

ASEAN Economics Long View

Indonesia: En Route to a Top-10 World Economy by 2025



- **ASEAN Economics Long View; Focus on Indonesia** — In this second edition of the ASEAN Economics Long View series, which identifies macro themes we expect to shape ASEAN economies medium-term, we focus on Indonesia's road to becoming a Top-10 world economy by 2025 (by nominal GDP). Overall, we believe Top-10 is within reach for Indonesia with a wide range of opportunities (manufacturing boom, infrastructure development, urbanization etc.) arising along the way. That said, we also believe the final destination cannot be reached on autopilot.
- **The basic ingredients for continued growth are present** — A global influx of FDI has come into ASEAN, and we believe Indonesia can take advantage of its position as the largest country in the grouping. Meanwhile, domestically, the platform for political stability and relatively sound macroeconomic management remains well-entrenched. These factors have set the foundation for a revitalization of manufacturing industries, one which has already begun. Along with this, we see opportunity to spread out and accelerate the pace of urbanization.
- **Barriers exist but are not impossible to overcome with strong political will** — The road to becoming a Top-10 world economy must be navigated with strong political leadership and with budgetary spending geared towards securing the needed infrastructure, energy supply, and development incentives. While near-term uncertainties still linger (lack of action on fuel subsidies, populist regulatory tendencies in run up to elections), the political landscape has been progressively evolving and we believe reform momentum will re-accelerate after 2014.
- **Need for comprehensive LT strategy recognized but can be pushed further** — In the long-term, we believe macro stability cannot be maintained solely through fiscal and monetary policy (as has been the case), but needs a chorus of both inward and outward looking industrial policies. Development of infrastructure must not only be prioritized, but should also be accompanied by capacity building of basic industries which can supply the needed raw materials. While recent incentive-based policies have shown a growing awareness of this, we believe the government will eventually take aim at developing capital goods producing industries, which should come in conjunction with efforts to strengthen the human capital base.
- **But watch out...there is a race against time** — With exports of oil dwindling and proven reserves of coal equivalent to less than 20-years production, the current investment boom should be aimed at eventually accommodating the growth of higher value-added exports. While we see efforts to develop the downstream chain of some commodity-based industries, e.g. palm oil, as a step in the right direction, we believe Indonesia will eventually have to raise its attractiveness as a base for export oriented manufacturing industries and also strengthen the backward linkages of such industries. Such outward looking policies are more sustainable for example vis-à-vis policies merely aimed at protecting domestic markets.
- Please see [Indonesia Equity Strategy - A Top-10 Economy by 2025: Sector and Stock Beneficiaries](#), Ferry Wong, 20 March, for related discussion on sector and stock views.

Helmi Arman
+62-21-5290-8960
helmi.arman@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Contents

Executive Summary	3
Indonesia: What's needed to reach the Top-10?	3
Sector-specific opportunities and challenges	4
Reaching the Top-10: The Ingredients	5
Indonesia in ASEAN: The big dot in the FDI radar screen	5
Political foundations already well-entrenched, ensuring orderly transitions of power	7
Improvement in economic policies have led to lower volatility of macroeconomic variables	9
Manufacturing: Revitalization Underway	11
Favorable fundamentals have led to a rise in direct investment	11
Creation of formal sector employment will support urbanization	13
Implementation of Reforms Crucial	17
To harness potential, infrastructure construction must be accompanied with development of basic industries	17
Human capital building is needed in developing capital goods industries and strengthening backward linkages	20
Macroeconomic Management May Become Increasingly Challenging	22
Inflation may rise in the medium-term, although unlikely to return to the double digit era	22
Although credit growth is still manageable, expect increased usage of macroprudential regulations	23
Managing the balance of payments; Outward looking policies are needed	24
So can Indonesia reach the Top-10?	26
Appendix A-1	31

Executive Summary

Indonesia: What's needed to reach the Top-10?

This report represents the second chapter of our ASEAN Economics Long View series, following the publication of [Singapore Swing – Refocusing on ASEAN Regionalization](#), which highlight the macro themes we expect to shape ASEAN economies over the medium-term.

Our Global Economics Team expects that by 2025, the share of emerging markets to global GDP may rise from around 39% in 2012 to about 58%¹. By then, Indonesia may also have risen up to be in the Top-10 biggest economies in the world, trailing other EMs such as China, India, Russia and Brazil.

This report is organized into four main interconnecting themes:

- We discuss how Indonesia can benefit from its position in ASEAN, as well as its fundamental political and macroeconomic environments (which we still view positively).
- We elaborate on how these fundamentals have sparked a revitalization of manufacturing industries and how this will help achieve an urbanization rate of 60% by 2025 (with development being increasingly spread out across regions).
- We emphasize that a Top-10 position cannot be reached on autopilot and also outline the key policies that are needed and what has been done so far. These include infrastructure development, revitalization of basic industries and capital goods producing industries, as well as development of the human capital base.
- We highlight that there is race against time to set the stage in order. Dwindling exports of non-renewable resources will make balance of payments management more complicated over time. This requires an outward looking strategy to diversify the export base.

In Figure 2 we also foreshadow the possible sectoral opportunities and challenges which may arise from key themes highlighted in this report. For full details please see [Indonesia Equity Strategy - A Top-10 Economy by 2025: Sector and Stock Beneficiaries](#), Ferry Wong, 20 March 2013.

Figure 1. Selected Countries — Approximate Size of 10 Biggest Economies, Indexed to US = 100, 1980-2025F

1980			2000			2012F			2015F			2020F			2025F		
Rank		US = 100	Rank	US = 100		Rank	US = 100		Rank	US = 100		Rank	US = 100		Rank	US = 100	
1	US	100		US	100		US	100		US	100		US	100		China	109
2	Japan	39		Japan	47		China	53		China	64		China	85		US	100
3	Germany	30		Germany	19		Japan	38		Japan	34		Japan	26		India	33
4	France	25		UK	15		Germany	22		Germany	19		India	23		Russia	23
5	UK	19		France	13		France	17		Brazil	16		Germany	19		Japan	21
6	Italy	17		China	12		UK	16		India	16		Russia	19		Brazil	21
7	Canada	10		Italy	11		Brazil	15		UK	15		Brazil	18		Germany	18
8	Mexico	8		Canada	7		Italy	13		France	15		France	15		Indonesia	15
9	Spain	8		Mexico	7		Russia	12		Russia	15		UK	14		France	14
10	Argentina	7		Brazil	6		India	12		Canada	12		Canada	12		UK	14
	Euro Area	97			63			78			68			70			66

F Forecast.

Sources: IMF and Citi Research Estimates

¹ For details, please see [Global Economic Outlook and Strategy - Prospects for Economies and Financial Markets in 2013 and Beyond](#), 26 November 2012.

Sector-specific opportunities and challenges

Figure 2 summarizes key sector-specific opportunities and challenges that we expect to arise from the discussed themes.

Figure 2. Focus on Indonesia — Summary of Views

Themes	Sector Opportunities	Challenges
Robust outlook is still seen for investments into manufacturing sector (upstream and downstream industries). Developments in infrastructure and logistics will be needed to support this trend.	<p>Autos: Rising investment into the automotive sector to positively impact employment and purchasing power. FDI into other downstream businesses and rising incomes will also support demand for commercial vehicles e.g. trucks and pick-ups.</p> <p>Banks: Banks with diversified exposure are better placed to take advantage of opportunities in 1) Manufacturing; 2) Strengthening of Logistic Chain; and 3) Growth outside Jakarta. Decline in Cost of Capital supports Institutions with stronger presence in Capital Markets.</p> <p>Telcos: Rising employment and income to help drive demand for mobile services with telecom services broadly tracking retail spending trends. Companies with the widest network reach will serve to benefit given better network coverage in emerging areas.</p> <p>Cement: Plants to increase capacity by 84% to 102mn tons in 2016. Most will be greenfield projects, creating fresh employment. New producers also building plants in remote ex-Java areas, i.e. Kalimantan and Papua, reducing transportation costs for selling to nearby areas.</p> <p>Retail/Consumer: Amid continued employment creation, retail/consumer companies have opportunity to tap into the rising demand for consumer products.</p> <p>Toll Road: Rising investment in the automotive sector will have a spillover effect to toll road companies in the form of higher traffic volume growth.</p> <p>Plantation: Higher downstream capacity (i.e. edible oil) means higher need for CPO feedstocks. CPO companies may also opt to expand to the downstream business.</p> <p>Industrial Estate: Demand has been strong and may continue over the medium-term, especially in greater Jakarta. Industrial estate companies could also create logistics businesses such as warehousing etc. to support consumption growth.</p> <p>Property: More FDI means higher demand for property due to job creation. Rising incomes and the need for development in logistics and distribution are positive as some of the industrial and even residential estates could take part in the warehousing activities.</p>	<p>More road infrastructure needed in both greater Jakarta and outside greater Jakarta in order to be able to support growth in the medium to longer term</p> <p>Maintaining asset quality and competing with external borrowings.</p>
New industrial areas will spread outside greater Jakarta, adjusting with regional wage and land cost disparities. This will propel the urbanization process and strengthen consumption in lower tier cities.	<p>Auto: Development outside greater Jakarta areas will create economic benefit to those areas and increase purchasing power both for 2-wheelers and 4-wheelers. We still think 4W will grow faster as a result.</p> <p>Telcos: Potential growth in addressable market with increased urbanization. Industrial area growth to drive demand for fixed line/data services to address locators. Potential for ARPU expansion and narrowing of gaps with more urbanized areas following the rise in income levels.</p> <p>Retail/Consumer: Scope for Indonesia retailers/consumer companies to exploit potential growth outside greater Jakarta regions. Some retailers already have presence and/or are looking into expanding outside Java areas.</p> <p>Toll Road: Timeliness or speed to market requirements could translate to higher usage of toll roads and thus higher traffic growth potential.</p> <p>Plantation: Indirect opportunities for CPO companies to ride on the rise in consumer products demand (e.g. edible oil demand and its derivatives).</p> <p>Airlines: i) More business-driven air travel; ii) Greater propensity to travel in line with higher income and economic prosperity; iii) Eventually domestic air cargo market may benefit as high-value low-volume goods rely on air travel as primary means of transportation.</p> <p>Industrial Estate and Residential Estate should benefit. There will be more demand for industrial estate due to factories re-locating and this will be followed by new residential areas. Industrial and residential estate company have been looking to take-up this opportunity.</p>	<p>Plant constructions are prone to delays due to difficulties in land acquisitions and refusal from local communities. These difficulties can hinder FDI inflows. Higher supply and more competition will also reduce prices and profitability.</p> <p>Those companies with capacity constraints may not be able to optimally exploit the opportunities</p> <p>Land clearance related concerns may hamper toll road developments.</p> <p>Downstream capacity still underdeveloped in Indonesia. Indonesian refiners with significant capacities are typically listed in Singapore.</p> <p>More infrastructure (seaport, airport and toll road) needed for the industrial estate and road access for the residential estates</p> <p>More road infrastructure needed in both greater Jakarta and outside greater Jakarta in order to be able to support growth in the medium to longer term</p> <p>Lack of available network infrastructure could necessitate additional investments.</p> <p>Adequate infrastructure to ensure timeliness of product deliveries and availability.</p> <p>Some toll roads outside greater Jakarta toll roads are still being developed.</p> <p>Changes in the regulatory environment (especially relating to environmental sustainability) may hamper expansion and thus production growth potential</p> <p>Weaker than expected infrastructure support, over-capacity in low-cost carrier segment denting airlines' profitability.</p>

Source: Citi Research

Reaching the Top-10: The Ingredients

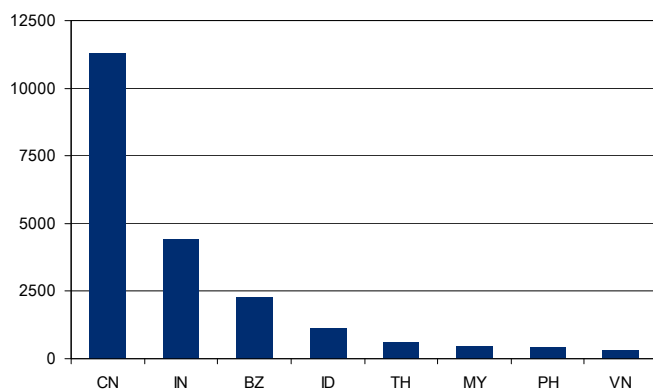
Indonesia in ASEAN: The big dot in the FDI radar screen

Where does Indonesia stand among other ASEAN countries? Surveys have shown market size and growth prospects as being the top two considerations in determining where to locate international direct investments.² Indonesia has the largest economy and population size in ASEAN, a relatively low reliance on external demand, and is among several other ASEAN countries which should continue seeing a declining trend in the dependency ratio. Government forecasts show the dependency ratio is set to decline to around 44% by 2025, from currently close to 50%. Indonesia's GDP per capita stands at close to US\$4,000, ranking below Malaysia and Thailand, but higher versus the Philippines and countries in the CLMV grouping (Cambodia, Laos, Myanmar, and Vietnam).

