

ASEAN Economics Long View

Singapore Swing – Refocusing on ASEAN Regionalization

- **We kick off our *ASEAN Economics Long View* series with focus on Singapore** – This is the first of the *ASEAN Economics Long View* series, which identifies macro themes that we expect to shape ASEAN economies over the medium term.
- **Singapore swing: Focusing more on ASEAN opportunities** – A confluence of domestic and regional developments is raising the importance of economic ties with ASEAN, after it was eclipsed by China post 1997. A rising ASEAN presents many supply-side and demand-side opportunities for Singapore Inc. It could also generate powerful spillovers for Singapore's services hub activities in finance, transport and logistics as it serves as a regional HQ or services hub for MNC regional cross-border production networks within ASEAN.
- **Rising importance of ASEAN as a manufacturing base as China rebalances** – Unknown to many, manufacturing ODI into ASEAN already surpassed that into China since 2009, due to [1] reduced cost competitiveness of China vis-à-vis ASEAN as China rebalances; [2] greater proximity to MNC manufacturing clients diversifying into ASEAN, given historically better returns in ASEAN and geopolitical tensions between China and Japan; and [3] policymakers favoring ASEAN over China as a manufacturing hinterland given potential spillovers for hub-related services in Singapore. Iskandar could be a template for tighter integration within ASEAN, with opportunities in property, education, healthcare, logistics and utilities.
- **Restructuring may spur regionalization into ASEAN** – The stock of Singapore's outward investments abroad is already larger than its GDP, but unlike the Temasek-led investments of the 2000s, regionalization in the next decade could see a heavier involvement by SMEs hit hardest by cost competitiveness pressures. Renewed focus on regionalization will likely be a response for companies seeking to diversify demand sources and overcome policy-induced domestic supply constraints.
- **The ASEAN services market opportunity** – With a combined population of 600mn and GDP of around US\$1.9trn, the ASEAN-10 market may be 30% the size of China, but it's still 15% larger than India's, presenting an attractive opportunity. A demographic dividend (especially ID, PH and MY) and rising urbanization (especially ID) should provide demand-side opportunities for services plays in urban solutions, telcos, banks, ports and aviation, playing to Singapore Inc's strengths.
- **ASEAN poses threats as well** – Further integration with ASEAN also poses challenges from greater competition amidst a more difficult global regulatory and domestic economic/policy backdrop. As the economic balance of power shifts within ASEAN, greater competition from other ASEAN countries in selected areas of the hub role could arise, while changes in the global regulatory environment could also impact financial services.

Wei Zheng Kit

+65-6657-5079

wei.zheng.kit@citi.com

Brian Tan

brian.tan@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
Singapore Swing – Refocusing on ASEAN Regionalization	3
Key Themes	3
Sector-Specific Opportunities and Challenges	4
Transition Pains of Domestic Economic Restructuring	5
Trend 1: Slower Growth and Higher Inflation	5
Trend 2: Faster Exchange Rate Appreciation	7
Renewed Regionalization – An Integral Part of the Policy Response	10
History of Regionalization Drives	10
Next Wave of Regionalization – Local SMEs	10
Government Facilitation of Regionalization	11
Singapore's Evolving Relationship with ASEAN	11
ASEAN May Benefit from Diversification of FDI Out of China	13
ASEAN Cost Advantages Also Appeal to Singapore	17
Demand-Side Opportunities for Services Plays	19
ASEAN Opportunities – Banks	23
ASEAN Opportunities – Property	24
ASEAN Opportunities – Utilities	25
ASEAN Opportunities – Telcos	25
ASEAN Opportunities – Sea Transport	25
ASEAN Opportunities – Air Transport	26
Opportunities for Singapore's Regional Hub Role	27
Manufacturing and Trading Hub	27
Commodities Trading Hub	27
Regional Financial Center	28
Transport Hub	29
ASEAN Hub Role Set to Expand	29
Challenges for Singapore's Regional Hub Role	32
Greater Competition from Regional Challengers	32
Regulatory Threats to Financial Services Role	33
Higher Costs, Tougher Policies	33
Appendix – Additional Data	35
Appendix A-1	41

Executive Summary

Singapore Swing – Refocusing on ASEAN Regionalization

In this first of the *ASEAN Economics Long View* series, we examine how Singapore's economic relationship within ASEAN will likely evolve over the medium term. Specifically, we believe a confluence of domestic and regional developments will raise the importance of economic ties with ASEAN over the next decade. These include:

1. Domestic supply constraints from economic restructuring.
2. Renewed emphasis on regionalization to overcome these domestic constraints.
3. Growth rebalancing and rising costs within China.
4. ASEAN's recent economic resilience and perhaps structural resurgence.
5. Renewed geopolitical tensions between China and Japan.

But while a rising ASEAN presents many supply- and demand-side opportunities for Singapore Inc, it also poses challenges from greater competition amid a more difficult global regulatory and domestic economic/policy backdrop.

Key Themes

The report is organized along the following interconnected themes:

- Implications of economic restructuring will likely include a starker growth/inflation tradeoff and faster real exchange rate appreciation, all of which will entail adjustment costs for Singapore companies, including industry consolidation and relocation amongst tradables sectors.
- With costs in China rising amidst growth rebalancing, and renewed geopolitical tensions with Japan, global MNCs may seek to diversify their manufacturing FDI away from China towards ASEAN, where profitability has been higher.
- Given these trends, ASEAN may now fit in better as a production hinterland for Singapore both from the perspective of costs, proximity to MNC clients and policymakers strategic objectives.
 - Sub-theme A: Iskandar Malaysia could be the obvious target of the regionalization drive, given its proximity to Singapore and complementary comparative/competitive advantages – as well as a useful way for Singapore residents to escape rising cost pressures within Singapore.
 - Sub-theme B: Will the earlier tried-and-tested model of overseas industrial parks be used as a vehicle in the regionalization drive and, if so, in which countries?
- In light of favorable demographics/urbanization trends, ASEAN may also become more important as a significant end-demand market for Singapore Inc, particularly in services, e.g. banking, telcos, transport, healthcare, property, and other urban solutions.
- While Singapore's role as a regional hub can obviously be lifted by the rising ASEAN tide, it could also face challenges given greater regional competition, changes in the global regulatory environment and a less pro-business domestic policy environment.

Sector-Specific Opportunities and Challenges

Figure 1 summarizes key sector-specific opportunities and challenges that we expect to arise from these themes.

Figure 1. Singapore and ASEAN Economic Integration – Summary of Views

Themes	Sector Opportunities	Challenges
Singapore manufacturers may find ASEAN more attractive as a production base.	<p>Banks: Banks with strong SME business could be well positioned to follow their manufacturing SME customers relocating into the region.</p> <p>Transport and logistics: Intra-ASEAN trade in parts and components could increase as manufacturing activities are diverted to ASEAN, which will likely lift Singapore's re-export trade.</p>	<p>Rising minimum wages and prohibitive labor laws could erode ASEAN's labor-cost advantages vis-à-vis China.</p> <p>Proximity to larger consumer markets in China may still render China more attractive as a production destination.</p>
Singapore's policymakers may see South Johor as an ideal production hinterland for Singapore.	<p>Property: Singapore residential developers could benefit as Iskandar becomes more attractive as a place to stay for Singaporeans. In the industrial space, industrial REITS may follow SME manufacturing tenants to Iskandar and further joint ventures along the lines of the Ascendas-UEM tech park are possible.</p> <p>Education: Expatriate families living in Iskandar but working in Singapore and growing international student and domestic student base could provide opportunities for Singapore private education providers.</p> <p>Healthcare/silvercare: Lower costs in Iskandar could provide a useful "safety valve" for older and lower-income Singapore residents.</p> <p>Transport and logistics: A successful manufacturing sector in Iskandar could provide spillovers for transport and logistics sector in Singapore.</p> <p>Utilities: Opportunities for Singapore companies to collaborate with Iskandar and Pengerang as their demand for utilities such as electricity increase significantly.</p> <p>Tourism: The Integrated Resorts and other hotels in Singapore could see marginal benefits from enhanced transportation links with Iskandar as Iskandar's tourist appeal improves.</p>	<p>Difference in strategic objectives between Malaysia and Singapore with respect to the development of Iskandar could lead to conflicts further down the road. Political uncertainties, especially with Malaysia's impending general election, may also have an impact.</p> <p>Greater competition to private education and healthcare providers in Singapore.</p> <p>Greater competition from the Port of Tanjung Pelepas given proximity to manufacturing hub.</p> <p>Singapore hotels could potentially suffer lower occupancy rates if cost differential vis-à-vis Johor gets too wide, especially as connectivity improves.</p>
ASEAN could be a significant end-demand market due to favorable demographics/urbanization trends.	<p>Banks: Singapore banks with strong investment banking and infrastructure financing capability best positioned to ride on investment boom in ASEAN. Asset and wealth management activities likely to see a boost.</p> <p>Property: Scope for Singapore developers to exploit potential growth in residential and commercial space in mid-tier Indonesian cities and emerging frontier markets such as Myanmar, Laos and Cambodia.</p> <p>Utilities: Opportunities within the ASEAN context may not have been fully explored, particularly the more frontier economies in the CMLV region.</p> <p>Telcos: Potential for cross-border investments from GLCs into Myanmar. In Indonesia, there could be further potential for market growth in mobile telecommunications and internet subscriptions.</p> <p>Sea transport: Opportunities for PSA to use its expertise to build up port capacity or take a management stake in some ASEAN ports.</p>	<p>No Singapore bank has successfully executed a regional strategy as local subsidiary tends to be too small. More aggressive investments to capture consumer finance could run into regulatory or protectionist obstacles</p> <p>Restrictive ownership laws could pose problems in for developers some ASEAN countries</p> <p>Potential targets may be less keen on PSA taking a management stake.</p>
Singapore's hub can benefit from a rising ASEAN, but may also face growing domestic and external challenges.	<p>Real estate: Growing regional HQ presence in Singapore may contribute positively to office space demand.</p> <p>Banks: Agglomeration of MNC's regional treasury functions in Singapore may also provide opportunities for banks with strong regional presence and strong capabilities in currency markets.</p> <p>Air transport: We see opportunities for Singapore-based budget carriers and Singapore's airport to ride on the rise in ASEAN tourism demand.</p>	<p>Greater competition from regional challengers, including in transport and logistics, segments of financial services, and regional HQs.</p> <p>Changes in the global regulatory environment could present challenges for Singapore's role as a financial services hub.</p> <p>Domestically, rising costs, a tighter immigration policy (including towards professionals), and a less efficient and blatantly pro-business slant in policy direction could also prove more</p>

Source: Citi Research

Transition Pains of Domestic Economic Restructuring

Domestically, economic restructuring will entail transition pains, with the macro landscape shaped by two broad trends.

Trend 1: Slower Growth and Higher Inflation

First, given sub-par external demand and domestic supply constraints, the macroeconomic landscape will be defined increasingly by slower growth and structurally higher inflation, in our view. In other words: a worsening growth/inflation trade-off.

Slowing GDP growth

After averaging 7% between 2004-2011, GDP growth is likely to average just 2-4% in the next 3-4 years. This not only reflects sub-par external demand from developed markets, but also increasingly binding policy-induced supply constraints, which will prevent firms from fully exploiting demand opportunities within the region.

A tighter foreign worker policy has already dampened growth, though just how much growth has been “lost” is subject to debate. While the 30-40K shortfall in jobs created as a result of immigration policy would alone have reduced growth by around 1-1.5-pts, productivity growth would likely have been even lower had immigration policies been more relaxed. A tighter foreign worker policy will probably be affirmed when Parliament votes on population policy in January. The Ministry of Trade and Industry in a recent paper¹ has mentioned that a “calibrated rate of immigration and foreign worker inflows” will be needed to tackle demographic shifts. Immigration inflows have fallen since 2010, largely reflecting cuts in net PR and non-resident inflows, but we would not be surprised to see a further tightening from current levels, of around 28.1K net new residents in the last three years – itself less than half the 64.1K average in the preceding five years. The growth in non-residents could also slow, perhaps to 40-50K – half the recent rate of around 80-90K. This would imply population growth of just 60-70K, close to half of 2012’s 128.K or labor force growth of just 2%. When combined with the aging resident population, total factor productivity growth could also be dampened as the experience of developed countries suggests, depressing potential growth.

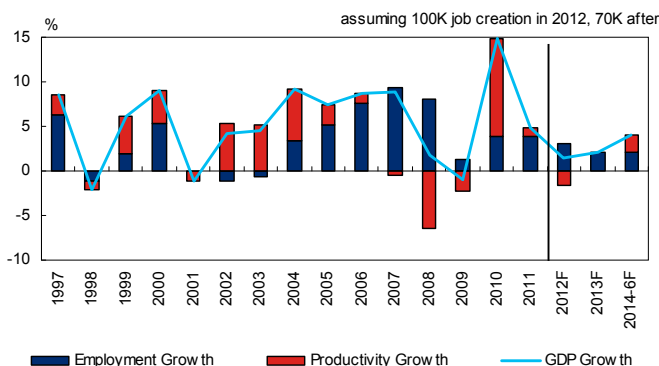
¹ See Singapore Ministry of Trade and Industry, “Occasional Paper on Population and Economy”, 25 September 2012

Figure 2. Singapore Population (as at June)

Year	Number ('000 as at June)					Average Annual Growth Rate (%)					Absolute Growth ('000)				
	Total Population	Total Residents	Citizens	PR	Non Residents	Total Population	Total Residents	Citizens	PR	Non Residents	Total Population	Total Residents	Citizens	PR	Non Residents
1990	3,047.1	2,735.9	2,623.7	112.1	3,112.0	2.3	1.7	1.7	2.3	9.0					
2000	4,027.9	3,273.4	2,985.9	287.5	7,545.0	2.8	1.8	1.3	9.9	9.3					
2005	4,265.8	3,467.8	3,081.0	386.8	798.0	2.4	1.6	0.8	8.6	5.9	99.1	54.5	23.9	30.6	44.6
2006	4,401.4	3,525.9	3,107.9	418.0	875.5	3.2	1.7	0.9	8.1	9.7	135.6	58.1	26.9	31.2	77.5
2007	4,588.6	3,583.1	3,133.8	449.2	1,005.5	4.3	1.6	0.8	7.5	14.8	187.2	57.2	25.9	31.2	130.0
2008	4,839.4	3,642.7	3,164.4	478.2	1,196.7	5.5	1.7	1.0	6.5	19.0	250.8	59.6	30.6	29.0	191.2
2009	4,987.6	3,733.9	3,200.7	533.2	1,253.7	3.1	2.5	1.1	11.5	4.8	148.2	91.2	36.3	55.0	57.0
2010	5,076.7	3,771.7	3,230.7	541.0	1,305.0	1.8	1.0	0.9	1.5	4.1	89.1	37.8	30.0	7.8	51.3
2011	5,183.7	3,789.3	3,257.2	532.0	1,394.4	2.1	0.5	0.8	-1.7	6.9	107.0	17.6	26.5	-9.0	89.4
2012	5,312.4	3,818.2	3,285.1	533.1	1,494.2	2.5	0.8	0.9	0.2	7.2	128.7	28.9	27.9	1.1	99.8
2006-2009						4.0	1.9	1.0	8.4	12.1	180.5	66.5	29.9	36.6	113.9
2010-2012						2.1	0.7	0.9	0.0	6.0	108.3	28.1	28.1	0.0	80.2

