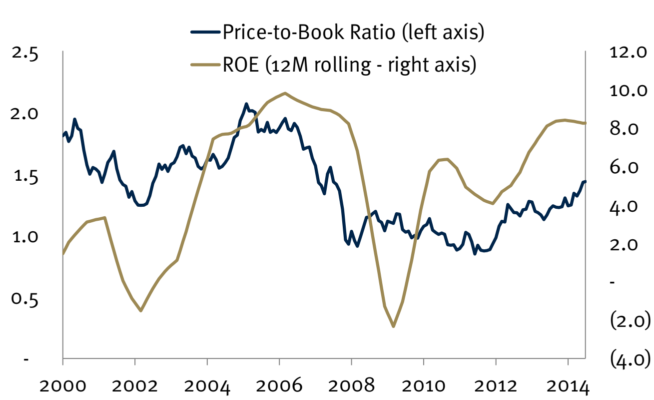
Source - RBC Wealth Management, Bloomberg

TOPIX earnings have already exceeded the peak of the prior cycle, while equity prices have not.

have already surpassed the prior cycle-high of 2007, and consensus forecasts are for further growth. Yet, the TOPIX remains well below its 2007 peak.

The TOPIX trades at a relatively low valuation relative to its own history and to global equity markets—15.2x forward earnings estimates versus 17.3x for global equities. Price-to-book multiples versus ROEs broadly imply a fair valuation. However, as discussed earlier, there are arguments to suggest ROEs could be further improved. Taken by itself, the TOPIX price-to-book multiple remains well below its highest level of the last cycle.

TOPIX Price-to-Book Valuations Versus Return on Equity



Source - RBC Wealth Management, Bloomberg; data through 5/15/15

TOPIX valuations are undemanding on a price-to-book basis, while ROE has moved higher in recent years.

Japanese equities have already posted a strong return in 2015. In a rising market, stocks always look to be ahead of themselves. But in the longer term, we believe Japanese equities should remain in a cyclical upturn. The biggest risk, in our opinion, would be a return to a deflationary environment, which would be a hammer blow, especially given the enormous undertaking underway to avert that situation.

Whether this is a new dawn for Japanese equities, leading to further multi-year gains for stocks, depends largely on whether the policies of the third arrow are successfully implemented. Japan faces several herculean challenges, not least of which are its dwindling population and significantly unbalanced workforce. But, we do know that Abe has a strategy… and some of it is already working.

Research Resources

This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC Wealth Management 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.

Global Portfolio Advisory Committee members:

Janet Engels – Co-chair; Head of U.S. Equities, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Jim Allworth – Co-chair; Investment Strategist, RBC Dominion Securities Inc.

Maarten Jansen – Head, Investments & Trading, RBC Wealth Management Global Wealth Services Group, RBC Dominion Securities Inc.

Mark Allen – Portfolio Advisor, RBC Wealth Management Portfolio Advisory Group, RBC Dominion Securities Inc.

Rajan Bansi – Head of Fixed Income Strategies, RBC Wealth Management Portfolio Advisory Group, RBC Dominion Securities Inc.

Matt Barasch – Head of Canadian Equities, RBC Wealth Management Portfolio Advisory Group, RBC Dominion Securities Inc.

Craig Bishop – Lead Strategist, U.S. Fixed Income Strategies Group, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Kelly Bogdanov – Portfolio Analyst, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Frédérique Carrier – Director, European Equities, Royal Bank of Canada Investment Management (U.K.) Ltd.

George King IV – Head of Portfolio Strategy, Royal Bank of Canada Investment Management (U.K.) Ltd.

René Morgenthaler – Head of Investment, RBC (Suisse) SA, RBC International Wealth Management

Alan Robinson – Portfolio Advisor, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Jay Roberts – Head of Equity Advisory, Wealth Management Hong Kong, RBC Dominion Securities Inc.

The RBC Investment Strategy Committee (RISC), consists of senior investment professionals drawn from individual, client-focused business units within RBC, including the Portfolio Advisory Group. The RBC Investment Strategy Committee builds a broad global investment outlook and develops specific guidelines that can be used to manage portfolios. RISC is chaired by Daniel Chornous, CFA, Chief Investment Officer of RBC Global Asset Management Inc.

Required Disclosures

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: Jay Roberts and Yufei Yang, employees of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc., 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 NASD Rule 2711 and Incorporated NYSE Rule 472 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: Large Cap (RL 7), the Guided Portfolio: Dividend Growth (RL 8), the Guided Portfolio: Midcap 111 (RL9), the Guided Portfolio: ADR (RL 10), 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).

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.

Distribution of Ratings - RBC Capital Markets, LLC Equity Research
As of March 31, 2015

Rating	Count	Percent	Investment Banking Services Provided During Past 12 Months Count	Percent
Buy [Top Pick & Outperform]	909	52.33	280	30.80
Hold [Sector Perform]	713	41.05	125	17.53
Sell [Underperform]	115	6.62	5	4.35

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 Price Target Impediments
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 "Price Target Impediment", 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.

Priced as of June 23, 2015, unless otherwise stated.

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.

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. 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. 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.

To European Residents: Clients of United Kingdom subsidiaries may be entitled to compensation from the UK Financial Services Compensation Scheme if any of these entities cannot meet its obligations. This depends on the type of business and the circumstances of the claim. Most types of investment business are covered for up to a total of £50,000. The Channel Islands subsidiaries are not covered by the UK Financial Services Compensation Scheme; the offices of Royal Bank of Canada (Channel Islands) Limited in Guernsey and Jersey are covered by the respective compensation schemes in these jurisdictions for deposit taking business only.

To Hong Kong Residents: This publication is distributed in Hong Kong by RBC Investment Services (Asia) Limited and RBC Investment Management (Asia) Limited, licensed corporations under the Securities and Futures Ordinance or, by Royal Bank of Canada, Hong Kong Branch, a registered institution under the Securities and Futures Ordinance. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. Hong Kong persons wishing to obtain further information on any of the securities mentioned in this publication should contact RBC Investment Services (Asia) Limited, RBC Investment Management (Asia) Limited or Royal Bank of Canada, Hong Kong Branch at 17/Floor, Cheung Kong Center, 2 Queen's Road Central, Hong Kong (telephone number is 2848-1388).

To Singapore Residents: This publication is distributed in Singapore by RBC (Singapore Branch) and RBC (Asia) Limited, registered entities granted offshore bank status 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.