Economy marked by strong reliance on domestic demand; low correlation with growth in developed markets. Indonesia is not immune to global downturns and as we've seen recently, cyclical trade fluctuations can give rise to balance of payments pressures. But given the relatively low dependence on exports, which comprise just around 30% of GDP, Indonesia's GDP growth is far less correlated with that of developed markets, i.e. relative to other countries in ASEAN and the wider Asia. Indonesia has seen average profitability levels among the highest in ASEAN and this is not just amongst domestically listed companies but also foreign MNCs.

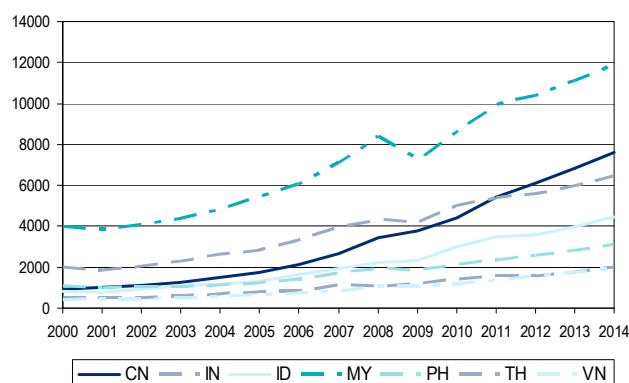
In ASEAN, Indonesia has been a key primary commodities exporter, but has also been part of the manufacturing base for vehicles. Unlike Malaysia, Thailand and the Philippines, where tech and manufacturing exports are primary contributors to total exports, primary commodities in Indonesia contribute over 50% of total exports (as of 2012). However, exports of some manufactured items have also helped to strengthen total exports. Since early 2000, vehicle exports have grown in importance, with road vehicles and other transport equipment now contributing 3-3.5% of total exports vs. around 1% in the early 2000s. This cannot be disentangled from the implementation of the ASEAN Free Trade Agreement (AFTA) in 2005 which brought down trade tariffs across ASEAN. Apart from vehicles, other manufactured products exported by Indonesia include textile & footwear products (6%) as well as machinery and electrical equipments (8%).

Figure 3. Size of GDP based on PPP dollars, 2011



Source: IMF, Citi Research

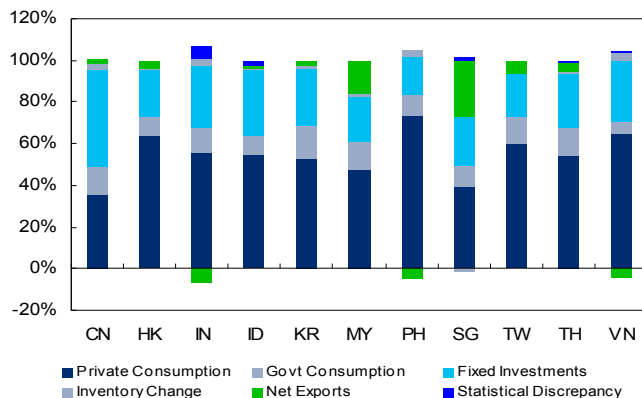
Figure 4. GDP per capita comparison



Source: CEIC, Citi Research

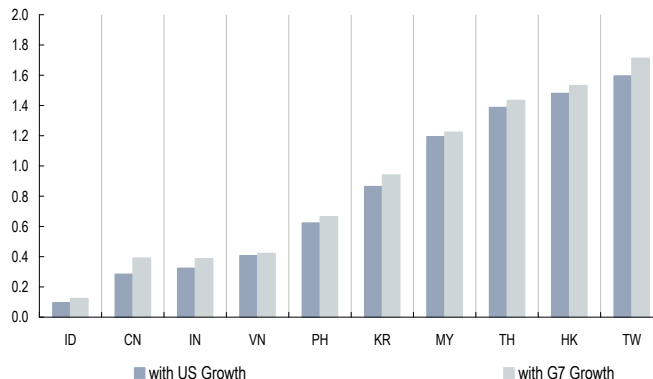
² See for example, "Attractiveness for Innovation: Location Factors for International Investment", OECD (2011).

Figure 5. GDP by expenditure breakdown, 2011 (% GDP)



Source: CEIC, Citi Research

Figure 6. Indonesia's growth Beta is lowest in Asia

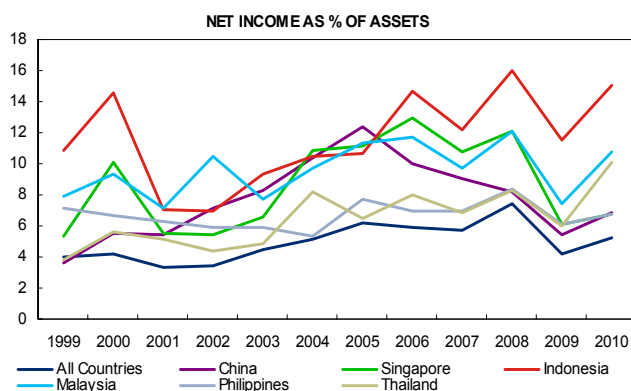


Source: CEIC, Citi Research

Indonesia's rankings on logistics and infrastructure have not been on top.

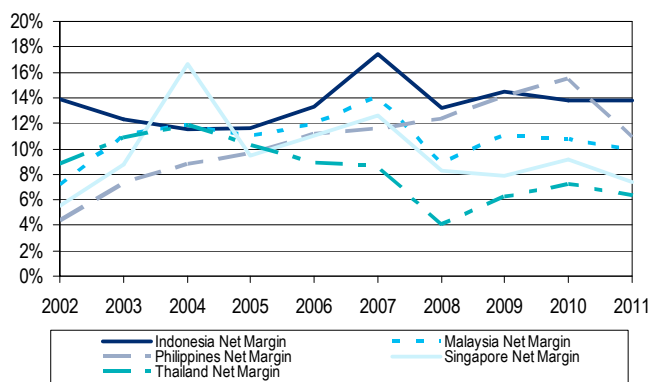
Although gradual progress is being made in terms of infrastructure development – such as the expansion of airports, seaports & rails – Indonesia still ranks No. 59 in the World Bank's logistics performance index, trailing behind the Philippines (No. 52), Malaysia (No. 29), Thailand (No. 38), and even Vietnam. This suggests much work will need to be done to catch up with peers. Compared to neighbors such as Malaysia and Thailand, Indonesia also scores lower in other areas e.g. customs, infrastructure. This leaves the country with homework to do and unless the pace of infrastructure development accelerates further these deficiencies will be noticed by export-oriented manufacturing FDI with operations that may require a high degree of certainty and timeliness.

Figure 7. Net income as % of assets, US multinational companies



Source: US Bureau of Economic Analysis, Citi Research

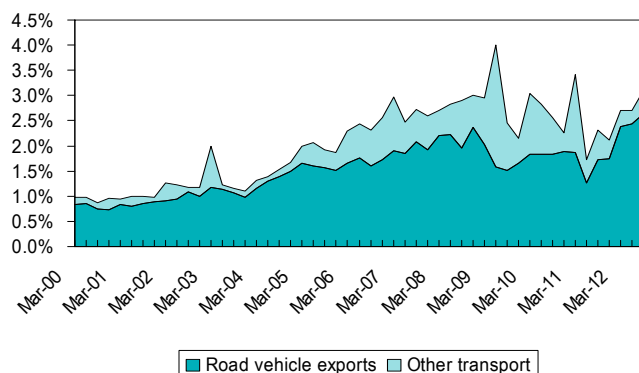
Figure 8. Net margin of listed companies in ASEAN



Source: Bloomberg, Citi Research; Data comprises companies in MSCI universe

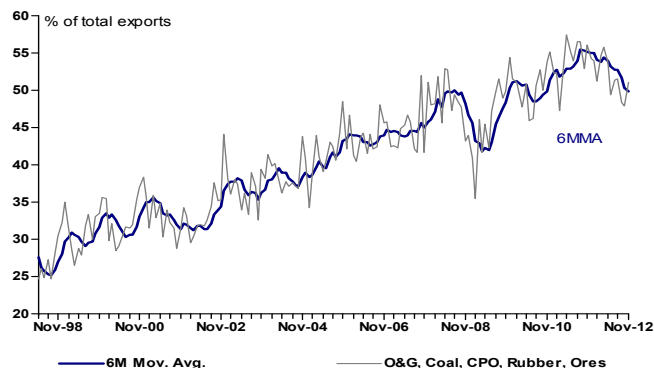
Labor laws are rigid; poverty rate is not the lowest. Severance pay in Indonesia is among the highest in Asia, although this has been circumvented using time determined employment contracts and outsourcing. To fire an employee with 5-yr of service, severance pay can reach almost 34.7 weeks salary, vs. 16.7 in Malaysia, 21.7 in China and the Philippines, and 30 in Thailand. Furthermore, the poverty in Indonesia is also on the high side in the ASEAN space. As of 2010, around 46% of the population lives below the World Bank's poverty line (US\$2 PPP per day). This is still below India (69%), but higher vs. Malaysia (2.3%), the Philippines (42%), Thailand (4.6%), and Vietnam (43%) based on 2009 data. The high poverty rate in Indonesia makes reforms, such as subsidy removal, politically more challenging.

Figure 9. Indonesia exports of vehicles have risen as % total exports



Source: CEIC, Citi Research

Figure 10. Indonesia primary commodity exports



Source: CEIC, Citi Research

Labor pool marked by lower levels of education. The percentage of tertiary school enrollments in Indonesia, at 22% of the eligible population, is the lowest among other advanced ASEAN countries. While average education levels have been improving over time, still around 66% of Indonesia's labor force consists of graduates of junior high and elementary school (of which are mostly employed in the informal sector). However, this also hosts a range of opportunities. Although labor cost may not necessarily be a key selling point, the pool still hosts potential supply of technical level workers. Indonesia has over 2.5 million people unemployed high school and vocational school graduates, with many located in Java. With the necessary training this could be tapped as a pool of semi-skilled technical labor.

Figure 11. Comparison of selected infrastructure and development indicators

	ID	MY	PH	TH	VN	CN	IN
Quality of port infrastructure, 2011, 1-7=Well-developed	4	6	3	5	3	5	4
Road density per 100sqkm of land, 2009*	25	44	na	35	48	42	125
Air transport-freight (mn km), 2010	660	2451	472	3133	428	17441	1720
Rail lines (total route-km), 2008	3370	1665	479	4429	3147	60809	63327
Tertiary school enrollment (% gross), 2009	22	40	28	46	20	24	16
Annual electricity production (kwh per capita), 2010	708	4411	726	2308	1092	3146	784

Source: World Bank Databank, Citi Research

Political foundations already well-entrenched, ensuring orderly transitions of power

Recent political, regulatory and policy developments have overshadowed Indonesia's secular trends. A slew of recent controversial court rulings, a nascent current account deficit, as well as poorly communicated policies in the trade and minerals sector (see [Indonesia Macro View - New, Tougher Trade & Investment Policies Should Have Little Impact on FDI](#), 21 June 2012) have recently triggered concern over the broader investment climate. However, core fundamentals such as social stability, prudent macroeconomic management, and a functioning democracy (which allows for orderly leadership transitions), remain well entrenched. None of these have changed despite the recent events, in our view.