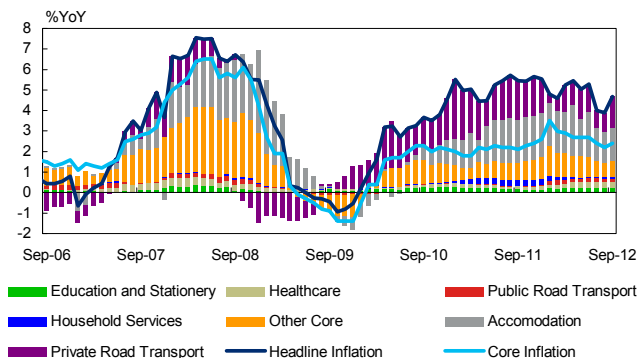
Source: Singapore Department of Statistics, Citi Research

Figure 3. Singapore GDP Growth by Productivity and Employment



Source: CEIC, Citi Research

Figure 4. Labor-intensive services costs in public transport, healthcare, education and household services have contributed around one-fifth of headline inflation and around half of core inflation



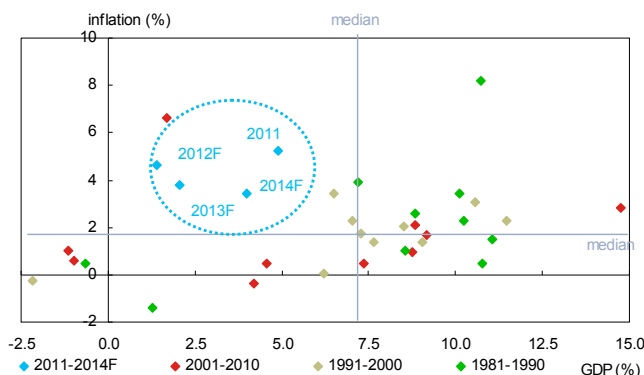
Note: Estimated contributions to core inflation by item may not add up due to rounding

Source: CEIC, Citi Research

Structurally higher inflation

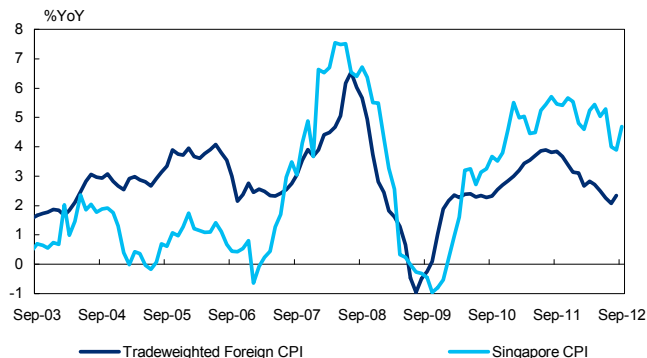
Even as these policy-induced supply constraints crimp potential growth, they will likely drive a rise in costs, especially in labor-intensive services dependent on low-wage foreign workers, keeping inflation structurally higher at 3-4% – double the 30 year average of 1.7%. This is already happening in non-tradables sectors such as healthcare and education for example – in some cases outstripping wage growth as productivity is not catching up. Labor-intensive services costs in public transport, healthcare, education and household services have contributed around one-fifth of headline inflation and around half of core inflation in recent months. In addition to autonomous wage pressures coming from the tightening of labor supply, labor costs will be further raised by recent measures designed to substitute for a minimum-wage regime. The cumulative impact of such deliberate policy measures, alongside the autonomous upward pressures on labor costs from tighter supply and higher foreign worker levies, is a rise in Singapore's unit labor costs and persistently higher inflation relative to its trading partners.

Figure 5. Until productivity catches up, the growth-inflation trade-off will likely be far starker than it was in the past



Source: CEIC, Citi Research

Figure 6. Domestic inflation has exceeded foreign trade-weighted inflation for most of the past three years, reversing the pattern of the past decade



Source: Haver, Citi Research

More explicit growth/inflation trade-off

Until productivity growth is able to accelerate sufficiently to offset the slower labor-force growth, the negative supply shock is likely to keep the growth/inflation trade-off far starker than it was in the past. This has to a large extent been manifested in the last two years – whereas the 3-4% average growth rates in 2011-2012 would have in the past been associated with inflation rates of around 0-1%, this is now associated with far higher inflation rates of 3-4%.

If Singapore's recent experience and the experience of other developed countries serve as a guide, we suspect that raising productivity could be a long slog. The mixed track record of the productivity drive partly reflects weak cyclical demand conditions, and perhaps immigration policies which are insufficiently tight to induce switching to labor-saving technologies. Yet the simplest explanation could be that it is much harder to raise productivity from a relatively high base. According to DPM Tharman in the 2011 Budget speech, while productivity growth of 3-5% from a productivity level only 20% that of the US was achieved in the 1980s and 1990s, by 2011, Singapore's labor productivity levels were already 60% that of the US (in PPP terms). There are few historical precedents for Singapore's concerted productivity push or a successful acceleration in TFP growth in other developed economies. Apart from the US, which successfully raised TFP growth in the late 1990s during the dot-com boom, South Korea also successfully shifted to a productivity-driven growth model after the Asian financial crisis in 1997/98 – but even here, much of the rise in TFP post 1997 was largely in manufacturing, while Korea's productivity growth in services has been low – highlighting challenges to raising productivity growth in the non-tradables sector in Singapore. Moreover, economy-wide TFP growth was not substantially different than pre-1997, even though the contribution to overall growth was far larger.

Trend 2: Faster Exchange Rate Appreciation

Second, higher domestic inflation and unit labor costs – and the monetary policy response via a stronger SGD policy – will likely result in a faster rate of real exchange rate appreciation and adjustment costs for companies in a variety of industries. Already, the real exchange rate has appreciated nearly 18% in the last two years since the MAS tightened policy – but there could be more to come as the REER is playing "catch up" after being "suppressed" earlier in the

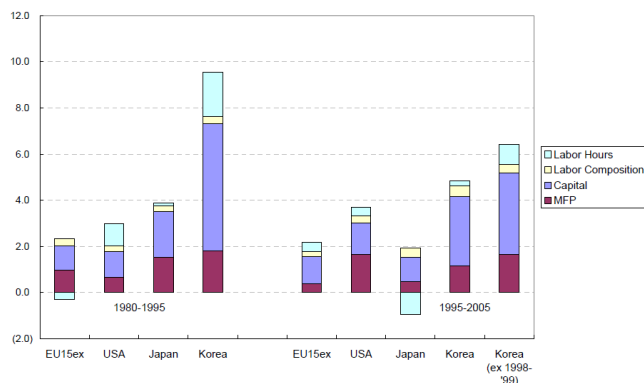
decade as CPF cuts and a liberal immigration policy then had a disproportionate impact on non-tradables labor costs. The recent tightening of immigration policies and higher CPF rates have since allowed unit labor costs and inflation to rise relative to Singapore's trading partners, and for the REER to catch up and gain lost ground.

Figure 7. Overall unit labor costs level (index SG=100; lower means country is gaining cost competitiveness relative to Singapore)

	2001	2005	2010	2011	2012F
China	63	80	86	87	90
Hong Kong	72	59	42	38	37
India	89	54	120	112	113
Indonesia	38	57	58	57	57
Korea	100	162	108	104	104
Malaysia	48	48	43	42	42
Philippines	34	36	37	36	36
Singapore	100	100	100	100	100
Taiwan	78	81	53	51	49
Thailand	41	46	48	47	46
Vietnam	40	43	36	35	34

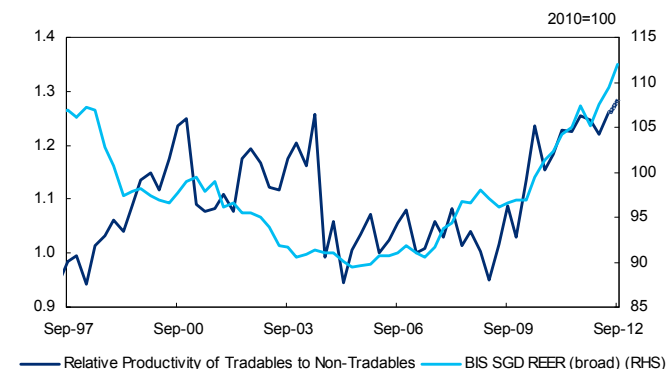
Source: Economist Intelligence Unit, Citi Research

Figure 8. Contributions to Value-Added Growth, 1980-1995 and 1995-2005



Source: Hyunbae Chun, Hak K. Pyo and Keun Hee Rhee, "Total Factor Productivity in Korea and International Comparison" (2008), prepared for 2008 World Congress on National Accounts and Economic Performance Measures for Nations

Figure 9. The widening productivity differential between the tradables and non-tradables sector has been associated with REER catch up, especially in the 2010 period



Note: 3Q12 is Citi estimate
Source: CEIC, Citi Research

REER appreciation is likely to reshape the industrial landscape, as industries which had thrived on a lower cost structure may have to restructure and raise productivity, consolidate, or relocate altogether. The extent to which profit margins in various industries are hit by a stronger real exchange rate varies with the export share of final demand, import content of production and labor-cost share of overall production. Our recent note [Singapore Macro View - Who Gets Hit Harder by Real Exchange Rate Appreciation?](#) found that tradable services and manufacturing would be the hardest hit. Meanwhile the hit to non-tradables sectors from higher labor costs should be partly offset by lower import costs from the stronger exchange rate.

Figure 10. Singapore – Net Exports and Wages as Percentage of Gross Operating Surplus

	Net Exports as % of GOS	Wages as % of GOS	Simple Average of Net Exports and Wages as % of GOS
MANUFACTURING	129.5	53.8	91.6
Food and beverage related manufacturing	33.9	104.3	69.1
Textiles and paper products	109.9	125.3	117.6
Chemicals, pharmaceutical and related	119.7	24.5	72.1
Rubber, plastics, glass and metals	113.2	109.6	111.4
Electronics	138.0	54.5	96.3
Industrial machinery	147.1	94.2	120.6
Electrical	145.4	98.1	121.7
Transport engineering (including oil rigs)	178.8	100.4	139.6
Other manufacturing	120.4	57.3	88.8
UTILITIES	3.5	28.7	16.1
CONSTRUCTION	-215.3	195.6	-9.9
TRADABLES SERVICES (services where exports >50% of final demand)	107.2	76.3	91.8
Wholesale trade	136.6	57.5	97.1
Transport and communications services	102.6	56.8	79.7
Financial services	103.4	104.1	103.8
Professional and business services	72.9	101.6	87.2
NON-TRADABLES SERVICES	-30.6	140.7	55.0
Retail trade	1.1	87.3	44.2
F&B, accommodation and tourism related services	-25.3	107.7	41.2
Government, social and recreational services	-59.9	227.1	83.6
Other domestically oriented services	-8.5	61.2	26.3

Source: Singapore Department of Statistics, Citi Research

Renewed Regionalization – An Integral Part of the Policy Response

In our Dec-2011 report *Singapore Macro View - Structural Policy Responses to the "New Normal"*, we noted that a renewed focus on regionalization will be a response for companies seeking to overcome policy-induced domestic supply constraints, and diversify sources of demand.

History of Regionalization Drives

Regionalization was first pursued in the early 1990s as a response to the escalation of domestic costs and the need to develop a pool of local entrepreneurs to reduce the economy's reliance on MNCs. The government concluded that the loss of competitiveness that led to the 1985 recession was partly due to overreliance on foreign MNCs in industrialization, which unlike the indigenous champions in Korea and Taiwan, had little incentive to aggressively pursue technological upgrading.

After the Asian Financial Crisis in 1997-1998, there was a second regionalization drive led by Temasek-linked companies as they opportunistically sought regional M&A to expand into regional markets.

After more than two decades of regionalization, the external wing of the economy is now larger than domestic GDP. The stock of outward direct investments from Singapore surged from S\$2.6bn (6.4% of GDP) in 1986 to S\$407.1bn (134% of GDP) by 2010. Investments into Asia have dominated – especially China (16.2%), Malaysia (8%), and Indonesia (6.4%), Hong Kong (6%) and Thailand (5.4%). Financial services constituted slightly under half of outward FDI while manufacturing constituted slightly under a quarter (See the Appendix for details). More than half of earnings of companies listed in the STI are from overseas, and 68% of Temasek Holding's portfolio is overseas.

Figure 11. Singapore – Total Direct Investment Abroad by Country & Region and Activity Abroad, 2010

SGD mn	Total	Manufacturing	Construction	Wholesale & Retail Trade	Accommodation & Food & Beverage Service Activities	Transport & Storage	Information & Communications	Financial & Insurance Services	Real Estate Activities	Professional, Scientific & Technical, Administrative & Support Services	Others
TOTAL	407,151.9	97,518.1	1,476.5	16,895.1	3,641.2	10,208.9	20,923.2	196,501.7	33,135.2	8,229.6	18,622.5
Asia	227,169.7	83,642.7	1,458.4	16,570.8	2,532.8	4,526.4	14,450.1	62,207.1	28,849.2	4,809.3	8,122.9
China	70,585.1	37,252.4	383.2	2,452.7	381.9	1,533.3	267.8	8,464.0	16,015.2	1,645.1	2,189.5
ASEAN	95,398.0	35,141.7	648.2	5,713.5	1,514.9	1,306.3	6,386.7	35,079.1	2,870.5	1,551.6	5,185.5
Other Asia	61,186.6	11,248.6	427.0	8,404.6	636.0	1,686.8	7,795.6	18,664.0	9,963.5	1,612.6	747.9
United States	14,055.6	9,297.3	-	384.3	(s)	140.2	10.0	2,464.1	56.8	1,866.9	(s)
European Union	44,160.0	905.1	(s)	(s)	642.5	574.4	879.3	37,788.0	122.4	973.2	(s)

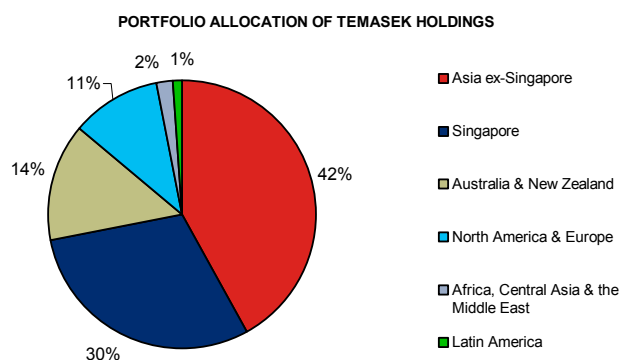
Note: (s) – suppressed to avoid disclosure of data of individual companies. Source: Singapore Department of Statistics

Next Wave of Regionalization – Local SMEs

Unlike the opportunistic M&A driven regionalization of the 2000s, regionalization in the next 5-10 years could see a heavier involvement by local SMEs hit hardest by real exchange rate pressures, much as yen real exchange rate appreciation in the mid-1980s led to an acceleration of ODI from Japan. Indeed, a recent survey by the Association of Small and Medium Enterprises (ASME) indicated that 3 out of 10 companies are considering relocating operations outside Singapore. Another recent survey by DP Information group found that 27% of the 10,000 companies surveyed generated more than half of turnover

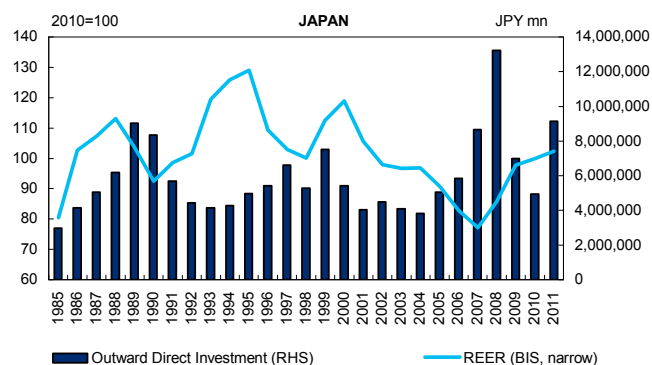
from overseas markets in 2012, double the 14% who did so in 2011, with 54% of companies reporting overseas revenue (vs. 10% in 2011). SMEs make up 99% of business establishment, employ 56% of all workers, accounting for about 42% of GDP. One of the key objectives of the Economic Strategies Committee (ESC) in 2010 was to bring the number of Singapore enterprises with revenues of over S\$100mn to 1000 by 2020, from 530 in 2007 and 280 in 1998, with a focus on enterprises internationalizing into Asia enterprises which are internationalizing especially into Asia.

Figure 12. Temasek Holdings' Portfolio by Geography (Mar-2012)



Source: Temasek Holdings

Figure 13. Acceleration in outward direct investments was also experienced by Japan in the mid-1980s alongside a stronger REER



Source: CEIC, Citi Research

Government Facilitation of Regionalization

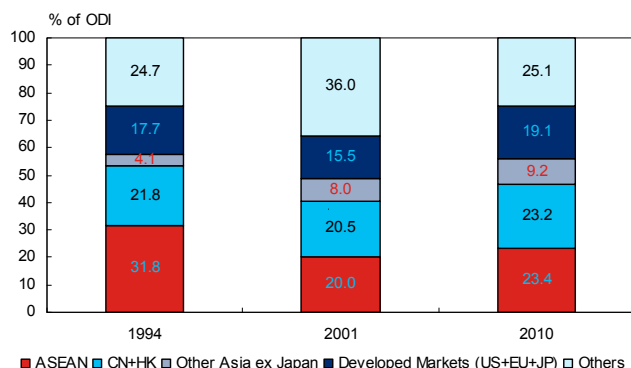
On a practical level, the government can facilitate regional expansion through various means.

- One vehicle commonly employed in the past was the overseas industrial park model, which entailed Temasek-linked companies setting up the infrastructure for the industrial parks, then drawing local SMEs and other MNCs to locate in these parks.
- Aid can also come through tax and other incentives.
- Finally, the government help plug the gaps in cross-border financing capacity – particularly in trade finance, internationalization finance (funding of overseas plants and operations) and project finance – via market-based solutions and institutions, and government-backed guarantees. Such initiatives appear to have gained momentum recently, with a few notable examples having surfaced.

Singapore's Evolving Relationship with ASEAN

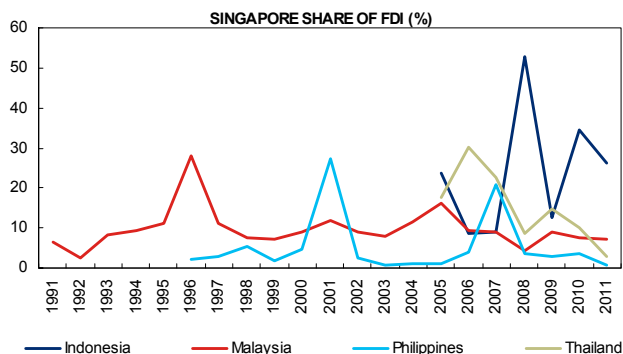
While geographical proximity suggests ASEAN should naturally take the lion's share of Singapore's investments abroad, the reality is that ASEAN's importance has waned over time. The share of ASEAN in Singapore's stock of ODI has fallen from 31.8% in 1994 to around 23.4% by 2010, while Singapore's importance as a source of FDI for ASEAN has waned. The stock of Singapore's outward direct investments into ASEAN has fallen from a peak of some 22-23% of ASEAN's stock of inward FDI to slightly less than 20% in 2010, mirrored also in individual country data (especially in Malaysia and Thailand).

Figure 14. Singapore's Stock of ODI



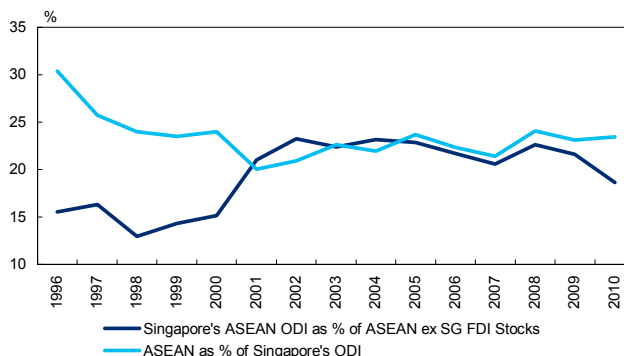
Source: Singapore Department of Statistics, Citi Research

Figure 16. Singapore's share in FDI has fallen in Malaysia and Thailand, and remains insignificant in Philippines



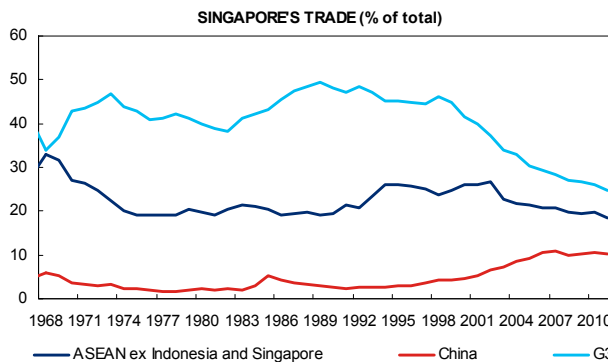
Source: CEIC, Citi Research

Figure 15. Stock of Singapore outward direct investments into ASEAN is roughly around 20% of stock of FDI in ASEAN, from 22%



Source: Singapore Department of Statistics, UNCTAD, Citi Research

Figure 17. ASEAN became a less important trading partner in the 1960s and 1970s, rose in importance in 1990s, before declining in the 2000s



Note: We use data from the IMF Direction of Trade database and exclude Indonesia as data is unavailable prior to 2003.

Source: Haver, Citi Research

The evolving importance of ASEAN to Singapore partly reflects Singapore's own domestic economic restructuring imperatives, on top of commercial considerations. From being Singapore's hinterland in the colonial period, ASEAN became less important both as a trading partner and investment destination especially in the 1960s and 1970s as Singapore's industrialization drive focused on global, as opposed to just regional markets. Consequently this reduced the traditional dependence of the economy's role as a regional entrepot hub.

Policymakers paid greater attention to ASEAN from the late 1970s to 1990s as the slowdown in the developed world prompted economic restructuring to diversify Singapore's export markets. The recession in 1985 – triggered by excessive REER appreciation – prompted regionalization into ASEAN to escape domestic cost pressures, culminating in the Sijori growth triangle and the first industrial parks in China in the early 1990s. This shift in Singapore's strategy also coincided with ASEAN's shift towards economic cooperation and integration, which started first with the signing of the ASEAN Preferential Trading Agreement (PTA) in February 1977, followed by the signing of AFTA in 1993.

Policymakers refocused their attention on ASEAN after the Asian Financial Crisis in 1997/1998, seeing an integrated ASEAN as the only way to stay economically

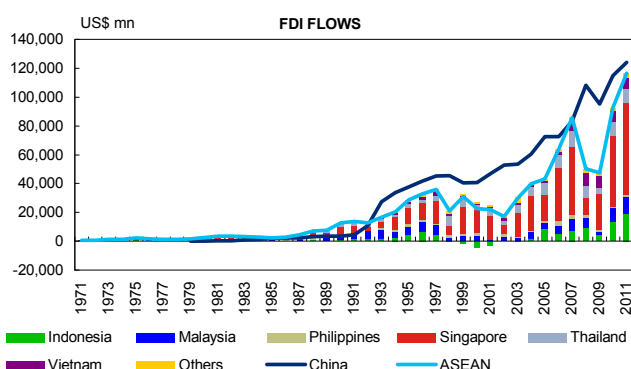
relevant in the face of a rising China and India. Nonetheless, the actual economic relationship fell far short of the soaring political rhetoric, as the pull of rising China and India prompted more local firms to turn their attention northwards. Implementation progress on ASEAN integration initiatives was also slow due to differences in development strategies as well as protectionist tendencies.

ASEAN May Benefit from Diversification of FDI Out of China

Still, the evolving regional macro context suggests a more important role for ASEAN in the next phase of Singapore's regionalization, even as China remains a key partner by virtue of its size.

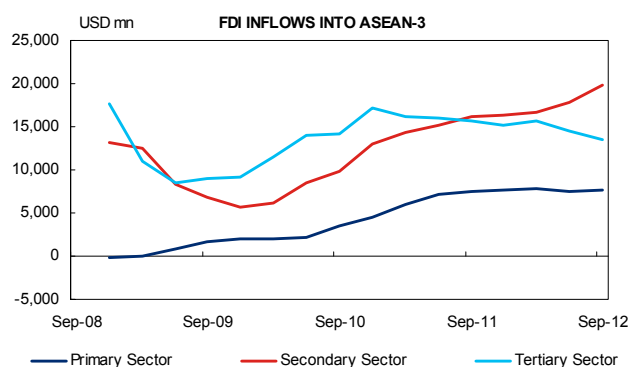
For a start, ASEAN could benefit from a diversification of MNCs' portfolios of direct investments away from China. For example, an August 2012 survey by the American Chamber of Commerce in Singapore showed that 21% planned to reduce reliance on China by moving some businesses to Southeast Asia over the next two years, up from 15% in 2011. Malaysia and Philippines were top choices for expansion, getting cited by 27% of respondents (vs. 21% for Malaysia in 2011 and 11% for Philippines), while Thailand and Indonesia were cited by 24% and 23% of respondents. Indeed, FDI into ASEAN almost caught up with China in 2011, with the FDI recovery broadening beyond Singapore and Indonesia to include Thailand, and Malaysia. FDI into ASEAN had actually overtaken China briefly in 2007 before the onset of the 2008/09 financial crisis. While UNCTAD data does not provide the sector breakdown of FDI, country level FDI data shows that the recent FDI surge in the ID, TH and MY since 2010 has been increasingly driven by the secondary industries (manufacturing and construction).

Figure 18. FDI into ASEAN had almost caught up with that into China by 2011



Source: UNCTAD, Citi Research

Figure 19. Sectoral data from ID, MY and TH shows that realized FDI surge since early 2011 led by secondary sectors



Source: CEIC, Citi Research

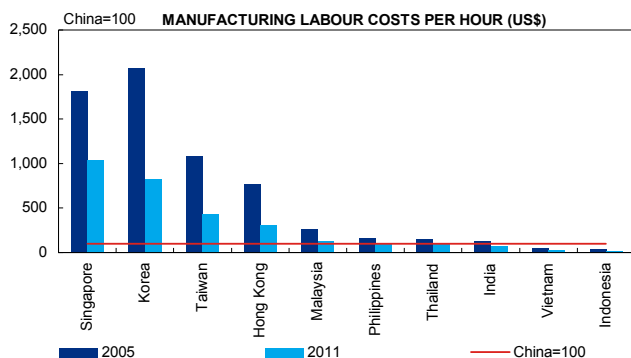
We identify a few reasons for this recent diversification of away from China.

Rising wages in China

First, as we had highlighted in our recent GPS, **as China rebalances its economy from investment towards consumption, the wage cost advantage it once enjoyed over ASEAN in the last decade has been rapidly eroded** (see report [Citi GPS: CHINA & EMERGING MARKETS - China is about to rebalance. How will EM be affected?](#)). Thus, ASEAN manufacturing wages as a multiple of Chinese wages have shrunk dramatically in the last decade, including for the more industrialized

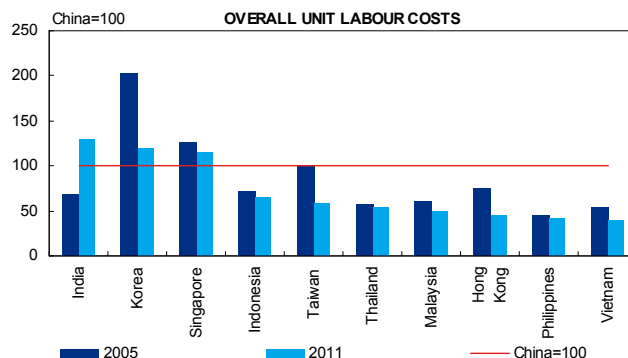
ASEAN economies. For example, from almost 4x Chinese wages in 2000, Malaysia's manufacturing wages are now only 1.5x Chinese wages. China is in fact even more expensive than even Thailand, which was not the case a decade ago. While manufacturing ULC data is not available, we find that quite a few ASEAN countries have lower overall unit labor costs than China. ASEAN's recent bout of wage inflation has not eroded its wage competitiveness vis-à-vis China, in our view (see [ASEAN Macro View - Should We Worry about Wage Inflation in ASEAN?](#)).

Figure 20. China's wage cost advantage over ASEAN has eroded in terms of manufacturing labor costs per hour...