Figure 12. Demographic trends in ASEAN, China and India

	Population (mn)	Population growth (10yr CAGR)	Total fertility (children per woman)	Child dependency ratio (pop aged 0-14 per 100 pop 15-65)	Old-age dependency ratio (pop aged 65+ per 100 pop 15-65)	Median age (years)
	2011	2010-2020	2011-2020	2011	2011	2011
Brunei Darussalam	0.4	1.54	1.98	36.7	5.2	29.2
Cambodia	14.3	1.18	2.45	48.2	6.1	23.3
Indonesia	242.3	0.91	2.06	39.4	8.3	28.1
Lao PDR	6.3	1.28	2.59	54.0	6.3	21.9
Malaysia	28.9	1.51	2.58	45.8	7.6	26.3
Myanmar	48.3	0.75	1.94	36.3	7.5	28.6
Philippines	94.9	1.64	3.06	57.1	6.1	22.4
Singapore	5.2	0.96	1.36	22.8	12.8	38.1
Thailand	69.5	0.42	1.53	28.5	12.9	34.6
Vietnam	88.8	0.93	1.76	32.8	8.5	28.6
China	1,347.6	0.34	1.57	26.4	11.6	34.9
India	1,241.5	1.25	2.55	46.7	7.7	25.4
Asia	4,207.4	0.92	2.18	37.9	10.1	29.5

Note: UN projections

Source: Haver, Citi Research

We still have a moderately positive view on the resumption of reforms post-2014. The 2014 general elections are still some time away. However, as indicated by 2012 governor election results in Jakarta, voter maturity continues to progress and there is apparently a strong desire for a new and assertive leadership style. We think the parochial mindsets that leaders must come from certain ethnicities or affiliations (e.g. Javanese and ex-military) will be increasingly put to the test in 2014. We expect this change in mindset to broaden the range of possible candidates for the 2014 elections and further facilitate the rise of reform minded leaders.

Forthcoming parliament unlikely to have strong majority. As is currently the case, we expect the new parliament in 2014 will also be segmented with no single party majority. Hence, any new government will likely have to adopt a consensus-seeking approach to policy making. This serves as a buffer as any nationalist President may not be able to bring the economy too far off course, (especially given the high reliance of budget financing on the bond market), although on the flip side any reform-minded President will also have to navigate by making concessions.

That is not to say that near-term risks are negligible. A key challenge for any leader would be to resist the temptation of embarking on populist policies which can impede trade and capital flows. There has been a growing trend of populist regulations in the run up to the 2014 general elections. While there is risk across all sectors, the natural resource sector appears to be most prone, as witnessed by recent constitutional court rulings which involved partial annulments to the oil & gas mining law. Such uncertainty could become a discouragement against needed investment into the upstream natural resource sectors. Indeed this doesn't generate much optimism in terms of efforts halting the secular decline of Indonesia's oil, lifting and shifting to usage of alternative energy sources. However on the flipside, this condition will eventually generate a stronger push to carry out subsidy reforms.

Recent wage hikes may discourage some labor intensive investments, but won't derail the overall investment outlook. Wage hikes have happened across the ASEAN region and are not exclusive to Indonesia. The labor intensive industries such as textiles, apparel, footwear, furniture, may be impacted most; however there is still room to maneuver within the country due to the large wage gaps between cities. We do not see the hikes dramatically impacting the broader FDI outlook. Growth of FDI in recent years has actually been more into capital intensive industries e.g. chemicals, metal, automobiles production. Based on our calculations derived from BPS' small-medium manufacturing statistics (2010), labor costs in these industries only average around 3% of the value of goods produced.

Figure 13. Composition of Indonesia's labor force, by completed education

	2008	2009	2010	2011	2012
Elementary school or below	54%	53%	50%	49%	49%
Junior high school	19%	18%	19%	19%	18%
Senior high school	14%	14%	15%	16%	16%
Vocational high school	7%	8%	8%	8%	9%
Diploma	3%	3%	3%	3%	3%
University	4%	4%	5%	5%	6%

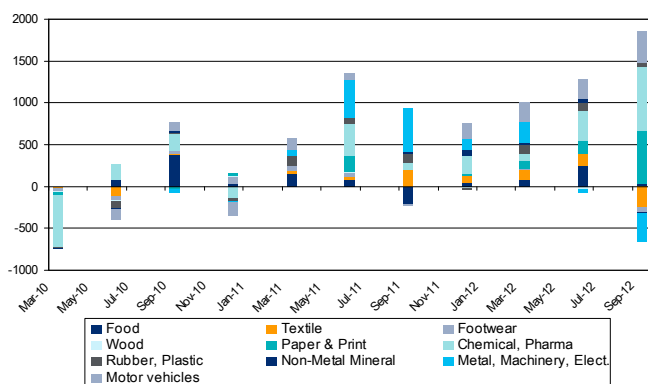
Source: BPS, Citi Research

Non-peaceful labor incidences, if left unrestrained, could lead to more serious damage to investor perception. The government also has homework to do in the area of law enforcement. Concern surrounds reported incidences such as factory sweepings (forcing workers to join demonstrations) and thuggery during labor protests which has led to disruptions in production. This has hit both labor intensive and capital intensive businesses. Such practices, if left unrestrained, may damage investor perceptions regarding the investment climate.

Improvement in economic policies have led to lower volatility of macroeconomic variables

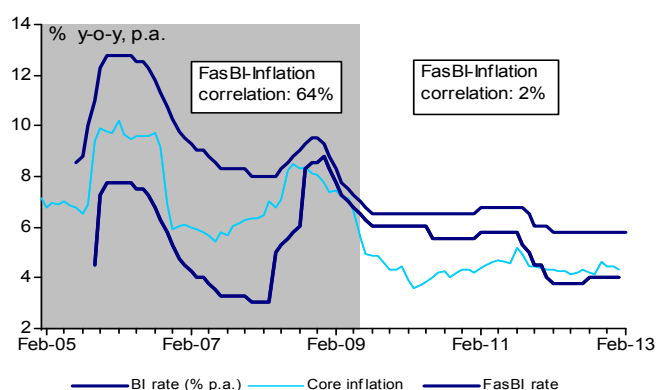
Average inflation rates have come down not just due to absence of energy price adjustments but because other structural factors also visible. Declining average inflation in Indonesia over the past 3-years has in part been due to absence of fuel price adjustments, amid an ever growing energy subsidy budget. However, there have also been structural factors bringing the inflation rate downward over the medium-term, i.e. changing consumption patterns. Despite inflation on food itself having been lower, weightings on food have been declining over time and weights on stable priced items such as phones, motorcycles, etc. have risen. However, food price inflation in itself has been relatively low. This can be attributed to strong rice production growth (+5% in 2012) as well as relatively stable global commodity prices, which affects cooking oil prices. Policy related changes, such as increased flexibility on rice importation and better management of food distribution have also played a key role.

Figure 14. FDI growth YoY (US\$M), not driven by labor intensive mfg



Source: CEIC, Citi Research

Figure 15. Policy rates have been less reactive to inflation



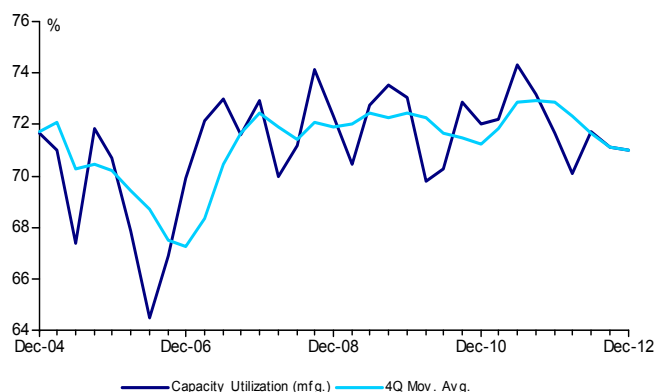
Source: CEIC, Citi Research

Monetary policy has been less pro-cyclical, although this may have come at some trade-off to central bank credibility. The correlation between Bank Indonesia (BI) policy rates with inflation has diminished over time, especially after the global financial crisis of 2008. The shift towards unorthodox monetary policy was initially driven by central bank balance sheet concerns amid continued capital inflows. However, BI has also been pushing to structurally lower the level of interest rates and has changed its approach in assessing inflation risks (i.e. paying less attention to inflation expectations and focusing more on the ability of domestic production to catch up with growing demand). There has been some excesses e.g. property price increases, which BI has tried to stem using macroprudential measures.

Credit growth, although strong, has generally been well managed and has not deviated from sustainable levels. In 2012 domestic credit growth was close to 23% YoY and money supply (M1) close to 20% YoY. However, the impact of this has not yet led to inflation or strong concerns of resource misallocation. Credit growth has been well-diversified and not concentrated to any single sector. In addition, the balance of lending to households and to businesses has improved. Consumption lending only contributed around 26% of the YoY loan growth, with the rest being driven by businesses. This is lower than 40% in 2005 and even 28% in 2008 (pre-Lehman). What is also noticeable is the contribution of investment credit to YoY credit growth which is now at around 25%, versus only 14% in 2005 and 16% in 2008. The manufacturing capacity utilization rates have not surged despite strong demand growth, suggesting that potential output continues to grow.

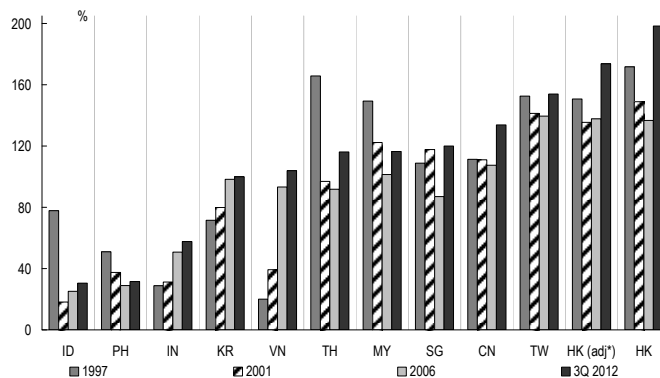
Pace of increase in the credit to GDP ratio still seems manageable. The credit to GDP ratio has been growing by 2-3 percentage points per year, lower versus conventional thresholds of 10-20ppt per year.³ Total private debt as % of GDP in Indonesia has also been relatively low versus peers in Asia. Going forward, credit growth will likely fall closer towards the rate of deposit growth of slightly below 20% p.a. as banking sector loans to deposits ratio has reached 85%. Some banks may tone down their credit growth targets given growing funding constraints. BI regulations impose additional reserve requirements or higher capital requirements for banks which have a loan to deposit ratio of more than 102%.

Figure 16. Indonesia manufacturing capacity utilization



Source: CEIC, Citi Research

Figure 17. Credit to GDP ratio of Asian countries



Source: CEIC, Citi Research

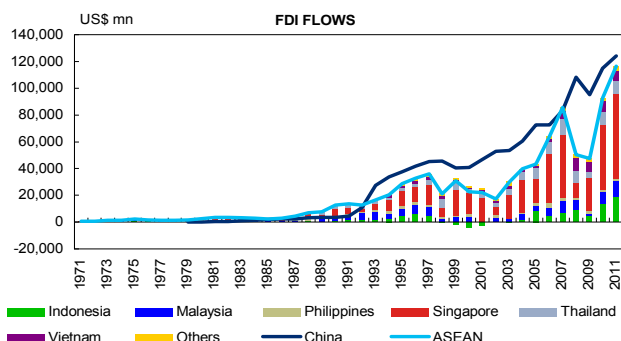
³ IMF staff paper by Felman (2012) "Credit Booms and Macroprudential Policies" shows booms occur when: 1) Deviation of credit to GDP from trend is greater than 1.5x standard deviation and annual growth of credit to GDP is >10%; or 2) Annual growth rate of credit to GDP ratio >20%.