Source: Economic Intelligence Unit, Citi Research

Figure 21. ... and overall unit labor costs



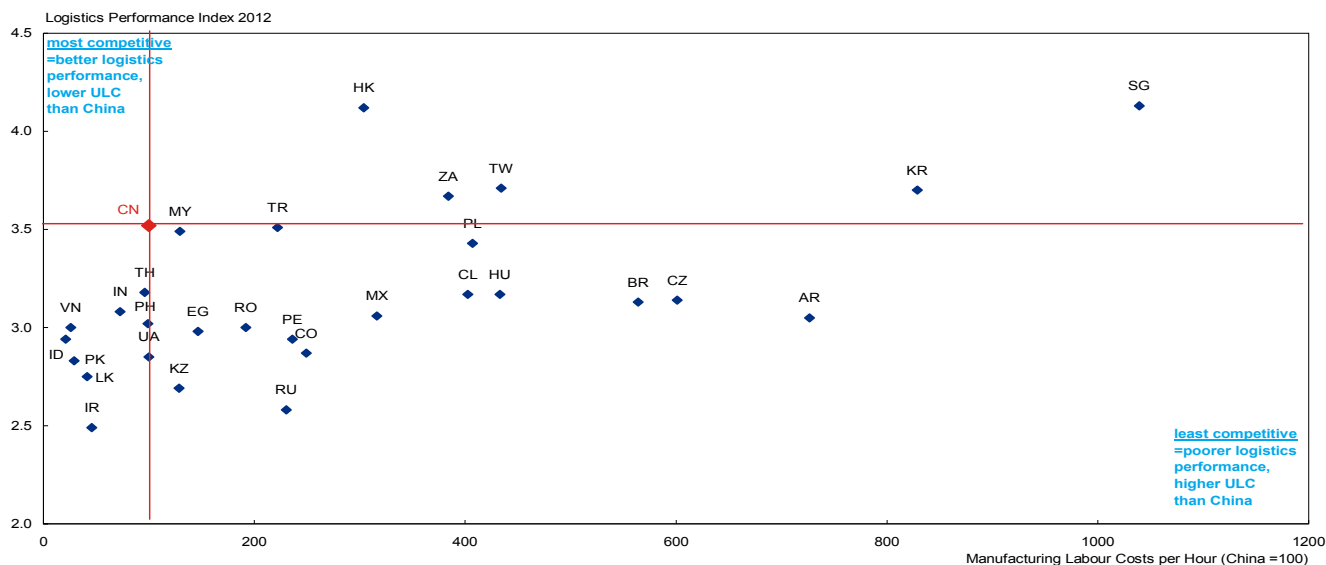
Source: Economic Intelligence Unit, Citi Research

Logistics

Second, most ASEAN economies are not too far behind China in terms of the ease of moving goods across borders, another critical component of manufacturing competitiveness. The World Bank's Logistics Performance Index provides qualitative evaluations of a country in six areas by its trading partners. Most ASEAN economies have logistics competitiveness indices which are currently not too far off from China.

With logistics performance set to improve from fairly respectable levels and generally lower labor costs than China, ASEAN is likely better placed to benefit from a relocation of manufacturing out of China.

Figure 22. Manufacturing Labor Costs Per Hour and Logistic Performance Index

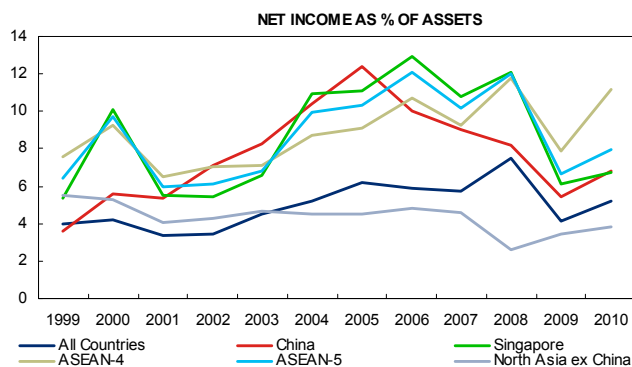


Source: Economist Intelligence Unit, World Bank, Citi Research

Relative returns

Third, partly because of increasing labor costs, returns on FDI for MNCs operating in ASEAN have been superior to those in China, especially for US firms. Data from the US Bureau of Economic Analysis show that the return on assets (Net Income as % of Assets) for non-bank US MNCs in China has fallen below that of ASEAN-4 countries since 2006, reflecting higher unit labor costs. For Japanese firms, the rate on return on FDI into ASEAN has been consistently higher than China.

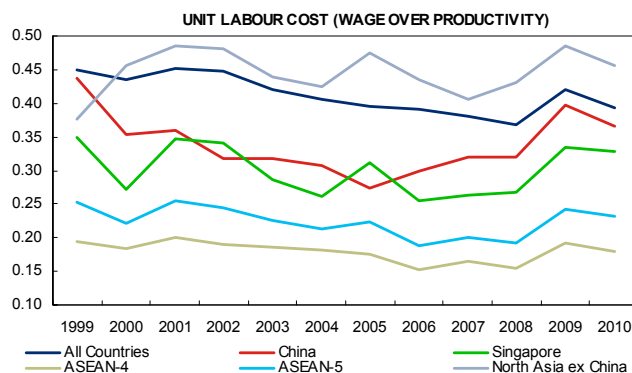
Figure 23. US MNCs: Net Income as % of Assets



Note: ASEAN-5 comprises Indonesia, Malaysia, Philippines, Singapore, and Thailand. ASEAN-4 excludes Singapore.

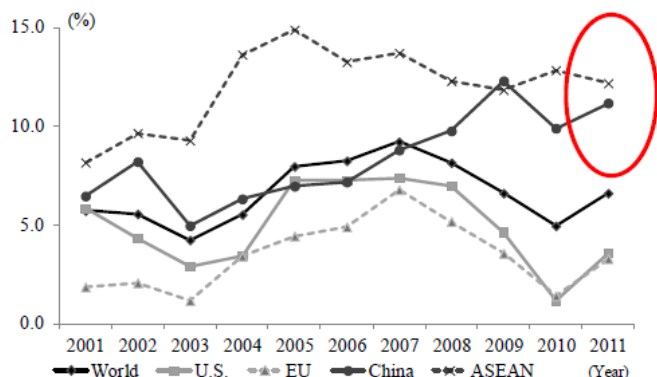
Source: US Bureau of Economic Analysis, Citi Research

Figure 24. US MNCs: Unit Labor Costs



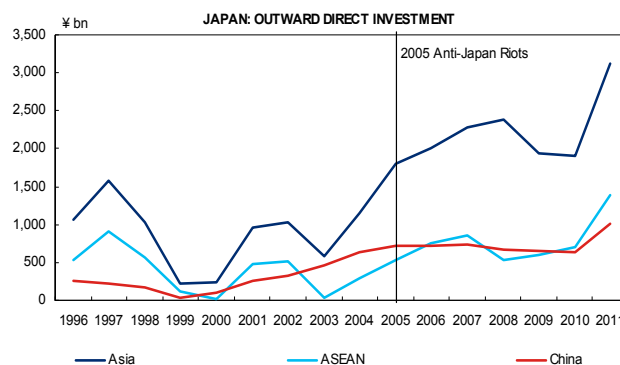
Note: ASEAN-5 comprises Indonesia, Malaysia, Philippines, Singapore, and Thailand. ASEAN-4 excludes Singapore. Source: US Bureau of Economic Analysis, Citi Research

Figure 25. Japan's Rate of Return on Outward FDI



Source: Japan External Trade Organization (JETRO)

Figure 26. Japan: Outward Direct Investment



Source: Haver, Citi Research

Politics

Fourth, recent tensions between China and Japan may cause Japanese FDI to be diverted into ASEAN, as Japanese firms adopt a China + ASEAN strategy when it comes to where to locate their investments. Following the previous round of anti-Japanese protests in China in April 2005, Japanese ODI to China gradually stagnated, and the ASEAN-5 (ex SG) countries overtook China briefly in 2006. Already the *Singapore Straits Times* has reported that the ASEAN-Japan Centre in Tokyo has received more queries from Japanese firms interested in ASEAN.

China domestic companies

Finally, Chinese companies are themselves investing more in ASEAN, especially Vietnam and Thailand. Though China's outward direct investment remains small in absolute terms, a surge has been particularly notable since 2002. While resource-seeking investments have gained greater attention, these accounted for less than a fifth of China's stock of overseas direct investment in 2011. Rather, the share of trade-related services has risen, led by leasing and commercial services, with corresponding declines in manufacturing investment. Asia has been an increasingly important investment destination, accounting for 71.4% of China's accumulated Outward Direction Investment in 2011 from 52.9% in 2006, with the share of ASEAN more than doubling to 5.1% from 1.9%.

Figure 27. Examples of Recent Japanese Business Expansion into ASEAN

Carmakers like Toyota and Nissan are boosting production in Thailand and Indonesia.

Department store Takashimaya plans to invest up to 35 billion yen (\$537 million) in ASEAN by 2016.

Convenience chain Family Mart aims to open up to 500 outlets in Indonesia in five years.

Japan's second-largest shipbuilder, Tsuneishi, opened a shipyard on Cebu Island in the central Philippines this year.

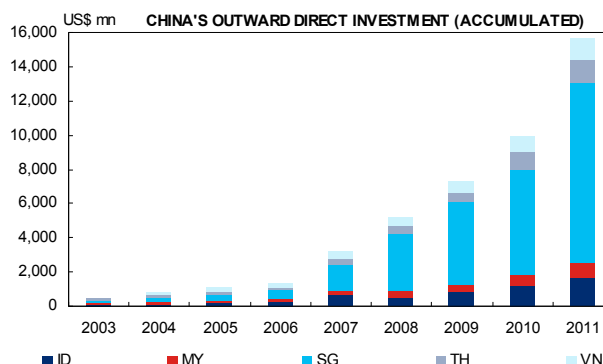
Japan's football J-League is being shown on TV this year in Malaysia, Indonesia, Thailand and Vietnam.

Brewer Sapporo opened a plant in Long An, near Ho Chi Minh City in Vietnam, in 2011.

Astalift, a skincare brand from FujiFilm, opened its second store in Singapore in Oct.

Source: Straits Times Singapore

Figure 28. China: Outward Direct Investments (accumulated)



Source: CEIC, Citi Research

Figure 29. Chinese Production and Sales in ASEAN

TCL	Production	Plants in Vietnam (600,000 color TVs annually), Indonesia, Philippines and Thailand. Acquired Tomson's R&D center in Singapore with over 200 engineers and other technicians.
	Sales	16% share of color TV market in Vietnam in 2004. Sold 80,000 air conditioners in Indonesia in 2004 (4% market share) and nearly 120,000 units in 2005
Huawei	Production	Subsidiaries, branches or representative offices in Singapore, Malaysia, Thailand, Cambodia, Vietnam, the Philippines and Indonesia. Asia Pacific HQ in Malaysia.
	Sales	2005 sales estimated at US\$600 million. Expected to exceed 50% share of broadband and next-generation network components market and 30% of mobile products market.
Lenovo	Production	In first quarter of 2005 had 11% market share, replacing Hewlett Packard as No. 2.
	Sales	Starting mobile phone sales in Thailand, targeting 400,000 to 500,000 handsets in 2006, and among top five in share by 2008. Moving into Vietnam's mobile phone market, aiming to be fourth largest maker by 2006.

Source: Japan External Trade Organization (JETRO)

ASEAN Cost Advantages Also Appeal to Singapore

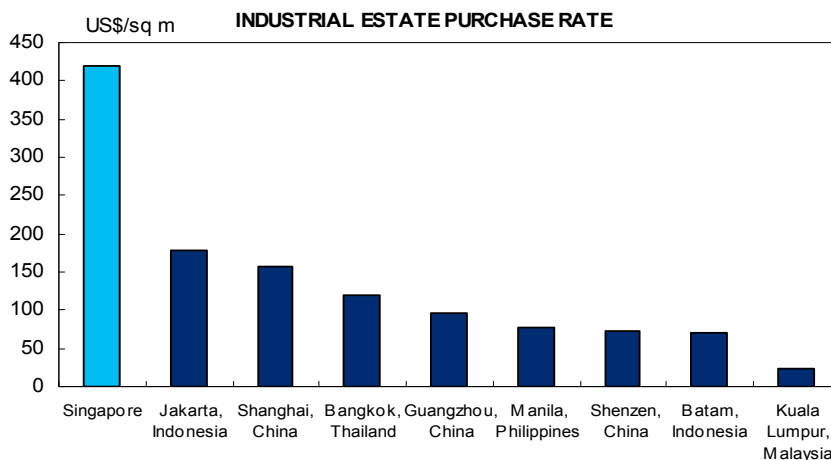
The same cost considerations that cause MNCs to favor ASEAN also apply to Singapore-based manufacturers and other SMEs – and these extend beyond labor costs. The cost of industrial land in ASEAN remains far lower than that of Singapore as well as parts of China. For example, the 22nd JETRO survey of Investment Related Costs in Asia released in April 2012 highlighted that the sale price of land in industrial estates in Indonesia remains substantially lower than Singapore's US\$190-651/sq m and is comparable or lower than Chinese coastal cities'. Likewise, costs across a number of other aspects in ASEAN, including utilities and transport cost, are comparable or better than in China (see Appendix).

The diversification of MNC's manufacturing investments into ASEAN may also encourage Singapore SMEs manufacturers to do likewise, as most manufacturing SMEs in Singapore serve as suppliers to MNCs within a broader Asian production chain, so as to be closer to their end-customers. This was the case in the early 1990s when Singapore subcontractors followed their foreign MNC clients who relocated some operations to Malaysia and Thailand.

From a policymaker's perspective, relocation of manufacturing to ASEAN instead of China would still enable Singapore to capture spillovers in supporting services such as logistics, which would not be possible if these factories went instead to China. For example, more than 60% of the products manufactured in Batam are shipped to international markets through Singapore's air

and seaports. Similarly, Singapore's international banking hub plays a critical role in financing many of these operations.

Figure 30. JETRO survey of investment related costs in Asia highlighted that the sale price of land in industrial estates in Indonesia remains substantially lower than Singapore's and is comparable or lower than Chinese coastal cities'

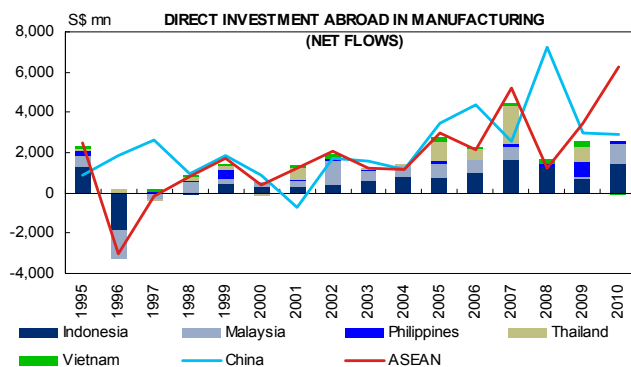


Note: We take simple averages where multiple prices are presented in the survey. Please see Figure 57 in the Appendix for the full details

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

For all these reasons, while the stock of ODI by Singapore-based manufacturers continued to be larger in China in three out of the four years in 2007-2010, the flow manufacturing ODI into ASEAN overtook that of China, with the trend accelerating from 2009 and 2010. While investments into Malaysia, Indonesia, Thailand, Philippines and Vietnam were sizeable in 2009 and 2010, these were outstripped by net ODI into ASEAN as a whole, suggesting perhaps a surge in investments into frontier markets such as Myanmar. A recent survey by DP Information Group found that slower growth in China resulted in Indonesia replacing China as the second most popular destination for Singapore SMEs.

Figure 31. Singapore Net Outflows of Manufacturing ODI by Destination



Note: While data for ASEAN is available on an aggregated basis, individual country data for Myanmar, Cambodia and Laos are not published.

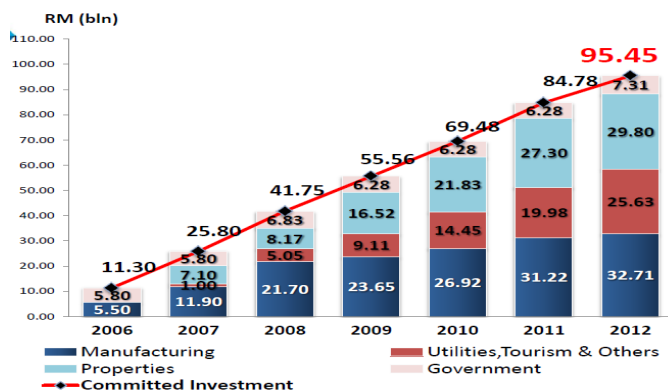
Source: Singapore Department of Statistics, Citi Research

Figure 32. Iskandar Region – About 3x the Size of Singapore



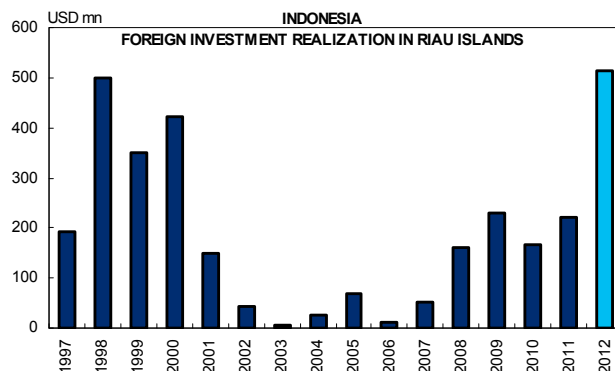
Source: Iskandar Malaysia

Figure 33. Cumulative Investments into Iskandar Have Hit RM95.45bn as of June-2012



Source: Iskandar Regional Development Authority, Citi Research

Figure 34. Foreign Investment Realization in Riau Islands, Indonesia



Source: CEIC, Citi Research

Iskandar

After years of skepticism, Iskandar may be gaining critical mass in interest from Singapore investors, including GLCs. As we had highlighted in 2010 (see [Singapore Macro Weekly - Opening a New Chapter in Singapore-Malaysia Bilateral Relations](#)), the Iskandar Development Region in Southern Johor – which has a land area three times that of Singapore – could be well positioned to benefit from the decanting of Singapore's land- and labor-intensive manufacturing abroad. We would thus not be surprised if incentives are provided for Singapore manufacturing SMEs to relocate to Iskandar, including tax incentives and relocation subsidies. Singaporean investors comprise just 5-6% of overall investments into Iskandar, suggesting significant scope for increase. The joint venture between Ascendas Land International and Malaysia's UEM Land to develop an integrated technology park in Iskandar may catalyze the relocation of manufacturing to Iskandar, if the government-led overseas industrial parks of the 1990s are an example (see Box Item on industrial parks in the Appendix). In property, industrial REITS may follow SME manufacturing tenants to Iskandar. In education, there are opportunities for international schools catering to expatriate families living in Iskandar but working in Singapore. In healthcare/silvercare, the liberalization to allow Medisave accounts to be utilized at selected hospitals in Malaysia would, given a much lower price point, be attractive for lower-income Singaporeans. A successful manufacturing sector in Iskandar could provide spillovers for the transport and logistics sector in Singapore.

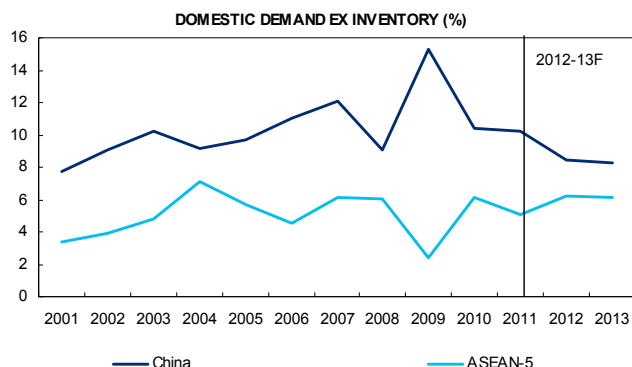
A successful Iskandar could serve as a template for regional integration initiatives within ASEAN, possibly reviving the Sijori growth triangle of the 1990s, which, besides Johor, included Batam in Indonesia. On this note, the Riau industrial parks are experiencing a revival since 2009 after struggling in much of the post Asian Financial Crisis period on legal and regulatory uncertainties.

Demand-Side Opportunities for Services Plays

Besides being Singapore's factory, ASEAN could over time turn from being a factory to increasingly becoming a more important market. Cyclically, the domestic demand resilience amidst the recent export downturn, has garnered the attention of investors, especially in comparison with China and India. Looking into 2013, even as China's domestic demand moderates as investment slows, our forecasts anticipate ASEAN's domestic demand to remain relatively steady, helped

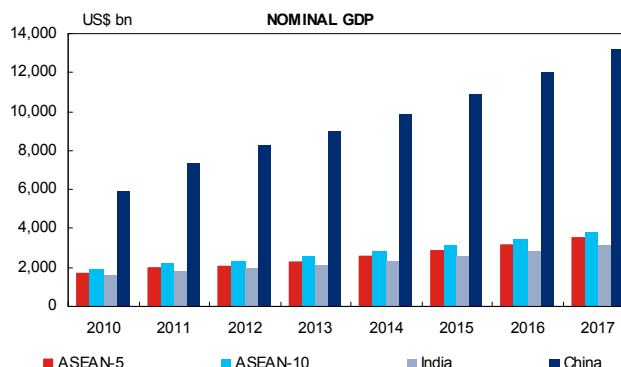
by a structural investment revival (especially in Indonesia and Malaysia), and tight labor markets.

Figure 35. Domestic demand in ASEAN is expected to stay resilient into 2013 even as China's moderates



Source: Citi Research

Figure 36. ASEAN GDP will be 21% larger than India's by 2017, though still smaller than China



Source: Haver, Citi Research

Significant market size

Structurally, the size and medium-term growth of the collective ASEAN market makes it difficult for investors to ignore. While no single ASEAN country is comparable to China in terms of market size, with a combined population of 600mn and GDP (at current exchange rates and market prices) of around US\$1.9trn, the collective ASEAN-10 market is around 30% that of China and 15% larger than India's. By 2017, the IMF projects that ASEAN-10's GDP would have reached US\$3.8bn – around 21% larger than India's, and average per capita GDP – around US\$3.6k this year – is projected to rise to US\$5.8k by 2017. Indeed, in our recent report [Global Economic Outlook and Strategy - Prospects for Economies and Financial Markets in 2013 and Beyond](#), we noted that Indonesia could be the world's eighth-largest economy by 2025, overtaking France and UK. These aggregate projections of course mask the massive intra-regional in disparities economic development – with Singapore having a per capita GDP almost 60x that Myanmar in 2011 – though this should narrow over time.

Favorable demographic and urbanization trends

Drilling deeper, growth rates in ASEAN – in particular of domestic demand – will likely be fueled by favorable trends in demographics and urbanization – which Singapore Inc is well positioned to take advantage of.

Unlike China, ASEAN will experience a demographic dividend at least over the next 10-15 years. While China could see its working age population start to decline as a proportion of overall population from 2015, ASEAN should see a small rise in the share of working age population from 67% in 2011 before plateauing at 69% in 2020-2024. After 2030, the proportion of working age persons in China's population is projected to start falling below ASEAN's.

Apart from the frontier economies of Cambodia, Myanmar and Laos, the demographic dividend is most apparent in the Philippines, Indonesia and Malaysia. All have a high youth dependency ratio and lower old age dependency ratio, which points to a potential demographic dividend ahead. In Philippines for example, the proportion of working age population is expected to peak only around

2045-2050, while that of Indonesia and Malaysia could peak in 2025 and 2020 respectively. Raising currently low female labor force participation rates could allow the labor force to grow even faster than the working age population. With the right policies, the growth in the labor force and reduction in youth dependency ratios will increase consumer incomes, purchasing power and savings. Any increase in savings could be freed up for investments in development or to improve the quality of life and/or human capital. Outside of Singapore, dependency trends are the least favorable in Thailand, which will mirror closely those of China in the next 50 years.

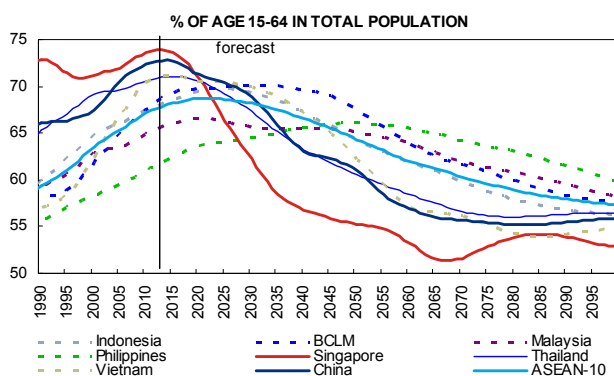
Figure 37. Demographic Trends in ASEAN, China and India

	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

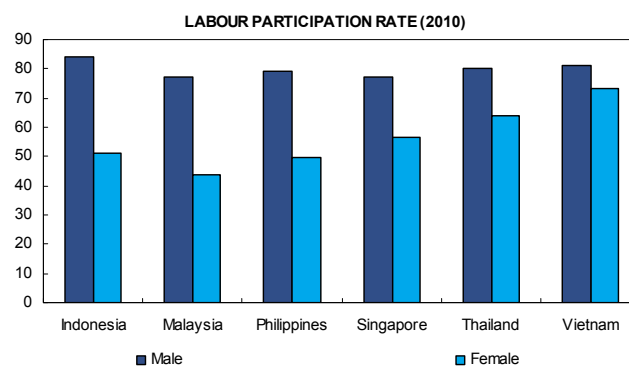
Source: Haver, Citi Research

Figure 38. Working Age Population



Source: Haver, Citi Research

Figure 39. Male and Female Labor Force Participation Rates

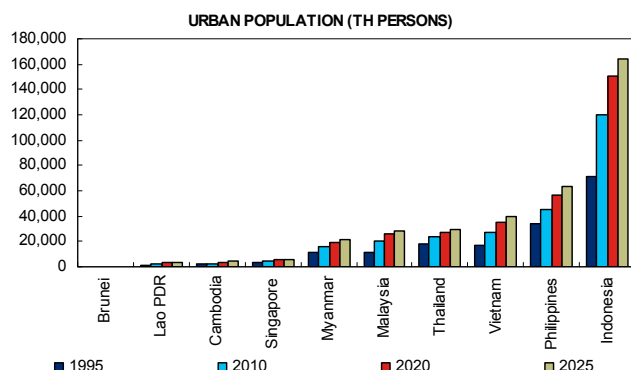


Source: Haver, Citi Research

Whilst on a smaller scale than in China, Southeast Asia should continue steadily urbanizing, with sizeable opportunities especially in Indonesia, and perhaps the Philippines and Vietnam. The United Nation expects that the urban population of ASEAN-10 will increase to 54.9% (351.7mn) by 2025 from 46.9% (263.7mn) in 2010, or an addition of 88mn persons to urban areas between 2010-2025, of which half will be in Indonesia. While small compared the 300mn increase that our China research team expects over the next two decades (see note [China Macro View - The Urbanization Dividend](#)), potential opportunities are still sizeable.

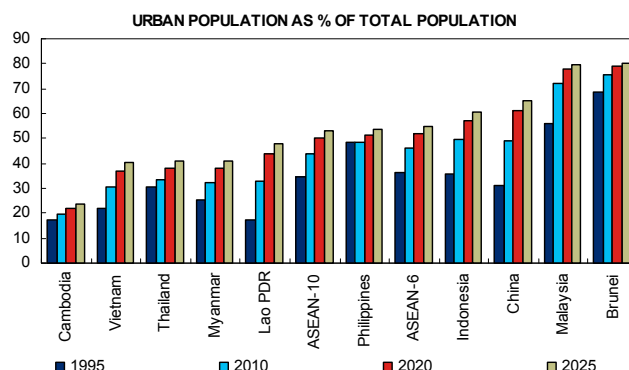
From around 50% in 2010, the UN has forecasted Indonesia's urbanization rate to rise to 60.3% in 2025 – a 44mn increase in the urban population. Separate projections by the McKinsey Global Institute see a rise in the urbanization rate to 71% in 2030 or an additional 72mn people living in urban areas. Not only does McKinsey expect Jakarta to become a megacity with more than 10 million inhabitants, other large and mid-sized cities with populations between 2 million and 5 million are likely to grow at the fastest paces. Thus the share of Indonesian GDP generated by urban areas is expected to rise from 74% today to 86% by 2030².

Figure 40. Urban Populations



Source: UN Population Division, Citi Research

Figure 41. UN Projections of Urbanization Rates into 2025



Source: UN Population Division, Citi Research

Rising incomes, favorable demographics, and urbanization should generate demand for a range of consumption and investment goods and services, with attendant opportunities for Singapore-based companies.