Manufacturing: Revitalization Underway

Favorable fundamentals have led to a rise in direct investment

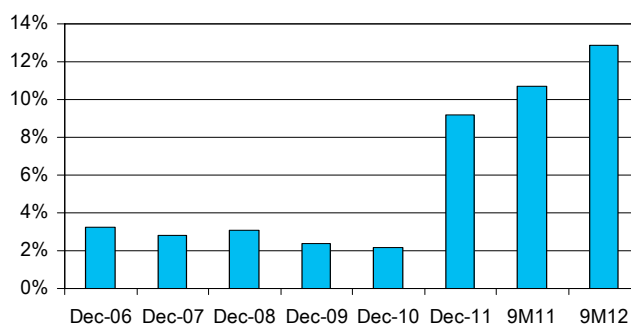
Indonesia has already gained a steadily increasing share of the FDI into ASEAN in recent years. Incoming foreign direct investment (FDI) into ASEAN countries has been catching up with that going into China. Within ASEAN, Indonesia has also seen a growing share, with incoming FDI into Indonesia having reached 16% of total FDI into ASEAN, up from 10% in 2009. This is amid increased profitability of domestic firms and slower FDI growth in countries – e.g. Thailand and Vietnam – which had been mired by political and macro uncertainties.

Figure 18. Indonesia capturing a larger share of ASEAN-bound FDI



Source: UNCTAD, Citi Research

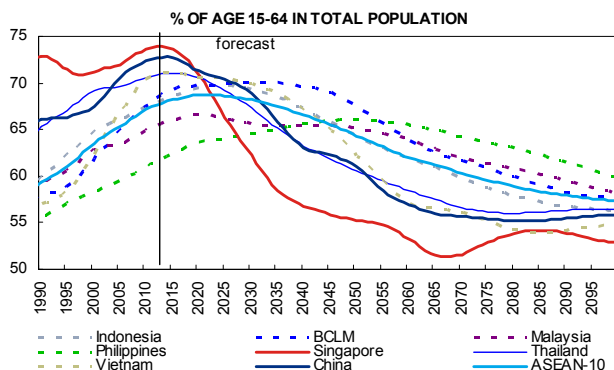
Figure 19. Japan outward FDI: Indonesia share (% of Asia)



Source: CEIC, Citi Research

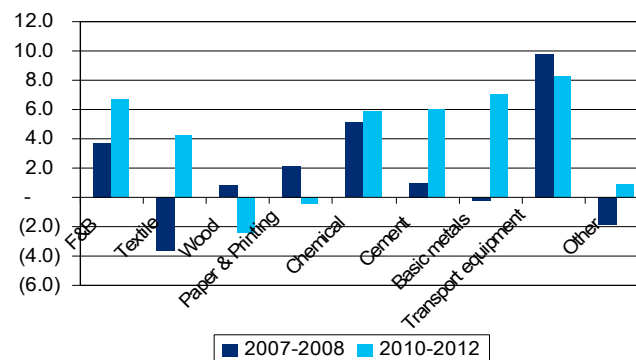
Indonesia also has the potential to benefit further from diversification flows, specifically those originating from Japan. The country has been a growing recipient of outward FDI from Japan – in the first nine months of 2012 it received around 13% of Japan's outward investment into Asia, up from just 2%-3% in 2007. More recently, Japanese companies have been looking to strengthen their production base in ASEAN, following the recent escalation of Sino-Japanese tensions. We believe that Japan was the largest single-country source of incoming FDI for Indonesia in 2012.

Figure 20. Working age population as % of total population



Source: BKPM, Citi Research

Figure 21. Growth of manufacturing sectors in Indonesia (2000p, % YoY)



Source: CEIC, Citi Research

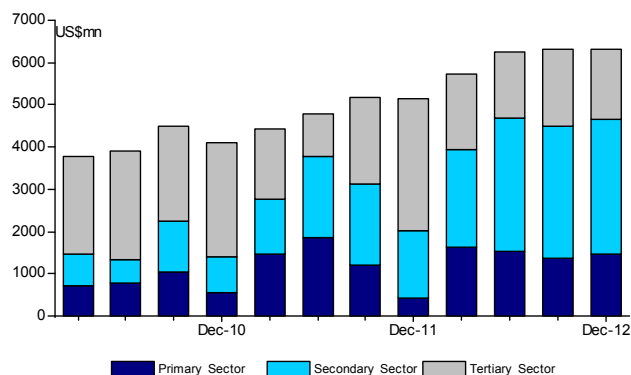
A new stage: FDI has become broader based again after more than a decade.

The past two decades have seen a series of trends in FDI inflows. In the pre-1998 era, incoming FDI was broad based and strongly supported by the labor intensive export oriented type (e.g. FDI into the Riau Islands/Batam FTZ). FDI dropped significantly in the years after the 1998 crisis, but started recovering in the mid-2000s, starting from primary commodity industries. After the 2008 global financial crisis, FDI inflows have become broader based once again, seeing an increasing share from manufacturing industries – consistent with other ASEAN countries – with domestic-market orientation. Although, as discussed in the previous section, some export capacity has also been built in sectors e.g. auto manufacturing, electrical equipment. This comes in conjunction with the relatively brighter prospects of growth in Indonesia compared to the rest of the world, rising GDP per capita levels, and to some extent (e.g. in textiles) diversification of production from China.

Growth of manufacturing sector growth has accelerated towards pre-1998 levels.

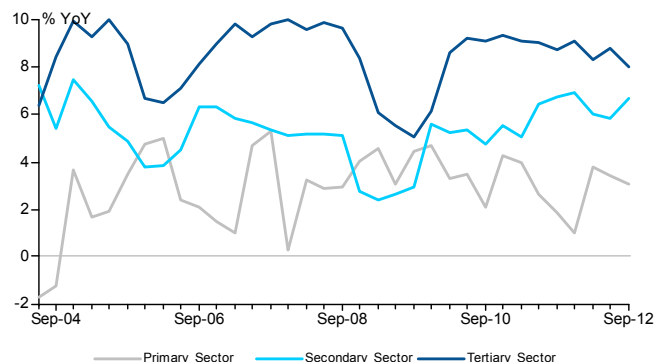
Rising investment rates have led to rising capacity in the manufacturing sector and higher average growth rates in (non-oil and gas) manufacturing output. The increase also has been broader based vs. pre-2008, with higher average growth rates across sectors such as apparel & footwear, cement, chemicals and metals. This follows government initiatives in the form of tax facilities for investment in selected industries.

Figure 22. Indonesia realized FDI, by sector



Source: BKPM, CEIC, Citi Research

Figure 23. Manufacturing (secondary) sector growth has improved



Source: BKPM, CEIC, Citi Research

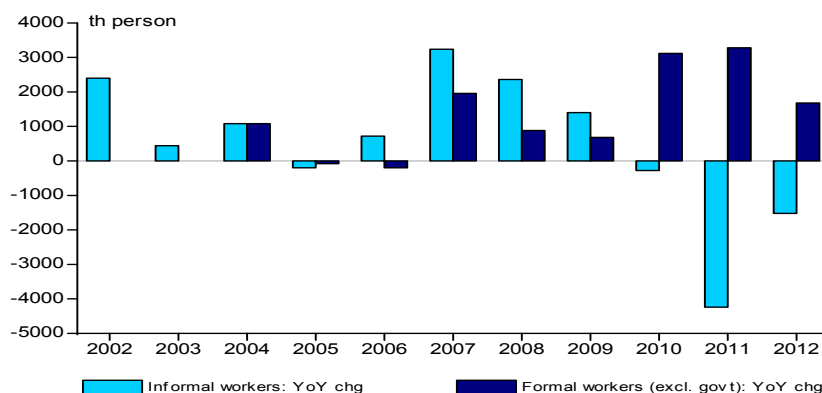
With a positive long-term domestic demand outlook and rampant supply side capacity constraints, physical investments should continue to see robust growth.

We are fairly optimistic about the medium-term prospects for physical investment activity. Investments into basic manufacturing industries will continue to be attracted by the country's abundance in natural resources (e.g. coal, palm oil, rubber and iron ores), as well as potential growth in domestic demand. Meanwhile, the growing market size and purchasing power will remain an attraction for investments into the more downstream manufacturing industries (e.g. food & beverages, vehicles, etc.). What will eventually need to be done to complement this in the longer term, in our view, is to raise Indonesia's attractiveness as a production base for export-oriented FDI.

Creation of formal sector employment will support urbanization

Along with the revitalization of manufacturing industries, formal sector job creation has improved. The decline in unemployment rate from 2005 has been driven by growth of employment in the informal sector, of which most are low value-added and freelance work. However, since 2010 the growth of employment in the formal sector (usually associated with higher value added and permanent work) has picked up. Having permanent work helps boost consumer confidence as well as household purchasing power through increased access to credit.

Figure 24. Employment creation in Indonesia, by sector

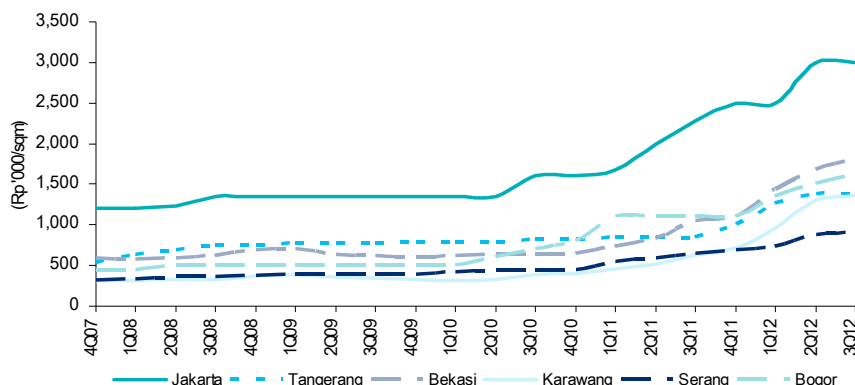


Source: BPS, Citi Research

The geographical spread of incoming investments may broaden as a consequence of widening cost disparities. The 44% increase in minimum wages in Jakarta (and average 25%-30% increase nationwide) adds to a longer list of cost push factors beside mounting traffic congestions and soaring industrial land prices. We expect manufacturing FDI, especially in, although not limited to, the labor intensive industries, to spread out away from Greater Jakarta. Relocation of investment into second and third tier cities in turn may strengthen the demand for upgrades in infrastructure and accelerate the pace of urbanization outside of the traditional economic centers. Indeed the labor force in provinces such as West, East and Central Java are skewed towards the uneducated/unskilled labor, but the amount of university graduates in the labor force is comparable with that in Jakarta.

Progress in the creation of special economic zones and corridors, if successful, can also help broaden the spread of development. The increased interest in investing in alternative industrial areas requires faster implementation of the government's infrastructure development masterplan (MP3I). The plan, which was introduced in 2011, aims to spread out growth by way of connecting economic centers through the creation of 'corridors', a concept that has been applied with relative success in other developing countries in Asia. Infrastructure development is focused in-between economic centers, which allows more development spill-overs in areas between them. Although progress has not been very swift, there have been some developments towards improving connectivity, e.g. the ongoing constructions of the double track of railway connecting Jakarta and Surabaya, along with the North Java Cikampek-Palimanan toll-road strip.

Figure 25. Industrial land prices



Source: Wakefield Cushman, Citi Research

For certain basic industries, it would make sense to be located outside of Java (i.e. in commodity producing regions). This applies especially for industries which need huge primary commodity inputs such as metals & oleochemicals production. The creation of Special Economic Zones such as Sei Mangkei in North Sumatera, which caters for downstream palm oil products, is a step in the right direction in our view, although many deficiencies in terms of infrastructure and energy still need to be overcome. Companies are incentivized to be located in industrial areas as the paperwork and licensing requirements are much easier (i.e. aside from the benefits of agglomeration). They are not required to conduct environmental impact studies, etc.

Figure 26. Labor force education levels in selected major provinces

	Below primary	Primary & secondary school	Vocational / high school	Univ. / diploma
Jakarta	310	1,373	1,906	1,127
West Java	2,569	9,720	4,392	1,489
Central Java	3,633	8,432	2,880	1,171
Yogyakarta	281	694	604	269
East Java	4,648	9,053	3,865	1,446
Banten	868	2,075	1,367	510

Source: BPS, Citi Research

Java unlikely to turn irrelevant anytime soon. With its relative advantage in infrastructure, less mountainous terrain, and concentration of population, Java will likely continue to be a central destination for both domestic and foreign investments in manufacturing. With many investments aimed at industries that cater for Indonesia's large consumer market, it makes economic sense for the production base to be located close to the center of the population. Furthermore, the regions outside Java often trade heavily with Java as the manufacturing base, which leads Java to always benefit from wealth creations in the other islands.