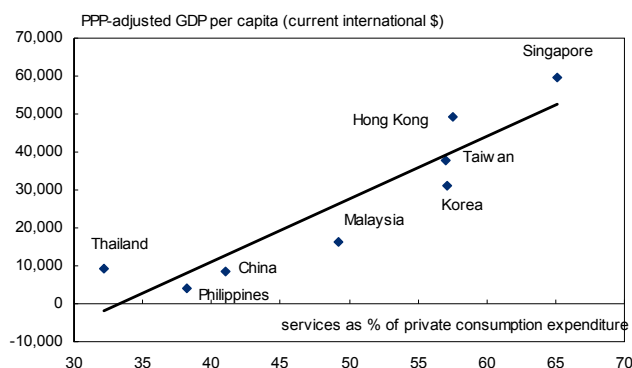
- A rising share of the population that works in higher-paying urban jobs and live in the cities should translate into a growing consuming class, with sufficient discretionary incomes to spend on various consumer goods and services, and – importantly – better physical access to these goods and services. In Indonesia alone, McKinsey expects an additional 90mn Indonesians to join the global consuming class by 2030, only surpassed by China and India.
- The experience of many Asian countries suggests that as incomes rise, consumption shifts away from basic necessities towards services. For example, our China economics team had previously noted that the historical experience of Taiwan and Korea suggests that as per capita incomes rise above US\$3K, consumption becomes more heavily weighted towards services³, McKinsey has also noted that in China, spending on dining out starts to take off when annual incomes reach around US\$4K per household, while spending on transport and communications start increasing strongly as incomes reach US\$6K per annum. Spending on leisure travel and retail banking services start climbing when incomes climb to US\$18k per annum.
- To cater to the needs of the rising urban consumer, governments will need to invest heavily in infrastructure to alleviate bottlenecks. We can see a number of areas – residential and commercial property development, clean water, waste

² Raoul Oberman et al (2012), "The archipelago economy: Unleashing Indonesia's potential", McKinsey Global Institute

³ See Minggao Shen and Ken Peng (3 September 2009), "China Macro View: Who Will Spend and What to Spend On", Citi Research

management, energy supply and public transport - where the increase in demand and gaps in supply could be particularly pertinent as urbanization takes off. Many Southeast Asian cities for example have sizeable populations living in slums with limited access to basic services (water, sanitation, healthcare) – and even when there is access to water, the quality of water may be sometimes suspect.

Figure 42. Proportion of consumption spent on services increases as per capita GDP increases



Source: CEIC, Haver, Citi Research

Figure 43. Slum Populations in Southeast Asia (2005)

Country	Slum population (th persons)	Urban population (th persons)	Slum population as % of urban population
Cambodia	2,309	2,926	78.9
Indonesia	28,159	107,068	26.3
Laos	969	1,222	79.3
Myanmar	7,062	15,487	45.6
Philippines	22,768	52,101	43.7
Thailand	2,061	7,927	26.0
Vietnam	9,192	22,257	41.3
Southeast Asia (ex Brunei, Malaysia, Singapore, Timor- Leste)	72,520	208,988	34.7

Source: Yap Kioe Sheng, "Urban Challenges in South-East Asia", presented at Fifth Asia-Pacific Urban Forum 2011

The collective ASEAN consumer market will arguably become more compelling for Singapore companies as ASEAN becomes more economically integrated. The formation of the ASEAN Economic Community (AEC) by 2015 aims to achieve a deeper degree of integration, going beyond the earlier efforts by AFTA to bring down tariff barriers. Despite considerable skepticism over the progress of integration efforts, there are positive trends emerging. ASEAN has developed a scorecard mechanism to track the implementation of measures in the AEC blueprint, which has resulted in a higher degree of compliance with the AEC integration process. As of September 2012, 72% of the measures lined up in the AEC blueprint had been implemented, improving from the 67.5% implementation rate in 2011.. While it is entirely possible that the AEC may not be able to achieve all its goals by 2015, the synergies generated over time by these measures are likely to generate new opportunities for regional businesses.

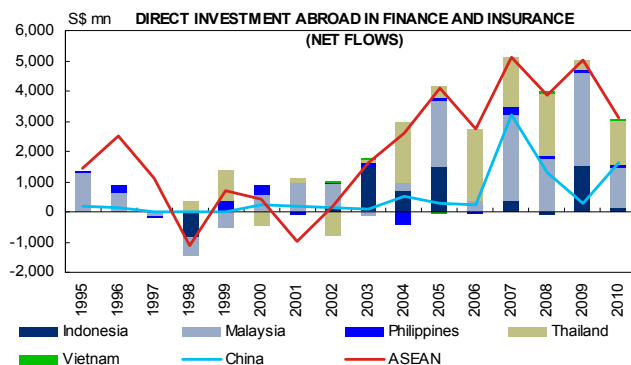
Rather than manufacturing, which is geared towards higher-end demand from developed markets, Singapore can best exploit the ASEAN market in the services arena, which Singapore firms have been traditionally stronger in.

ASEAN Opportunities – Banks

Banks should continue to be significant beneficiaries of a strong ASEAN domestic demand story. Outward direct investments by the financial sector into ASEAN outnumbered those into China by a factor of 2x or 3x, although loan portfolios were comparable in size. Much of these represented opportunistic investments to take advantage of cheap valuations post the 1998 Asian crisis in Indonesia and Thailand, but later was motivated by the need to gain economies of scale as the liberalization of the domestic banking industry brought in more competition from foreign banks. That said, no Singapore bank has successfully executed a regional strategy, as the local subsidiary tends to be too small (3-4% market share) with no economies and/or pricing power. Banks with a strong investment banking and infrastructure financing capability will likely be best positioned to ride on the investment boom,

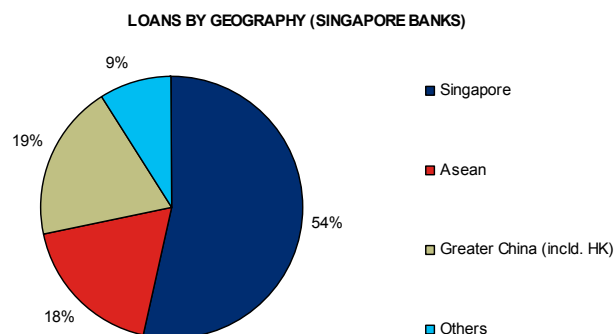
while those with a strong SME business could follow their manufacturing SME customers into ASEAN. Foreign banks in Singapore with a large regional presence should be significant beneficiaries of a relocation of MNCs' manufacturing operations or regional HQs from China to ASEAN. Capturing the rising market mass consumer finance may however require more aggressive investments that could run into protectionist obstacles.

Figure 44. Direct investments by financial services into ASEAN have dwarfed those into China in the last 15 years



Source: Singapore Department of Statistics, Citi Research

Figure 45. Loans by Geography of Singapore Banks



Source: Citi Research

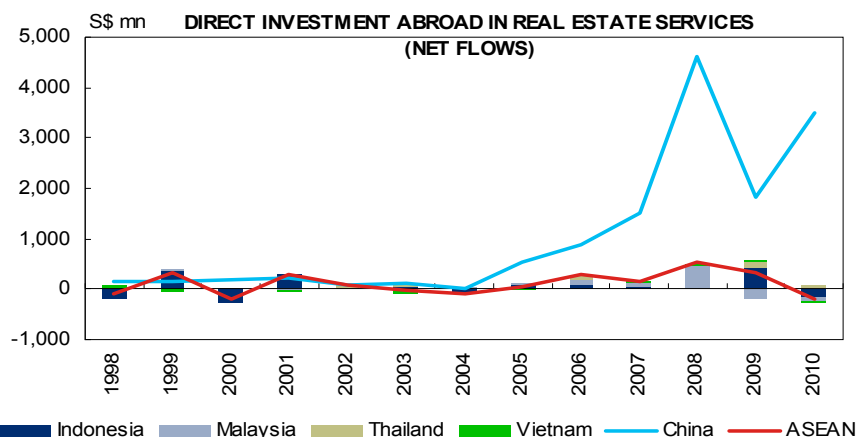
ASEAN Opportunities – Property

Regionalization efforts by Singapore property developers into the ASEAN region have been focused much more on China rather than ASEAN, with direct investments in real estate activities in ASEAN declining in 2010.

In the mid-90s, Keppel Land took equity stakes in resorts in Batam and Bintan. Keppel Land is the only Singapore developer with sizeable assets in Indonesia.

In the past half-decade or so, developers have started to deploy capital into Vietnam, riding on the same urbanization story that China offers. However, a less transparent set of land laws has meant that progress has been slower compared to China. With urbanization poised to take off, we see scope for Singapore developers to exploit the growth in the residential and commercial space in mid-tier Indonesian cities, and in emerging frontier markets such as Myanmar, Laos and Cambodia.

Figure 46. Outward investments by the real estate services sector have largely focused on China



Source: Singapore Department of Statistics, Citi Research

ASEAN Opportunities – Utilities

Currently Hyflux/SCI have been active in developing townships/waste management/water management in China, India and the Middle East, but less so in ASEAN. However opportunities within the ASEAN context may not have been fully explored, particularly the more frontier economies in the CMLV region where urbanization rates are relatively low but growing quickly. For example, McKinsey has estimated that 55mn of Indonesia's poorest people, accounting for 20% of total population, could still have no access to basic sanitation by 2030.

ASEAN Opportunities – Telcos

Within ASEAN, the SingTel Group has major investments in Indonesia, the Philippines and Thailand, making it Asia's largest multi-market mobile operator.

We see potential for cross border investments from GLCs into Myanmar, either directly through the strong engagement between these GLCs and the local government or indirectly via the investments of Temasek's overseas subsidiaries in Malaysia or elsewhere.

In Indonesia, there could be further potential for market growth in mobile telecommunications and internet subscriptions as internet marketing/e-commerce could be a means to mitigate the obstacles posed by the highly dispersed geographical landscape.

ASEAN Opportunities – Sea Transport

With the capacity of ASEAN ports strained to meet growing ASEAN consumer demand for imported goods, there may be opportunities for PSA to use its expertise to build up port capacity or take a management stake in some ASEAN ports. Both PSA International and NOL have been taking active stakes in regional terminals to take advantage of priority berthing and around 2-3% discount on port fees. But while PSA would be interested in reducing a source of competition by acquiring stakes in regional ports, potential targets may be less keen given fewer opportunities to grow organically.

ASEAN Opportunities – Air Transport

We see opportunities for Singapore-based budget carriers – as with other budget carriers – to ride on the rise in ASEAN tourism demand (ASEAN to Singapore or elsewhere within ASEAN). As it becomes cheaper to fly, more people will travel. However Singapore-based carriers could be disadvantaged by relatively high costs and will have to depend instead on their ability to tap the wider network of Singapore's full-service carriers.

Opportunities for Singapore's Regional Hub Role

Changing domestic trends and the regionalization strategy may have implications for Singapore's traditional regional roles as a services and high-end manufacturing hub and as a source of capital for ASEAN. This role as a regional services hub is amply demonstrated on a number of fronts.

Manufacturing and Trading Hub

Singapore's role as a regional entrepot and high-end manufacturing hub is evident in the composition of intra-regional trade, where we find that almost two thirds of trade between ASEAN countries is really trade with Singapore, especially that with Malaysia and Indonesia. Singapore's historical role as an entrepot was helped by its strategic location, deep harbor, free-port policy (started during colonial times) and the growth of ancillary services such as warehousing, shipping and process resources.

However, it also reflects Singapore role as a high-end/components manufacturing hub for MNCs operating within a broader ASEAN regional production network – not just in electronics but increasingly petrochemicals, pharmaceuticals as well as aerospace engineering. In the electronics industry for example, the components produced in Singapore's factories are shipped to Malaysia or Indonesia for assembly and further processing before being shipped back to Singapore for re-export to the developed markets.

Figure 47. Singapore's role as the regional entrepot and high-end manufacturing hub is illustrated by the fact that intra-regional trade is largely with, and through Singapore

2011		EXPORTS TO					
		Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
EXPORTS FROM	% OF TOTAL INTRA-ASEAN TRADE						
	Indonesia	-	3.9	1.3	6.5	2.1	0.8
	Malaysia	2.4	-	1.3	10.1	4.1	1.3
	Philippines	0.2	0.4	-	1.5	0.7	0.3
	Singapore	15.0	17.6	2.4	-	5.0	3.6
	Thailand	3.5	4.3	1.6	4.0	-	2.5
	Vietnam	0.8	1.0	0.5	0.8	0.6	-

Source: Haver, Citi Research

Commodities Trading Hub

Singapore has established itself as a key commodities trading center in three key commodity sectors:

- **Energy** – Singapore is currently the world's third-largest oil refining center and one of the top bunkering ports, handling around 15% of global physical crude oil trading. Growing production and trading volumes of oil majors and trading companies have helped Singapore develop as a trading center, particularly for refined products.
- **Agri commodities** – Singapore is estimated to handle 20% of global agriculture trading, utilizing its proximity to the world's largest producers of palm oil, rice and other agric commodities and is now Asia's leading OTC commodity derivatives trading hub, with a strong presence by trading giants such as Cargill, Noble Group, Olam and Wilmar.

- **Metals** – Trafigura, BHP Billiton and Anglo American – the world's leading miners and industrial metals traders – have announced plans to relocate or set up major trading functions in Singapore.

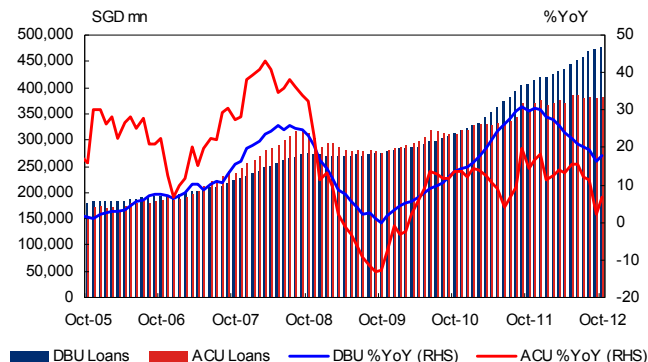
Growth of commodities trading has been helped by tax policies and other incentives. For example, the Global Traders Programme or GTP, in place since June 2001, offers a corporate tax rate of 10% to traders; companies can qualify for a 5% rate if they commit to meet certain criteria. As a result, the *Financial Times* for example reported that the number of traders employed by the physical commodities sector has increased 17% in 2011 to 12,000 traders and that Singapore aims for example to extend its position as a trading centre for oil to become a commodities hub for Asia with the help of tax and other policies.

Regional Financial Center

As an international financial center (third largest in Asia after Tokyo and Hong Kong), Singapore business is primarily offshore – it intermediates surplus savings from itself and other parts of the world to be deployed to productive uses within ASEAN and the rest of the world.