Demand and supply of available industrial areas in Java still larger vs. outside Java. According to the Ministry of Industry, more than 60% of existing industrial areas are located in Java. Going forward, we see this dominance as likely to persist. Given the designated plans for land usage, most of the potential growth of industrial areas is likely to be in regions along or close to the North Java coastline. This is amid plans to develop the Java northern coast (Pantura) toll-road, as well as double tracking of the railway that links Jakarta, Semarang and Surabaya, a project which is already under construction.

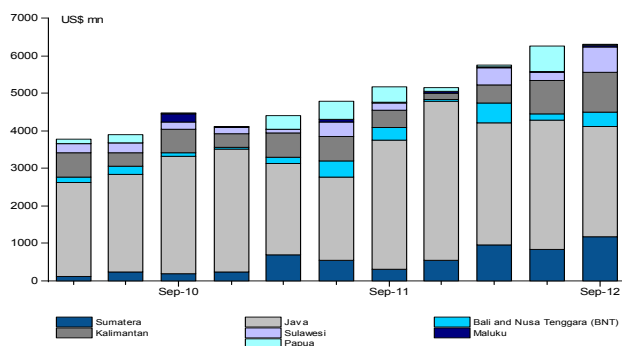
Figure 27. Potential growth and spread of industrial areas

Regency/City	Indicative size of available industrial area (ha)	2013 Min. Wage (Rp/month)
Subang, West Java	12000	1,220,000
Majalengka, West Java	3000	850,000
Semarang, Central Java	2000	1,209,000
Kendal, Central Java	500	953,100
Tuban, East Java	1000	1,144,400
Sedayu, East Java	1500	993,000
Manyar, East Java	2000	1,740,000
Boyolali, Central Java	300 - 1000	895,000

Source: Ministry of Industry, Regional Government Websites, Property Company Sources, Citi Research

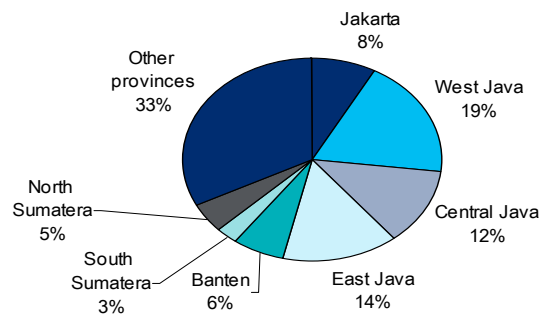
Urbanization looks set to continue, with further declining portion of employment in the primary sector. The expected flux of investment into areas outside of Greater Jakarta will further strengthen the urbanization trend. Over the past decade, Indonesia has seen a rising portion of the population living in urban areas, i.e. from around 42% in 2000 to almost 50% in 2010. Official government estimates expect this figure to grow towards 60% by 2025. However, this does not reduce the need for coherent policies to increase productivity in the rural sector. A look at Indonesia's Gini ratio shows that income inequality has been rising over time, with the top 20% of the population contributing 48% of total consumption.

Figure 28. Realized FDI by location: Most still destined for Java



Source: BKPM, CEIC, Citi Research

Figure 29. Distribution of paid workers/salary earners, by province



Source: BPS, Citi Research

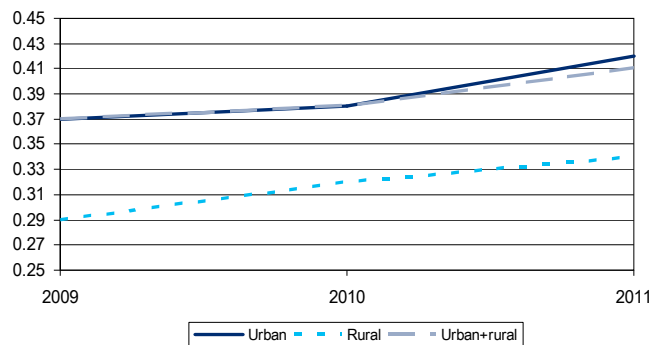
Wage hikes may give an additional boost to urban purchasing power.

Pinpointing the exact amount of people affected by minimum wage hikes is a highly uncertain exercise, given lack of clarity on the compliance rate to the regulations. However, BPS' labor statistics (Feb-2012)⁴ show that around 59.2% of salary earners, or around 22mn people, are paid minimum wage or above. Even after subtracting this by the amount of white collar workers (which can be proxied by around 6mn university graduates) and also adjusting for civil servants who follow different pay regulations, this still leaves a significant amount of people that could be affected by the wage hike, even without 100% compliance to the regulation.⁵ Given the geographical distribution of salaried workers, we think any increase in purchasing power may be felt mostly in seven provinces (of which five are in Java). Along with these trends, there should be growing opportunities in the consumer sector (for full details please see [Indonesia Equity Strategy - A Top-10 Economy by 2025: Sector and Stock Beneficiaries](#), Ferry Wong, 20 March 2013).

⁴ See "Keadaan Angkatan Kerja di Indonesia", Badan Pusat Statistik (BPS 2303004), February 2012.

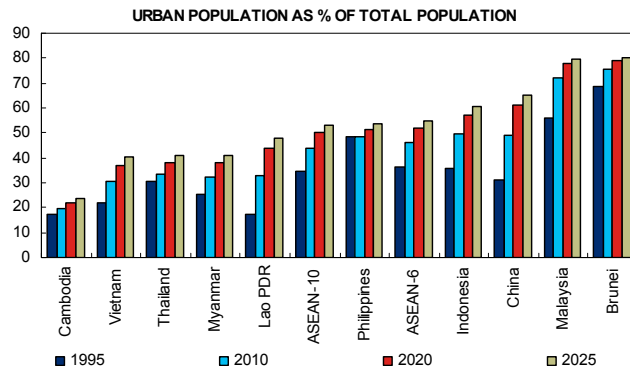
⁵ According to Apindo, as of end Dec-2012, over 1,500 companies (employing over 1.5mn people) have applied for delay in implementing the new minimum wages.

Figure 30. Indonesia Gini ratio



Note: Gini ratio of 1 = Perfect inequality
Source: BPS, Citi Research

Figure 31. UN projections of urbanization rates into 2025



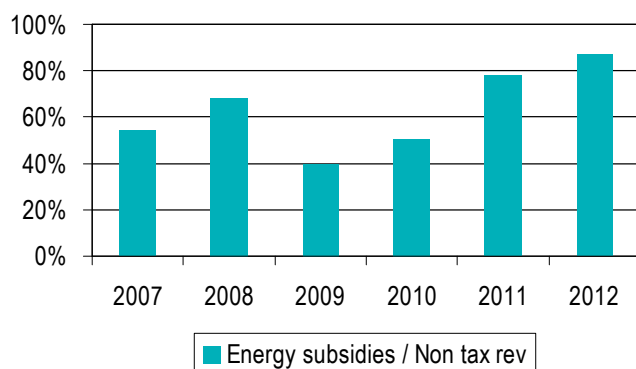
Source: UN Population Division, Citi Research

Implementation of Reforms Crucial

To harness potential, infrastructure construction must be accompanied with development of basic industries

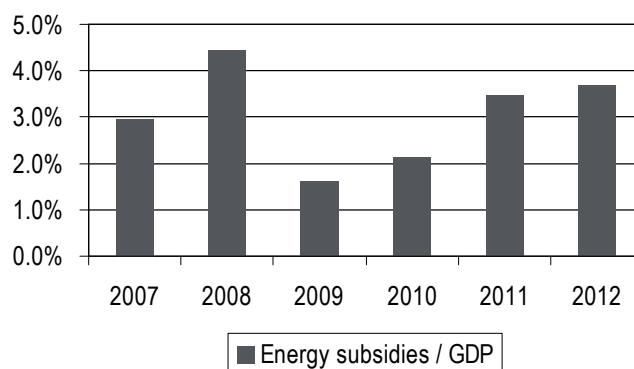
Amid rampant bottlenecks, GDP growth has never exceeded 7% in the post 1998 era. Given Indonesia's incremental capital output ratio of around 4 times, investments to GDP (constant price basis) should be raised towards around 28% (from current levels of around 25%) for the country to reach 7% GDP growth. We think the opportunity for sustaining high investment rates is still open. Indonesia will remain visible in the investment radar as direct investment inflows will continue to flow towards ASEAN, as China moves toward higher value added manufacturing. However, many impediments still lie in the way, e.g. difficulties in land acquisition, low realization of government capital expenditure, as well as the limited size of the infrastructure budget itself in the first place.

Figure 32. Energy subsidies in Indonesia as % of non tax revenue



Source: MOF, Citi Research

Figure 33. Energy subsidies in Indonesia as % of GDP



Source: MOF, Citi Research

Infrastructure development has seen progress, just not enough. Recently, state owned companies have been increasingly involved in building infrastructure and this has led to some acceleration of infrastructure projects. A number of seaport and airport expansion projects have broken ground, with funding from SOE internal funds as well as bank loans. However, the scope for this is limited particularly to economically feasible infrastructure projects. In general, progress has been more visible with projects which require less land acquisition. Large scale infrastructure projects e.g. intercity toll-roads, have also seen progress but at a slower pace. The land acquisition law and implementing regulations which were finalized in 2011 and 2012 has not done much yet to kick-start stalled projects, as there is a grace period of three years until 2015.

Government budget has been increasingly strained by non-discretionary expenditures. Expenditure on energy subsidies have continued to grow relative to GDP. In 2012 it reached an equivalent of 3.7% of GDP or 87% of non-tax revenue. Fiscal space has been increasingly squeezed. In 2012, around one-third of government spending was transferred to regional governments (of which most are spent on salaries of civil servants) and another 20% was cleared for energy subsidies. After accounting for other non-discretionary expenditures – such as central government salaries, interest payments and social safety nets – the discretionary posts (such as goods and capital expenditure) only amount to around 20% of total spending.

Figure 34. Key forthcoming / underway infrastructure projects

Type	Project	Notes
Airports	Creation of 24 new airports in remote areas by 2015 Expansion of airport capacity in 14 existing cities	Funded by government budget A number of projects have been started e.g. Kualanamu (Medan), Ngurah Rai (Bali)
Seaports	Revitalization of soft infrastructure Construction of new terminals in Jakarta (Tj. Priok) 91 new small ports in remote areas will commence operation in 2013	Integrations of systems in Pelindo I-IV Phase 1 (2012 - 2017): 3 container terminals, 2 Oil & Gas Terminals
Sea transport	10 new ferry services to commence operation in 2013	
Railway	Construction of additional railway to Jakarta airport Double tracking of railway Jakarta -Surabaya Construction of new train station in Jakarta Airport Construction of rail to Medan Kualanamu airport and Sei Mangkei industrial area	In land acquisition phase; targeted operation 2014 Underway, targeted for completion 2013 To commence in 2013 Commenced in 2012
Toll road	Cikampek - Palimanan (116km, Java) Nusa Dua - Ngurah rai - Benoa (9.7km, Bali) Gempol - Pandaan (13.6km Java)	Construction underway, expected completion 2014 Construction underway, expected completion 2013 Construction underway, expected completion 2013

Source: Ministry of Transportation, Jasa Marga, Citi Research

A reallocation of spending from subsidies to capital expenditure is a necessity. Central government spending on infrastructure amounts to around 2% of GDP, lower than the amount spent on energy subsidies. The government should shift subsidies to infrastructure spending, especially in anticipation of improved speed of land acquisition in the medium-term. Alternatively if the capacity to handle infrastructure spending still falls short, the government could instead resort to revenue-side policies such as providing tax incentives for productive investment activities (e.g. in research & development and human capital development).

Increase of infrastructure spending must be done hand in hand with efforts to strengthen the capacity of basic industries. Without the support of strong basic industries (e.g. metals, chemicals, cement), strong growth in infrastructure spending would lead to surging imports of raw materials, which in turn may put additional pressure on the current account and disrupt the balance of payments. Fortunately we have seen progress as capacity expansion is underway in basic industries. New capacity will be on-line in the medium-term which we think will eventually help to stem the growth in imports of basic materials and allow for a non-disruptive increase in spending on infrastructure.