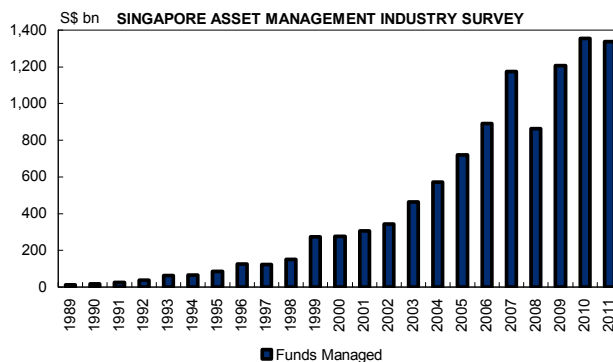
- The **offshore banking** business grew rapidly in the 1960s, when banks were encouraged to set up Asian Currency Units (ACUs) to handle foreign currency deposits and loans – today, over 600 financial institutions are located in Singapore. As a result, around 45% of total bank lending in Singapore is in offshore ACU loans, while an estimated 21% of DBU loans are to non-resident entities.
- In **equity markets**, about 40% of SGX listings are foreign, with many of these from Southeast Asia.
- In the **foreign exchange market**, Singapore was ranked in a BIS survey as the fourth-largest FX center globally and the largest FX center in Asia ex Japan, underpinning its role as a major treasury centre.
- Singapore is also ranked as the largest **OTC interest rate derivatives center** in Asia ex Japan by turnover.
- Singapore's strong connectivity and strong infrastructure has allowed it to grow as an **asset management hub**, with 500 players in the industry managing total AUM of just under S\$1.4trn, many of which are focused on managing assets in ASEAN.
- Singapore has also established itself as a **private banking** hub, serving especially (but not limited to) clients in neighboring ASEAN.
- Finally, in the **insurance** business, a large number of major international insurers and reinsurers use Singapore as a base to write risks within the region – the offshore insurance business now accounts for more than half of total general insurance business written.

Figure 48. DBU and ACU Loans



Source: CEIC, Citi Research

Figure 49. Singapore Asset Management Industry Survey



Source: CEIC, MAS, Citi Research

Transport Hub

Singapore is the major shipping and air transport hub of ASEAN, linked by sea and air to all parts of ASEAN and to the rest of the world.

Changi Airport serves more than 86 international airlines which connect to nearly 200 cities in 60 countries. Among Southeast Asian cities, Singapore is the most connected to China and is also connected to 11 Indian cities with 352 flights a week. Using data from Airports Council International, Singapore was ranked 18th busiest airport in terms of passenger traffic in 2011.

Meanwhile about 200 shipping lines call at Singapore, offering connections to more than 600 ports in 120 countries. The World Shipping Council ranks Singapore as the second-busiest container port in the world with an annual container throughput of 30mn TEUs; in terms of shipping tonnage, Singapore is the busiest, with about 120,000 vessel calls each year. Singapore also lifts about 30mn tons of bunkers each year, making it one of the top bunkering ports in the world. Singapore's role as a sea transport hub is also reflected in its position as a regional cruise center with around 400 port calls each year by more than 30 international cruise ships.

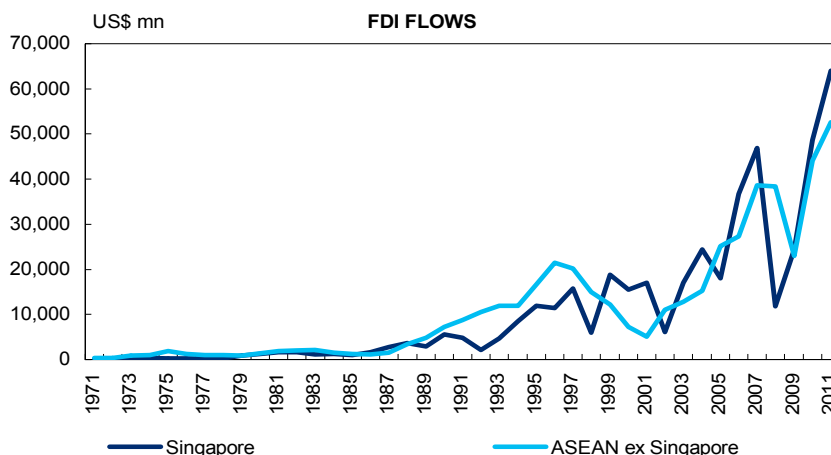
ASEAN Hub Role Set to Expand

It is not difficult to conclude that Singapore's hub activities will be lifted by a rising ASEAN tide. For example, as downstream/labor-intensive manufacturing activities are diverted from China to ASEAN (or from Singapore to other ASEAN countries), we could see an increase in intra-ASEAN trade in parts and components. A shift in export-oriented manufacturing to other ASEAN countries will likely lift Singapore's re-export trade as its entrepot business gets a boost with spillovers for air and sea transport activities. Within financial services, asset management and wealth management activities will be lifted by interest both from ASEAN customers and also from those outside the region hoping to invest in ASEAN.

One obvious manner in which Singapore's hub can benefit from a rising ASEAN is via its regional HQ role. While Singapore's high cost structure means that it cannot directly benefit from low-cost manufacturing FDI relocating from China, it can nonetheless serve as the "regional control tower" or services hub for MNCs' regional cross-border production networks within ASEAN, or more broadly

within Asia. Thus FDI into the rest of ASEAN and Singapore have generally been quite positively correlated over the years.

Figure 50. FDI into the rest of ASEAN and Singapore have generally been quite positively correlated over the years



Source: UNCTAD, Citi Research

Singapore's status as a regional HQ should benefit from the significant diversity in comparative advantages amongst ASEAN economies, which has incentivized MNCs to locate different stages of the cross-border production networks across the region. Singapore's cost structure makes it less likely to be a competitor to low-cost manufacturing FDI into Indonesia and Vietnam or even mid-level manufacturing in Malaysia. However, Singapore's strength in logistics, financial and business services, cost structure, more highly-skilled workforce and connectivity make it ideal as a base for manufacturing high-end components to supply regional production chains or as the control tower for MNCs manufacturing operations.

There is ample evidence that foreign MNCs favor Singapore as a location for regional HQ activities as opposed to production. For example, surveys by JETRO of Japanese companies' overseas expansion plans across Asia by business functions paint a picture of the intra-regional comparative advantages. While Thailand stands out as being the second most attractive investment destination across all functions after China, Singapore is cited as the second most popular destination for regional HQ operations for both large firms and SMEs. Numerous MNCs across a range of manufacturing sub-sectors have chosen to locate various control-tower type and supporting services functions in Singapore to support production operations across the rest of Asia (see Appendix for details).

Figure 51. Japanese FY2011 overseas business expansion plans over the next three years or so (% of respondents)

	Large-scale firms							SMEs						
	Sales operations	Production			R&D	Regional HQ	Distribution	Sales operations	Production			R&D	Regional HQ	Distribution
			Mid- to low-end products	High-end products						Mid- to low-end products	High-end products			
China	57.0	39.0	30.6	17.7	15.2	10.4	14.6	49.9	30.6	23.2	13.9	13.1	2.8	6.7
Hong Kong	5.1	0.8	0.6	0.6	1.1	2.0	2.2	13.3	2.3	1.0	1.6	2.1	1.2	2.2
Taiwan	8.7	3.1	1.4	2.0	2.0	0.6	1.1	16.9	4.7	2.9	2.5	3.3	0.6	1.6
Korea	9.3	5.6	4.2	2.0	1.1	0.0	1.1	16.4	4.5	3.0	1.8	3.0	0.3	1.3
Singapore	10.7	2.8	1.7	2.0	0.8	6.7	2.5	10.2	1.9	0.7	1.3	1.6	1.8	1.7
Thailand	20.5	17.7	14.3	8.4	7.0	4.2	6.5	17.7	10.5	8.3	4.5	3.6	1.0	2.2
Malaysia	5.9	5.3	3.9	2.2	1.4	1.1	0.8	9.5	3.5	2.0	1.6	1.6	0.4	1.0
Indonesia	21.1	16.3	13.8	4.8	2.8	0.8	4.5	15.8	6.6	4.9	2.9	3.1	0.6	1.8
Philippines	2.5	3.1	2.8	1.1	0.0	0.0	0.0	3.5	1.2	1.0	0.3	0.6	0.2	0.2
Vietnam	15.2	11.5	9.8	4.2	1.4	0.8	3.7	11.6	7.4	6.0	3.1	2.6	0.4	1.1
India	28.4	14.0	12.1	4.5	4.5	3.1	4.5	13.6	3.8	3.3	1.0	2.4	0.6	1.3

Source: Japan External Trade Organization (JETRO)

Impact on Singapore property demand

The growing regional HQ presence in Singapore may contribute positively to office space demand going forward. This could help absorb the upcoming slug of completing supply (and completed supply that remains unoccupied), that is currently placing downward pressure on rents. Property analyst Adrian Chua expects that with an estimated 1.9m sf of net office space due to complete in 2013 (against an average annual demand of around 1.0m sf over the past decade), office rents could fall by 0-10% over the next 12 months. Alternatively, increasing R&D type activities could also lift demand for business parks and some segments of the industrial space going forward (see note [Singapore Property - Prefer S-REITs to Developers, Favour Industrial and Retail REITs](#)). The agglomeration of MNCs' regional treasury functions in Singapore may also provide opportunities for banks that have a strong regional presence and capabilities in FX markets.

Challenges for Singapore's Regional Hub Role

While Singapore's hub could be lifted by a rising ASEAN tide, we can also identify a number of challenges that could arise, as the domestic and external economic and regulatory environment changes. These can be broadly grouped into three broad areas, discussed below.

Greater Competition from Regional Challengers

First, Singapore could see greater competition from regional challengers, as the economic balance of power shifts and infrastructure improves.

- **In Singapore's role as a sea-port/logistics hub**, there have been episodes in the past where Malaysia and Indonesia tried to bypass Singapore's ports. For example, in the early 2000s, competition from the Port of Tanjung Pelepas (PTP) caused Marsek Sealand – then the largest shipping operator in Singapore – to relocate major transshipment operations from Singapore, resulting in an 11% decline in PSA's overall business. This was followed in 2002 by Evergreen. Thailand not too long ago contemplated cutting a canal through the isthmus of Kra, undermining Singapore as a port of call for shipping between Europe and Asia. The relocation of some manufacturing activities out of Singapore could similarly undermine its trade in parts and components with other ASEAN countries. The relocation of manufacturing to Iskandar for example, may allow PTP to regain critical mass and pose more competition to PSA.
- **As a travel/air-transport hub**, whether Singapore can prosper may depend on [1] the extent it can exploit intra-ASEAN flows and [2] the extent to which it can serve as a hub an ASEAN hub for long-haul cross-border flows. On the former, it is interesting for example that Air Asia has hubs in cities surrounding Singapore. On the latter, the recent Qantas-Emirates deal means that traffic between Australia and the rest of the world will be diverted to Dubai. However Singapore can tap the long-haul traffic connecting to rest of Asia, e.g. London to Jakarta via Singapore. Bangkok's Suvarnabhumi airport better located than Changi as a transit point for air traffic between Europe and North Asia and has more potential to expand because of fewer land- and air-space constraints.
- **As a financial hub**, while Singapore's preeminent role in conventional finance is unlikely to be seriously challenged in the near future, Malaysia has established a strong niche as an international Islamic finance hub.
- **As a regional headquarters**, Bangkok could pose some competition as a regional HQ for as the growth of the Greater Mekong Sub Region (GMS, which comprises Cambodia, Laos, Myanmar, Thailand, Vietnam and Yunnan province in China) provides it with critical mass. The JETRO survey shows that large Japanese firms see Bangkok as the third most attractive location for regional HQ activities after Singapore. Mitsubishi Electric for example relocated many regional activities such as marketing support and human resource administration to Bangkok from Singapore in 1997, owing to the rising importance of Thailand as an auto manufacturing hub. By 2008, Mitsubishi had eleven subsidiary companies in Bangkok. The opening up of Myanmar to FDI could increase the attractiveness of Bangkok as a RHQ destination for the GMS.

Figure 52. Mitsubishi Electric Corp Companies in Greater Bangkok, Thailand, 2008

Firm	Activities
Mitsubishi Electric Corp. Regional Office (Thailand), Bangkok	Regional office for Thailand
Melco Thai Capital Co., Ltd., Bangkok	Investment company
Mitsubishi Electric Thai Foundation	Philanthropic activities
Mitsubishi Electric Thai Auto-Parts Co., Ltd., Rayong	Sales and production of alternators, starter motors, car audio, valves, and other auto components
Mitsubishi Electric Automation (Thailand) Co. Ltd., Bangkok	Sales and production of general motors, electric scales, condensers, aluminum die casts, pumps, and other equipment
Mitsubishi Elevator Asia Co., Ltd., Chonburi	Production of elevators
Worachak International Co., Ltd., Samutprakarn	Sales and maintenance of elevators
Mitsubishi Electric Consumer Products (Thailand) Co., Ltd., Chonburi	Sales and production of air conditioners
Kang Yong Electric Public Co., Ltd., Samutprakarn	Sales and production of fans, ventilation devices, refrigerators, household pumps
Mitsubishi Electric Kang YongWatana Co., Ltd., Bangkok	Sales of air conditioners and consumer electronics
Siam Compressor Industry Co., Ltd., Chonburi	Sales and production of compressors for air conditioners

Source: David W. Edgington and Roger Hayter (2012), "Glocalization' and Regional Headquarters: Japanese Electronics Firms in the ASEAN Region", *Annals of the Association of American Geographers*

Regulatory Threats to Financial Services Role

Second, changes in the global regulatory environment could also present challenges for Singapore role's as a financial services hub, which has thrived partly as a result of its "light touch" regulatory regime.

- Tighter regulation on capital market activities originating in the US and Europe will necessitate compliance in Singapore as well. One example is the Dodd-Frank Act in the US, which clamps down on opaque OTC derivatives trading by requiring the use of clearing houses. This could impact a range of OTC derivatives trading activities in Singapore.
- Developed countries reining in fiscal deficits and tax revenues may limit the scope for their wealthy citizens to evade taxes at home by parking assets in Singapore. This may have implications for Singapore's private banking hub. Recent talks with Germany to revise the 2006 bilateral agreement amidst concerns that German citizens who had parked assets in Swiss bank accounts were moving money to Singapore ahead of a new tax treaty with Switzerland.