Figure 35. Indonesia government budget (in IDR trillions)

	2010	2011	2012	2012 (% plan)	2013
A) Total revenue and grants	995.3	1210.6	1335.7	98.3%	1529.7
I) Domestic revenues	992.3	1205.3	1331.7	98.1%	1525.2
Tax revenues	723.3	873.9	980.1	96.4%	1193.0
Non-tax revenues	268.9	331.5	351.6	103.1%	332.2
B) Government Expenditures	1042.1	1295.0	1481.7	95.7%	1683
I) Central Government Expenditure	697.4	883.7	1001.3	93.6%	1154.4
Employee expenditure	148.1	175.7	197.7	93.1%	241.1
Goods expenditure	97.6	124.6	128.5	68.9%	167.0
Capital expenditure	75.9	117.9	139.5	82.7%	216.1
Energy subsidies	140.0	255.6	306.5	136.0%	274.7
II) Transfer to region	344.7	411.3	480.4	100.3%	528.6
D) Surplus / Deficit	-46.8	-84.4	-146.0	76.8%	153.3
as % of GDP	-0.7	-1.10	-1.8%	na	1.65
I) Domestic financing	96.1	148.7	199.2	102.4%	172.8
II) Foreign financing	-4.6	-17.8	-19.1	na	-19.5
F) Financing surplus (shortfall)	47.1	39.2*	34.0	na	na

Source: MOF, Citi Research

After strengthening basic industries, Indonesia eventually will have to build up capacity in capital goods producing industries. So far the capacity of the manufacturing sector to produce capital goods for a wide range of industries remains very limited (apart from production of ground transport equipment e.g. cars and trucks). The upgrading of capacity in basic industries would lay the foundation for development of capital goods producing industries. This refers to both transport (e.g. trains, ships, buses) as well as non-transport (e.g. basic agriculture machinery) capital goods. A coherent policy from the government, for example involving incentives to invest in such industries, import regulations on used capital goods, facilitation for partnership with foreign companies, may be needed in order to achieve this. Currently around 90% of domestic fixed investment in machinery goes to imported machinery.

Backward linkages of export oriented manufacturing industries will have to be strengthened. Export oriented manufacturing industries e.g. clothing, vehicles, and electronics, are usually high in import content. This may stem from technology protection, but also due to an insufficient knowledge base of the domestic supplier chain. In order to capture more value added in the domestic economy, government policies must aim to develop these backward linkages of export oriented industries.

A recap: What has been done so far? The government so far has acknowledged the need to develop basic industries and has opened up tax incentives for investment in certain sectors, which we view as a step in the right direction. However, with regard to attracting investment in capital goods-producing industries, which are more knowledge intensive, tax incentives alone may not be sufficient. This is discussed in more detail in the following section.

Figure 36. Indicative market size & domestic production (mn tons) of selected basic industries

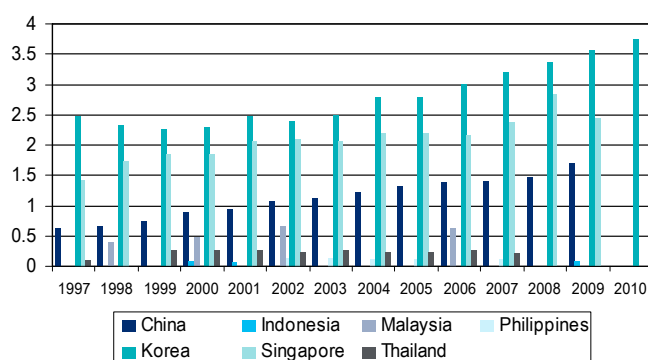
	Domestic Market	Domestic Production
Steel*	9 - 10	6 - 6.5
Aluminium ingot *	0.6 - 0.8	0.3
Fertilizers*	24.2	16.6
Cement **	53	57
Asphalt*	1.2	0.6

Source: *Reported estimates from Ministry of Industry (2011-2012), **Citi Research

Human capital building is needed in developing capital goods industries and strengthening backward linkages

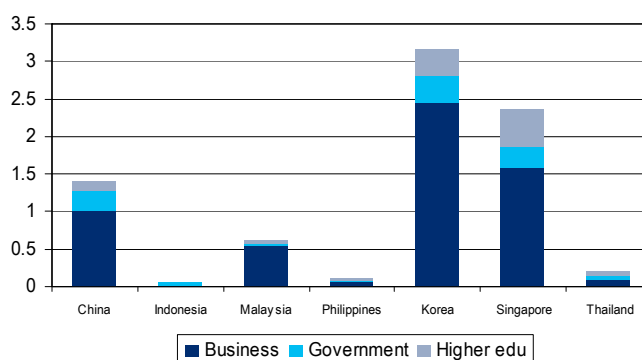
The economy must capture a broader range of FDI spillovers apart from just the immediate benefits of employment and output growth. One area to highlight is the apparent increase in opportunity for technological transfer. Given that much of the FDI in downstream industries goes towards producing finished goods for the domestic market (e.g. food & beverages, vehicles), there is growing logic to start incentivizing certain research and development activities domestically. Initially this could be aimed at, for example, R&D to customize products/technologies/processes to fit local conditions.

Figure 37. Gross expenditure on R&D as % of GDP



Source: UNESCO, Citi Research

Figure 38. R&D expenditure by sector (as % of GDP)



Note: Data is for 2007 except for Malaysia (2006) and Indonesia (2006)
Source: UNESCO, Citi Research.

Gross R&D expenditure in Indonesia has lagged far behind those of other ASEAN peers and needs to be propped up.

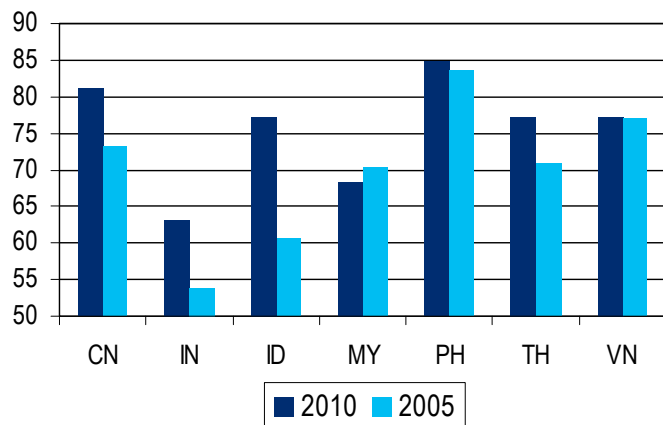
The level of research and development (R&D) spending in Indonesia is far below those of successfully industrialized countries such as China and Korea in the 1990s and even versus other ASEAN countries at the present day. The relatively small pool of highly educated workers has been one cited impediment against the low level of R&D activity; but we think government policy can also play a role in boosting the incentives for the business sector to conduct R&D. This is because R&D is a high risk activity which does not easily attract private sector funding. As a start, the government should start formally incentivizing research & development activities, instead of just pursuance through moral suasion. The localization of R&D would be a first step towards strengthening the domestic human capital base, and would allow capture of a broader range of FDI spill-overs such as technology transfer via vertical and horizontal linkages.

Human capacity building will also have to involve improving education opportunities upstream.

As of 2010, Indonesia has managed to catch up with Malaysia and is just trailing Thailand and Philippines in terms of secondary school enrollment rates (although data regarding the quality of the education is anecdotally less clear). This follows a mandated increase in the budget for public spending on education to a minimum 20% of GDP since 2008. The government should aim to further reduce drop-out rates after secondary school, as enrollment rates for tertiary schooling still lags far behind Malaysia, Philippines and Thailand.

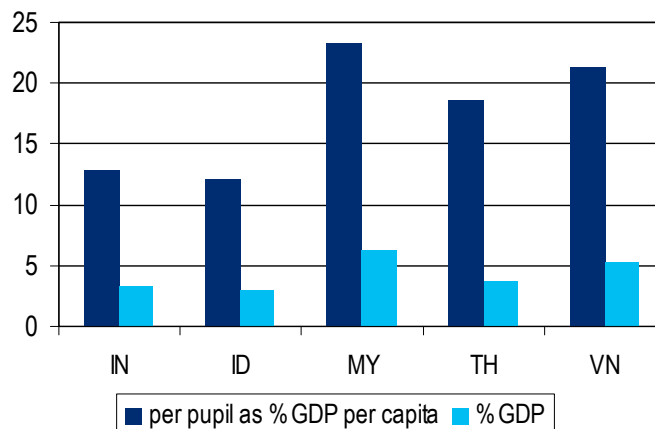
There is a race against time on reform. With many reforms stalling, macroeconomic stability has apparently been taken for granted. This is an impediment, as macroeconomic management will become increasingly more challenging over time (especially with regard to maintaining balance of payments sustainability). All this comes in light of possibly continued dwindling of non-renewable resource exports. The window to carry out the reforms mentioned above is closing, and will not wait for election cycles, in our view.

Figure 39. Gross enrollment rate in secondary school, all programs



Source: World Bank, Citi Research

Figure 40. Public spending on education



Source: World Bank, Citi Research

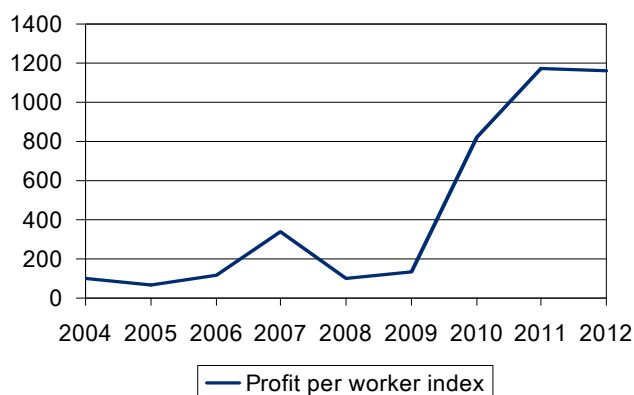
Macroeconomic Management May Become Increasingly Challenging

Inflation may rise in the medium-term, although unlikely to return to the double digit era

In the medium-term, cost push pressures may intensify. We believe the recent low inflation rates of 3.8-4.3% in 2011 and 2012 are below the long run average rate of inflation. Along with increased investments in new machinery over the past couple of years, labor productivity growth has been relatively strong in 2011 and 2012. However, these numbers appear to have been surpassed by the magnitude of minimum wage hikes in 2013 which reached 44% in Jakarta (although we note compliance to the regulations is not high given the high portion of labor employed in the informal sector). Cost push pressures from administered prices e.g. transport tariffs, which hasn't been adjusted since 2009, may also be coming to the fore.

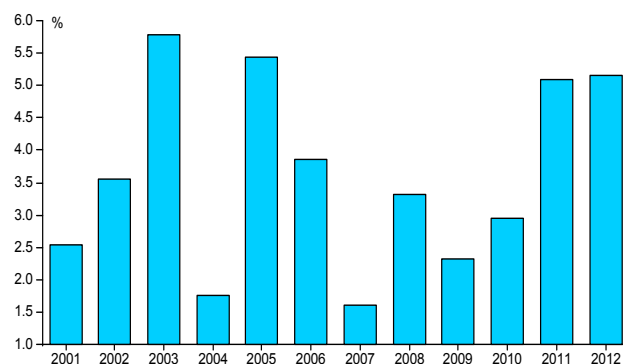
Fuel price adjustments will eventually have to be done; inflation expectations may stay elevated. Non-subsidized prices of fuel have been selling at nearly double that of its subsidized counterpart. With the energy subsidy budget growing by the year and growing in portion against non-tax revenue, we believe fuel subsidies will eventually (although probably after 2014) have to be trimmed and this will involve having the consumer pay a higher price for their fuel e.g. through a fuel price hike which can potentially push up inflation by multiple percentage points. Factoring in this risk, the longer term inflation expectations of the public may remain high. For savers, this makes real interest rates seem negative, compared to average time deposit rates in the 5%-6% range (before 20% tax).

Figure 41. Profit per worker index (2004 = 100)



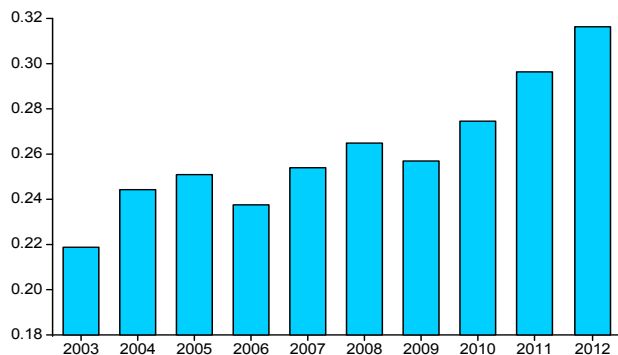
Source: CEIC, Citi Research

Figure 42. Growth of labor productivity (Real GDP / Worker)



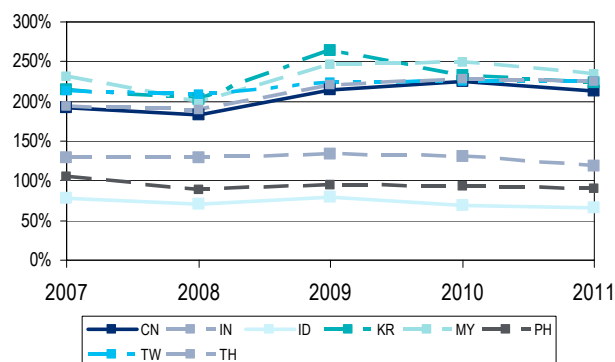
Source: CEIC, Citi Research

Figure 43. Credit to GDP ratio has been growing at manageable pace



Source: CEIC, Citi Research

Figure 44. Total debt (public + private) as % GDP



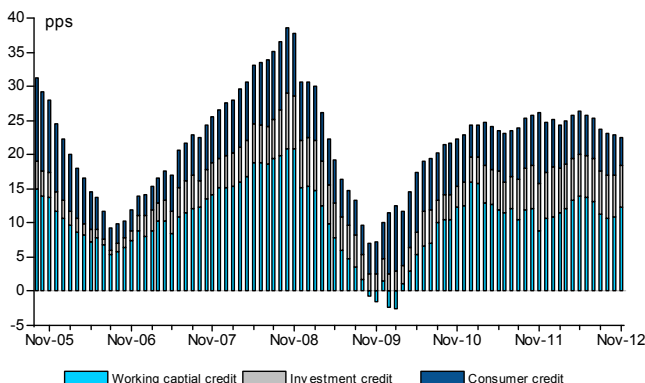
Source: CEIC, Citi Research

Although credit growth is still manageable, expect increased usage of macroprudential regulations

The central bank is adamant on structurally lowering interest rates, implying that strong policy rate hikes unlikely. We have noticed a significant shift in paradigm within the central bank, with an increased emphasis on growth. For example, BI policies have been geared towards increasing the 'efficiency' of banks by pressuring their lending rates and net interest margins. Banks have also been urged to integrate their payment systems to reduce costs. Even with risk of fuel prices being adjusted at some point, we do not think the policy response from BI would be to hike aggressively as they did in 2005 and 2008.

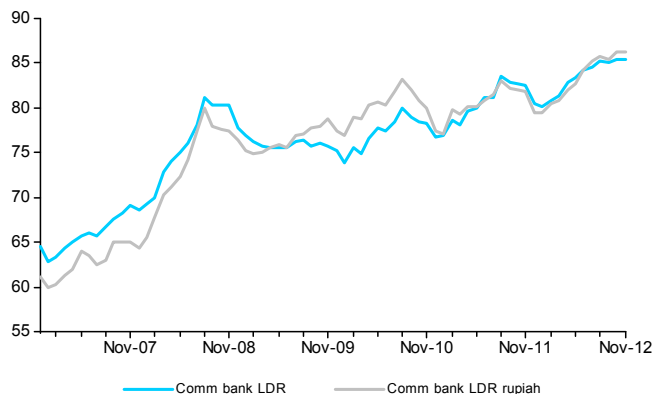
Instead, the central bank is more likely to resort to macroprudential regulations to stem any build up in risk. In 2012, the central bank implemented minimum downpayment regulations for motorcycle and car lending, as well as minimum loan to value ratios for housing lending. Meanwhile in 2013, tighter regulations regarding minimum income, and maximum number of card ownership, on credit card lending has been implemented. The preferred usage of macroprudential measures as opposed to interest rates is to avoid "policy overkill". With public documentation continuously being improved (e.g. adoption of single ID card for Indonesians), the scope to use macroprudential measures more effectively will widen.

Figure 45. Contribution to YoY credit growth



Source: CEIC, Citi Research

Figure 46. Loan to deposit ratio of the banking sector



Source: CEIC, Citi Research

Managing the balance of payments; Outward looking policies are needed

Exports have been highly reliant on non-renewable primary commodities. We have highlighted that over 50% of exports are contributed by six primary commodities: oil & gas, coal, palm oil, rubber & iron ores. Out of this, the non-renewable resources contribute around one third of total exports. So while Indonesia's near-term terms of trade dynamics correlate with global commodity price movements, in the longer-term it also depends on the prospects of exploration activities and new findings. It is widely believed that Indonesia still has substantial untapped energy reserves, along with potential alternatives such as geothermal, coal bed methane and shale gas. However, progress in developing these has been slow. Meanwhile as existing oil fields in Western Indonesia mature, the focus of exploration is shifting towards Eastern Indonesia which involves more risky offshore drilling.

Future export growth of non-renewable resources is fraught by uncertainty. The combination of higher exploration risk, together with a dynamic regulatory and political environment in the resource sector, does not bode well for the medium-term prospects of Indonesia's oil & gas energy production. Meanwhile, for coal and iron ore exports, there has been increasing attention on the ecological costs in the exploitation of these resources. Indonesia is the largest exporter of thermal coal in the world yet proven reserves are estimated to last less than 20-years given 2011 production numbers.⁶ Barriers to restrain the growth of unprocessed mineral exports have been erected i.e. through Trade Ministry Regulation 29/2012. The probability of seeing a rapid development in the smelting industry remains constrained by limitations in domestic infrastructure and power capacity.

Figure 47. Indonesia coal reserves, in million tons

	Probable	Proven	Total
Reserves	15,602	5,529	21,132
In years of production (2011)	44	16	60

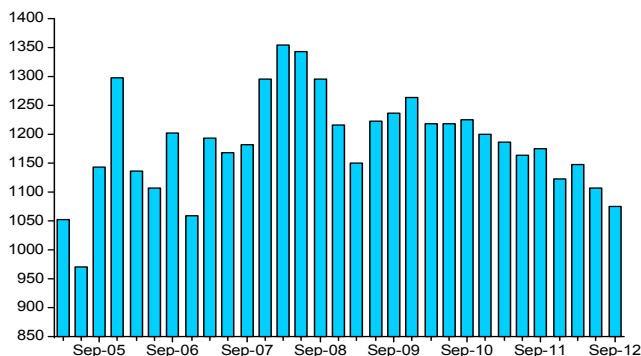
Source: Indonesian Coal Book 2012/2013; Geological Survey of ESDM 2010, Citi Research

A strategy to reduce dependence on non-renewable resource exports is needed. Efforts to increase value added in downstream sections of renewable commodity industries, e.g. palm oil and rubber, is a step in the right direction. With Indonesia's status as the largest producer of palm oil in the world, efforts to encourage downstream processing should be viewed positively (for example, export duties have been structured to incentivize exports of processed palm oil instead of crude). However, this is a medium-term undertaking which must also be accompanied by policies to enhance the development of needed infrastructure.

Indonesia must continually increase its attractiveness as a manufacturing base and capture more value added. As discussed earlier, key manufactured products that have started to contribute significantly to exports are vehicles, textiles/apparel and electrical machinery. Exports from these industries have been traditionally known to have high import content. However, local content has managed to grow over time, especially for vehicle production. Efforts should be directed to further increase the usage of domestic inputs; i.e. through programs that strengthen the backward linkages (supplier chain) of these industries. The ongoing development of basic industries should help to accommodate such efforts.

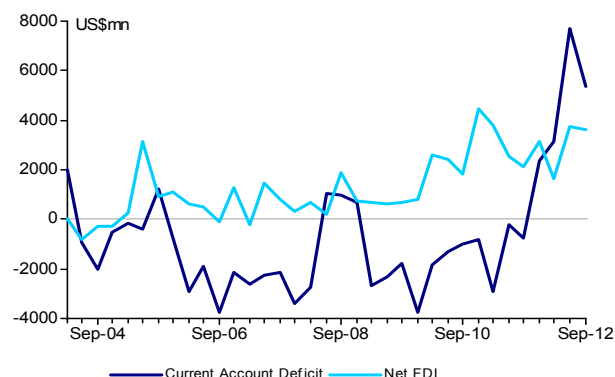
⁶ In BP's Statistical Review of World Energy 2012, Indonesia's reserve to production ratio for thermal coal was only estimated at 17 years, whereas Australia, the second largest exporter, has reserves equivalent to 184 years of production.

Figure 48. Indonesia net workers remittance



Source: CEIC, Citi Research

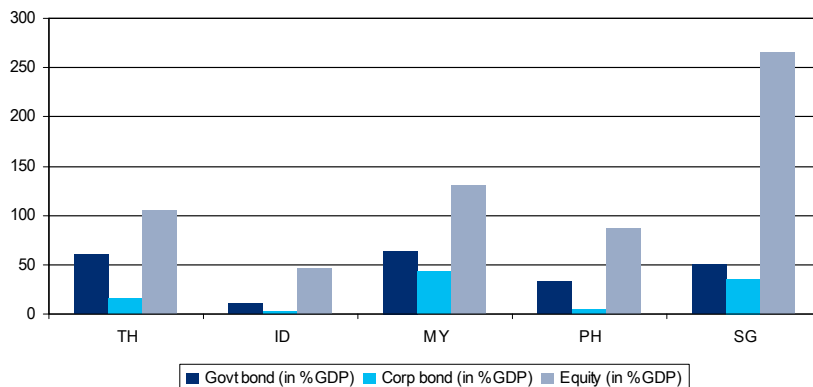
Figure 49. Indonesia current account and net FDI



Source: CEIC, Citi Research

Balance of payments is not all about the merchandise trade balance. So far the focus on the balance of payments has been on how to reduce the current account deficit (by improving the merchandise and services trade balances), and maintaining an adequate inflow of long-term funds in the capital account i.e. FDI. However, there are also other complementary measures that could be taken. For example, Indonesia could also increase workers remittances, either by raising the quality or quantity of overseas workers. Remittances have stagnated in recent years as a result of a moratorium of worker placements to Malaysia and Middle East countries, following a number of high profile incidents involving worker abuse.

Figure 50. Size of financial markets, 2012



Source: Asianbondsonline, Citi Research

Financial deepening is also necessary in the context of strengthening the capital account. Indonesia's equity market cap and bonds outstanding (as % of GDP) is still lowest vs. comparable ASEAN countries. Development of money markets has been slow and there is no widely used benchmark interest rate that can be universally used to price other instruments. This has impeded the development of the derivatives market (e.g. interest rate swaps) which in turn inhibits efficient pricing in the bond market. The corporate bond market has also been plagued by lack of liquidity and short-term commercial papers are non-existent due to lack of regulatory agency. Among this list, we think the government should focus first on developing the money market and also aim to deepen the corporate bond market (perhaps through government incentives). Foreign exchange markets must also be allowed to clear without too much verbal intervention from the central bank. A deep and liquid financial market is needed in order for portfolio inflows to be able to complement any shortfall in FDI inflows.

So can Indonesia reach the Top-10?

In a nutshell, eventually we think it can. Indonesia has rebounded some way after the long downturn following the 1998 economic crisis. The economic and political fundamentals now appear a lot stronger. It seems like most of the ingredients needed to embark on a continued path of growth, i.e. the benefit of size in ASEAN, as well as political and macroeconomic stability, are already there.

That said, the environment of challenges remains a dynamic one. Failure to effectively and in a timely manner address these challenges could easily lead to a derailment of Indonesia's positive outlook. This means it will not be sufficient to conduct business as usual. A comprehensive set of long-term strategies is needed to tackle the issues we have discussed. Strong recognition and political will from the leadership is also required to expedite reforms and ensure the country does not veer off course.

In our view, there is no perfect sequence of development. Given the surge in raw material imports that has been seen of late, it seems that having upstream industries developed before downstream industries does have its merits. However, having the reverse happen is still better than having no development at all, as the timing of incoming investments can hardly be set with precision.

What is important to keep in mind in managing any resulting trade imbalances, is that while import regulation policies can help, the impact should not inhibit the broader trade and investment climate. The eventual objective of building domestic industrial capacity should be to strengthen the exports of higher value added products, in anticipation of continued challenges in sustaining exports of non-renewable resources.

Appendix – Additional Data

Figure 51. Industrial labor cost estimates, by 2 and 6 digit International Standard Industrial Classifications (ISIC)

ISIC	Industry	Companies	Production Labor (persons)	Total labor (persons)	Labor per company	Avg wage (prod) / worker / month, in Rp th	Labor cost / total input costs	labor cost / value of goods produced
10	Food	5,248	515,021	675,797	129	1,299	4.2%	2.8%
11	Beverages	328	27,882	38,914	119	1,612	12.2%	6.6%
12	Tobacco	981	299,270	329,877	336	442	4.4%	2.1%
13	Textiles	2,333	419,015	482,963	207	1,362	11.9%	8.5%
14	Apparels	2,242	474,345	528,579	236	992	21.0%	14.9%
15	Leather, Footwear	673	207,227	234,173	348	1,285	21.4%	12.7%
16	Wood, products of wood except furniture	1,254	193,981	221,226	176	1,068	14.0%	9.1%
17	Paper and paper products	511	98,706	126,438	247	2,072	5.1%	3.2%
18	Printing and reproduction	472	32,819	42,658	90	1,480	20.6%	8.1%
19	Coke and refined petroleum	73	4,186	6,218	85	1,638	3.5%	2.3%
20	Chemicals and chemical products	858	104,947	152,352	178	3,243	4.3%	3.0%
21	Pharmaceuticals	254	37,053	63,415	250	1,792	5.4%	2.6%
22	Rubber and plastic products	1,655	281,388	357,274	216	1,402	3.5%	2.9%
23	Non metallic mineral products	1,619	133,996	168,868	104	1,932	30.2%	11.7%
23929	Building materials of clay	49	18,281	22,709	463	1,882	44.5%	13.9%
23941	Cement	16	7,813	15,358	960	Na	39.5%	11.8%
23953	Articles from cement	171	12,613	16,224	95	1,102	10.6%	6.8%
24	Basic metals	272	54,258	68,623	252	4,325	3.9%	3.1%
25	Fabricated metal products	926	125,697	155,473	168	1,669	8.6%	6.2%
26	Computers, electronic and optical	324	137,244	164,273	507	1,412	9.3%	6.9%
27	Electrical equipment	299	81,881	99,988	334	2,095	7.8%	5.4%
28	Machinery and equipment NEC	276	31,475	39,471	143	1,807	11.3%	5.7%
29	Motor vehicles, trailers	280	78,626	95,629	342	2,452	9.3%	2.5%
29100	Four wheel vehicles	13	26,278	30,308	2,331	1,377	2.4%	0.8%
29200	Coachwork for buses, trucks	82	10,073	12,826	156	1,868	32.2%	18.5%
29300	Accessories	185	42,275	52,495	284	3,260	40.6%	5.5%
30	Other transport equipment	273	65,838	78,649	288	1,507	4.3%	2.0%
30911	Motorcycles (2-3 wheels)	16	17,326	20,970	1,311	1,024	1.8%	0.6%
31	Furniture	1,475	172,492	199,925	136	1,032	33.7%	15.9%
32	Other manufacturing	639	122,282	151,408	237	1,061	18.4%	11.7%
33	Repair and installation of machinery	80	17,162	18,954	237	2,588	23.6%	17.8%

Source: BPS Med-large Manufacturing Statistics (2010), Citi Research

Figure 52. Comparison of industrial land costs

Country	City	Industrial estate purchase rate	Industrial estate rent (monthly)	Office rent (monthly)	Store/ showroom rent in city center (monthly)
China	Shanghai	US\$158	US\$3.56/m2	US\$36-46/m2	US\$23/m2
	Guangzhou	US\$95 (min rate)	US\$2.37-6.33/m2	US\$27/m2	US\$127/m2
	Shenzhen	US\$29-114	US\$4.75/m2	US\$25/m2	US\$47/m2
Singapore	Singapore	US\$189.94-651.21	US\$0.96-2.85/m2	US\$33.37-133.52/m2	US\$257-279/m2
Malaysia	Kuala Lumpur	US\$20-25	n.a.	US\$19-27/m2	US\$7.62/m2
Thailand	Bangkok	US\$119	US\$6.95/m2	US\$20/m2	Siam Discovery: US\$63-95/m2 Central World: US\$32-95/m2
Indonesia	Jakarta	JABABEKA: US\$191 GIIC: US\$164	JABABEKA: 10% of land & building price per year	US\$20/m2	US\$44-55/m2
	Batam	Latrade Industrial Estate: US\$62/m2+ Maintenance fee 0.10SGD/m2 Panbil Industrial Estate: US\$78/m2+ Maintenance fee 0.30SGD/m2	Latrade Industrial Estate: US\$3.88/m2+ Maintenance fee 0.10SGD/m2 Panbil Industrial Estate: US\$3.10-4.65/m2+ Maintenance fee 0.30SGD/m2	US\$7.75/m2 Maintenance fee (2 SGD/m2), tax not included	US\$12/m2 Maintenance fee (7 SGD/m2), tax not included
	Manila	US\$52-102	US\$2.00-6.00/m2	US\$18/m2	US\$16-36/m2
Philippines	Manila				
Vietnam	Hanoi	Not available for purchase	Pho Noi A Industrial Park: US\$0.166-0.177/m2 Quebo Industrial Park: US\$0.178-0.188/m2	7F, DMC Tower: US\$25/m2; VAT(10%) maintenance fee included Pacific Place: US\$62/m2, VAT(10%) and expenses included	Vincom tower (Central Hanoi) - 1F: US\$70/m2, - 4F: US\$25-50/m2; VAT(10%) and maintenance fee included Pacific Place, 1F showroom: US\$85/m2, maintenance fee and VAT(10%) not included
	Ho Chi Minh	Not available for purchase	US\$0.25/m2	US\$34-36/m2	US\$90/m2
	Yangon	Foreigners and foreign companies not permitted to purchase land	Local industrial park (Ministry of Construction): US\$0.255/m2, maintenance fee included Mingalardon Industrial Park: US\$0.15/m2; Land rent (Leasehold to Feb. 2048), maintenance fee, tax included	Sakura Tower (Downtown): US\$45/m2 Taw Win Centre (Pyay Rd.): US\$1.86-3.11/m2	US\$15/m2
Cambodia	Phnom Penh	Not available for purchase by wholly-owned foreign enterprise	US\$0.091/m2	ICON Professional Building; Service charge included; 10% VAT not included 2F - 5F: US\$12/m2 1F: US\$22/m2	Monthly rent Main street (30-40m2): US\$700-1500 Back street (30-50m2): US\$500-1000 Suburb (450m2): US\$400-600 Promoting area (125-213m2): US\$1,000-1,700
Laos	Vientiane	n.a.	Savan-Seno Special Economic Zone (SiteC) less than 2ha: US\$0.038/m2 2ha and above: US\$0.033/m2	US\$15/m2	US\$30/m2

Source: Japan External Trade Organization (JETRO) Survey 2012, Citi Research

Figure 53. Indicative wage comparison in Asia: Where does Indonesia stand?

Country	Description	US\$ terms
Indonesia	Minimum wage established by provincial and district authorities and varies by province, district and sector, averaging Rp1.1mn per month. Range: Rp1.53mn a month in Jakarta and as low as Rp0.7mn in Central Java (2011)	Eq. US\$159/month (Jakarta) in 2012, to be increased to eq. \$231/month
Malaysia	Monthly minimum wage wef Jan-2013 for the private sector of RM900 for Peninsular Malaysia and RM800 for Sabah, Sarawak and Labuan	About US\$290/month (Peninsular Malaysia), US\$260/month (Sabah, Sarawak, Labuan)
Philippines	Minimum wage set by tripartite regional wage boards of the National Wage and Productivity Commission. In the National Capital Region, the minimum wage is 446 pesos a day for agricultural workers and 409 pesos for non-agricultural workers	About US\$9.90/day (NCR agricultural workers), US\$10.80/day (NCR non-agricultural workers)
Thailand	300 baht a day, though compliance with wage guidelines for poorer provinces outside Bangkok is spread out up to 2014	About US\$9.80/day
Vietnam	Official monthly minimum wage for unskilled laborers at private enterprises was between 1.78 to 2 million dong in the urban areas and between 1.4 to 1.55 million dong in rural areas. Official monthly minimum wage for unskilled laborers in the state sector was 1,050,000 dong	About US\$50.40/month (state sector)
China	While there is no national minimum wage, the labor law requires local and provincial governments to set their own minimum wage. Monthly minimum wages vary greatly with Shenzhen, Guangdong Province, the highest at 1,500 RMB and Jiangxi Province the lowest at 870 RMB	About US\$240/month (Shenzhen)
India	Minimum wages vary according to state and sector. At the federal level, the floor minimum wage is set at 100 rupees a day	About US\$2/day
Sri Lanka	While there was no national minimum wage, 43 wage boards established by the Ministry of Labor's Relations and Manpower Office set minimum wages by sector and industry. The minimum monthly wage in the areas of the private sector covered by wage boards was 6,900 rupees plus an extra allowance of 1,000 rupees, for a total of 7,900 rupees. The minimum wage in the public sector is 18,166 rupees	About US\$61/month (private sector)

Source: CEIC, Citi Research

Figure 54. Indonesia — Provincial minimum wages (Rp thousands)

	2009	2010	2011	2012	2013
Aceh	1,200	1,300	1,350	1,400	n/a
North Sumatera	905	965	1,035	1,200	1,305
West Sumatera	880	940	1,055	1,150	1,305
Riau	902	1,016	1,120	1,238	1,365
Riau islands	892	925	975	1,015	n/a
Jambi	800	900	1,028	1,142	1,300
South Sumatera	825	928	1,048	1,195	Na
Bangka Belitung	850	910	1,024	1,110	1,265
Bengkulu	735	780	815	930	1,200
Lampung	691	768	855	975	n/a
West Java	628	672	732	n/a	n/a
Jakarta	1,070	1,118	1,290	1,529	2,200
Banten	918	955	1,000	1,042	n/a
Central Java	575	660	675	n/a	n/a
Yogyakarta	700	746	808	893	n/a
East Java	570	630	705	n/a	n/a
Bali	760	829	890	968	n/a
West Nusa Tenggara	833	891	950	1,000	n/a
East Nusa Tenggara	725	800	850	925	n/a
West Kalimantan	705	741	803	900	1,060
South Kalimantan	930	1,025	1,126	1,225	1,338
Central Kalimantan	873	987	1,135	1,328	1,553
East Kalimantan	955	1,002	1,084	1,177	1,752
Maluku	775	840	900	975	n/a
North Maluku	770	847	889	961	n/a
Gorontalo	675	710	763	838	n/a
North Sulawesi	930	1,000	1,050	1,250	n/a
South East Sulawesi	770	860	930	1,032	1,125
Central Sulawesi	720	778	828	885	n/a
South Sulawesi	905	1,000	1,100	1,200	1,440
West Sulawesi	909	944	1,006	1,127	n/a
West Papua	1,180	1,210	1,410	1,450	1,710
Average	830	896	976	1,105	1,423
Average, % YoY			8.9%	13.3%	28.7%

Source: Ministry of Manpower and Transmigration, Citi Research

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Research Equity Ratings Distribution

Data current as of 31 Dec 2012

Citi Research Global Fundamental Coverage

% of companies in each rating category that are investment banking clients

12 Month Rating			Relative Rating		
Buy	Hold	Sell	Buy	Hold	Sell
49%	38%	12%	7%	86%	7%
53%	49%	45%	60%	49%	55%

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Relative three-month ratings: Citi Research may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings**, which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were: Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to

review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

PT Citigroup Securities Indonesia

Helmi Arman; Ferry Wong, CFA

OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to Citi Research research reports.

Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures.

For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the

Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A., Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in a CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comisión Nacional Bancaria y de Valores. Reforma 398, Col. Juárez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ("FAA") through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul. Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14

and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFS") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2013 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink

(including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