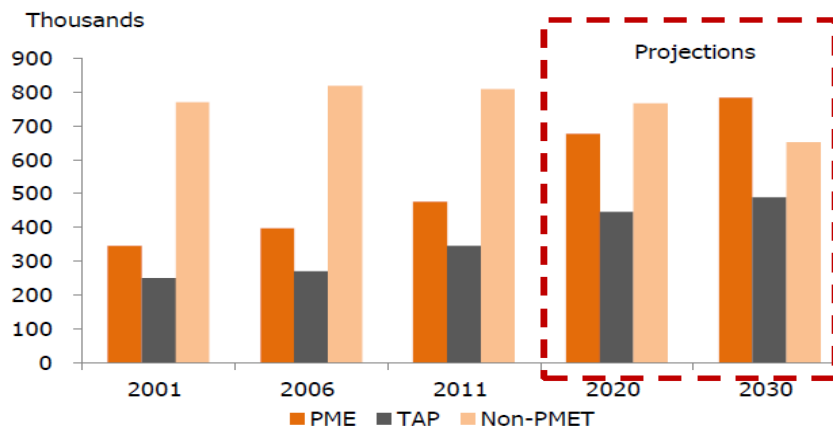
Higher Costs, Tougher Policies

Third, the domestic policy environment could also prove more challenging. The same cost concerns pushing firms out of Singapore will also extend to MNCs seeking to utilize Singapore as a hub. Regional HQ activities could be adversely impacted by the combination of a stronger currency and labor costs and tighter immigration policies. Uncertainty over the foreign worker policy could dissuade some MNCs from setting up regional HQs in Singapore. MTI has observed that from now till 2030, a rising proportion of Singaporeans will be employed as professionals, managers and executives (PMEs) and technicians and professionals (TAPs), compared to a much higher proportion of lower-skilled jobs today, suggesting that going forward, tightening could be more heavily tilted towards higher wage Employment pass holders to limit competition for jobs.

More broadly, the domestic policy environment is likely to be less blatantly pro-business going forward. Recent policy coordination failures – especially in population and housing policy – have eroded the performance legitimacy of the elitist

approach to governance. A more vocal electorate, greater diversity of viewpoints from a more educated population, will demand a less elitist “top down” but more “consultative” approach to governance. The net result will probably be a messier and less efficient style of governance in the political “new normal.” But this may not be wholly negative, as a more consultative style of governance may ensure more voter “buy in” for policies and, in turn, lower likelihood of policy reversals.

Figure 53. Projections of employed Singaporeans by occupation based on changing educational profiles



Source: Ministry of Trade and Industry

Appendix – Additional Data

Figure 54. Total Direct Investment Abroad by Country/Region and Activity Abroad, 2010

SGD mn	Total	Manufacturing	Construction	Wholesale & Retail Trade	Accommodation & Food and Beverage Service Activities	Transport & Storage	Information & Communications	Financial & Insurance Services	Real Estate Activities	Professional, Scientific & Technical, Administrative & Support Services	Others
TOTAL	407,151.9	97,518.1	1,476.5	16,895.1	3,641.2	10,208.9	20,923.2	196,501.7	33,135.2	8,229.6	18,622.5
Asia	227,169.7	83,642.7	1,458.4	16,570.8	2,532.8	4,526.4	14,450.1	62,207.1	28,849.2	4,809.3	8,122.9
Brunei	181.0	17.9	(s)	56.2	-	1.8	(s)	97.5	-	-1.4	(s)
China	70,585.1	37,252.4	383.2	2,452.7	381.9	1,533.3	267.8	8,464.0	16,015.2	1,645.1	2,189.5
Hong Kong	23,747.9	861.0	41.2	6,099.4	17.6	730.7	364.7	14,104.6	1,269.1	243.4	16.1
India	12,859.3	1,643.5	(s)	581.1	(s)	500.6	7,330.5	1,313.3	187.0	662.0	437.5
Indonesia	27,812.6	10,743.1	350.2	936.8	(s)	525.1	(s)	5,964.2	1,392.9	351.0	4,140.6
Japan	11,583.5	934.0	(s)	-208.7	(s)	120.7	-191.3	2,680.7	8,033.2	96.5	(s)
Korea	3,021.4	1,719.4	(s)	419.1	(s)	159.7	49.7	244.7	341.9	46.0	(s)
Malaysia	31,172.5	9,191.7	121.2	2,412.0	357.6	253.9	213.6	16,855.3	772.7	276.6	718.0
Myanmar	5,666.8	5,208.1	-	6.1	39.1	3.3	-	-	57.5	(s)	(s)
Philippines	5,309.1	2,309.6	9.7	534.9	(s)	105.7	(s)	1,428.7	60.9	114.4	54.1
Taiwan	6,278.3	4,668.3	(s)	350.3	132.1	81.8	265.3	474.6	(s)	205.7	26.5
Thailand	21,839.2	5,874.5	58.0	1,559.9	688.8	343.8	2,099.7	10,573.0	357.2	169.4	115.1
Vietnam	2,797.4	1,601.5	(s)	202.2	175.0	64.4	(s)	155.1	156.9	201.0	123.4
Europe	52,138.2	1,392.5	(s)	(s)	642.5	693.1	880.9	44,337.1	144.0	976.2	(s)
Germany	1,610.0	206.4	-	22.2	(s)	(s)	(s)	(s)	-	(s)	-
Netherlands	4,382.9	(s)	(s)	172.9	-	15.9	(s)	2,958.4	-	(s)	-
United Kingdom	32,314.2	143.6	(s)	(s)	(s)	283.6	67.6	29,562.1	10.7	104.6	(s)
United States	14,055.6	9,297.3	-	384.3	(s)	140.2	10.0	2,464.1	56.8	1,866.9	(s)
Canada	770.7	(s)	-	(s)	(s)	(s)	(s)	234.8	(s)	(s)	(s)
Australia	28,792.9	416.3	(s)	1,909.1	(s)	545.9	6,833.8	14,412.5	1,984.1	129.2	2,267.8
New Zealand	1,065.6	(s)	-	60.8	(s)	(s)	(s)	391.2	107.8	(s)	(s)
South and Central America and the Caribbean	57,319.7	1,518.4	(s)	1,294.4	(s)	2,417.8	(s)	50,731.6	1,900.3	429.5	242.3
Other Countries nec	25,839.4	570.0	(s)	1,303.9	(s)	1,779.3	(s)	21,723.2	(s)	-4.7	408.6
ASEAN	95,398.0	35,141.7	648.2	5,713.5	1,514.9	1,306.3	6,386.7	35,079.1	2,870.5	1,551.6	5,185.5
European Union	44,160.0	905.1	(s)	(s)	642.5	574.4	879.3	37,788.0	122.4	973.2	(s)

Note: (s) – suppressed to avoid disclosure of data of individual companies. Source: Singapore Department of Statistics

Figure 55. Singapore Government Initiatives to Facilitate Regional Expansion

In February, MOF said that a consortium led by Temasek, DBS Bank, Standard Chartered Bank and Sumitomo Mitsui Banking Corporation would set up a project finance company. Clifford Capital was launched on 22 November 2012 to provide direct loans of US\$50-100mn to projects from Singapore-based firms venturing overseas. Kovan Investments Pte Ltd, a unit of Temasek, will hold 40.5% in Clifford. Clifford Capital will play a similar role to state owned export-import banks in other countries which subsidise their companies when they compete for overseas projects. Government support has been provided via a 20-year guarantee for Clifford's debt instruments to allow it to raise funds competitively and S&P has awarded a triple A rating for its US\$1bn euro medium-term note programme to be launched in 1Q13. Clifford expects to provide about \$400 million of financing annually, which could translate to deals worth \$2 to \$3 billion. Customers will be mid- to large-sized Singapore-based companies engaged in projects in emerging markets, such as Asia, the Middle East, Africa and Latin America. Target sectors are infrastructure, particularly power, waste and water treatment and transport as well as offshore and marine.

Temasek Holdings has tapped homegrown hedge fund Dymon Asia Capital to manage an initial \$203 million of public and private funds, which are aimed at growing local SMEs regionally and internationally. Dymon Asia Private Equity fund will invest in Singapore and South-east Asia-headquartered companies with revenues of between \$10 million and \$500 million. This will fill the financing gap for companies which need less than \$50mn for growth capital, which do not get sufficient capital or expert help from large funds.

To help Singapore-based firms protect their overseas projects and investments from political risk, IE Singapore has launched a Political Risk Insurance (PRI) scheme to cover up to 50% of premiums for political risk insurance, subject to a maximum of S\$500,000 per company.

To develop globally-competitive domestic companies, the Economic Strategies Committee had also in 2010 recommended that the government catalyse supply of growth capital of up to S\$1.5bn to Singapore-based enterprises through co-investing with the private sector. To facilitate corporate restructuring, the government should provide incentives for mergers and acquisitions so that companies can take advantage of post-crisis opportunities to grow inorganically.

Source: Citi Research

Figure 56. Major Japanese Automakers' Plans for Investment in Emerging Countries in Asia (announced since mid-2011)

Automaker	Country	Announcement	Investment Amount	Overview
Toyota	China	Oct-11	US\$689 million (about 5.3 billion yen)	Newly install major facilities at the local R&D center
	Thailand	Jan-12	About 16.9 billion yen	Decide to build a second plant, scheduled to go on stream in 2013. Annual production of 290,000 units, combined with the existing plant.
		Feb-12	About 14 billion yen	Enhance the production capacity of an engine production firm. Export to Vietnam and Taiwan.
	Indonesia	Sep-11	41.3 billion yen	Establish the second Karawang plant. Expand the initial plan in February 2012.
		May-12	23 billion rupiahs	Establish a Learning center.
Nissan	China	Jul-11	50 billion yuan (about 610 billion yen)	Dong Feng Nissan announces a new medium-term management plan. Construct a new plant and enhance the existing plant.
		May-12	2 billion yuan	Produce the Infiniti at the Xiangyang plant.
	ASEAN	Jul-11	-	Announces a new medium-term business plan for ASEAN region. Double production in the region to 700,000 units by 2016.
	Indonesia	Jul-11	25 billion yen	Further expand the vehicle production plant now being enlarged. Establish a new engine plant.
Honda		Mar-12	33 billion yen	Expand the existing plant's production capacity to make it one of the largest plants in the region.
	China	Apr-12	3.56 billion yuan (about 46 billion yen)	Guangqi Honda Automobile decides to add a third production line. Establish a new engine plant.
	Indonesia	Mar-12	About 3.1trillion rupiahs (about 27 billion yen)	Decide to build a plant to produce compact vehicles, set to go on stream in 2014.

Source: Japan External Trade Organization (JETRO)

Figure 57. Comparison of Land / Real Estate Costs in Asia

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/m ²	US\$36-46/m ²	US\$23/m ²
	Guangzhou	US\$95 (min rate)	US\$2.37-6.33/m ²	US\$27/m ²	US\$127/m ²
	Shenzhen	US\$29-114	US\$4.75/m ²	US\$25/m ²	US\$47/m ²
Singapore	Singapore	US\$189.94-651.21	US\$0.96-2.85/m ²	US\$33.37-133.52/m ²	US\$257-279/m ²
Malaysia	Kuala Lumpur	US\$20-25	n.a.	US\$19-27/m ²	US\$7.62/m ²
Thailand	Bangkok	US\$119	US\$6.95/m ²	US\$20/m ²	Siam Discovery: US\$63-95/m ² Central World: US\$32-95/m ²
Indonesia	Jakarta	JABABEKA: US\$191 GIIC: US\$164	JABABEKA: 10% of land & building price per year	US\$20/m ²	US\$44-55/m ²
	Batam	<ul style="list-style-type: none"> Latrade Industrial Estate: US\$62/m²+ Maintenance fee 0.10SGD/m² Panbil Industrial Estate: US\$78/m²+ Maintenance fee 0.30SGD/m² 	<ul style="list-style-type: none"> 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/m ² Maintenance fee (2 SGD/m ²), tax not included	US\$12/m ² Maintenance fee (7 SGD/m ²), tax not included
Philippines	Manila	US\$52-102	US\$2.00-6.00/m ²	US\$18/m ²	US\$16-36/m ²
Vietnam	Hanoi	Not available for purchase	<ul style="list-style-type: none"> Pho Noi A Industrial Park: US\$0.166-0.177/m² Quebo Industrial Park: US\$0.178-0.188/m² 	<ul style="list-style-type: none"> 7F, DMC Tower: US\$25/m²; VAT(10%) maintainance fee included Pacific Place: US\$62/m², VAT(10%) and expenses included 	<ul style="list-style-type: none"> 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/m ²	US\$34-36/m ²	US\$90/m ²
Myanmar	Yangon	Foreigners and foreign companies not permitted to purchase land	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Sakura Tower (Downtown): US\$45/m² Taw Win Cente (Pyay Rd.): US\$1.86-3.11/m² 	US\$15/m ²
Cambodia	Phnom Penh	Not available for purchase by wholly-owned foreign enterprise	US\$0.091/m ²	<ul style="list-style-type: none"> ICON Professional Building; Service charge included; 10% VAT not included 2F - 5F: US\$12/m² 1F: US\$22/m² 	Monthly rent <ul style="list-style-type: none"> 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) <ul style="list-style-type: none"> less than 2ha: US\$0.038/m² 2ha and above: US\$0.033/m² 	US\$15/m ²	US\$30/m ²

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

Figure 58. Comparison of Labor / Utilities / Fuel Costs in Asia

Country	City	Wages (general workers, US\$/month)	Electricity rate for business use (US\$ per kWh)	Gas rate for business use (US\$)	Diesel oil price (1 liter, US\$)
China	Shanghai	439	Basic monthly charge: Nil Spring, fall, winter: 0.14; Summer: 0.15	Rate per cu.m: 0.31-0.34	1.17
	Guangzhou	352	Basic monthly charge: Nil Large industry: 3.64/kVA (substation capacity) + 5.07/KW (peak demand) Others: Rate per kWh: 0.11	Rate per cu.m: 2.93	1.09
	Shenzhen	317	Basic monthly charge: Nil 101- 3,000KVA: Capacity*3.80/KVA Rate per kWh: 0.12	Rate per cu.m: 2.47	1.09
Singapore	Singapore	1,285	Basic monthly charge: 5.78 Rate per kWh: 0.2167- 0.2185	Rate per kWh: 0.17	1.264
Malaysia	Kuala Lumpur	344	Basic monthly charge: 190 Rate per kWh: 0.09	Basic monthly charge: 129 - 3,910 Rate per cu.m: 1.26 - 5.22	0.57
Thailand	Bangkok	286	Basic monthly charge: 9.86 Rate per kWh: 0.14	Basic monthly charge: Nil Rate per cu.m: 4.36	0.97
Indonesia	Jakarta	209	Basic monthly charge: Nil Rate per kWh: 0.08	Basic monthly charge: Nil Rate per mmBtu: 6.45	■ Diesel with subsidy: 0.49 ■ High cetane diesel (Pertamina DEX): 1.06
	Batam	n.a.	Basic monthly charge: 4.21 Rate per kWh: 0.11	Basic monthly charge: Nil Rate per mmBtu: 6.45	■ Subsidized diesel: 0.49 ■ High cetane diesel (Pertamina DEX): 1.06
Philippines	Manila	325	■ Special Economic Zones (VAT not assessed, including other expenses): Basic monthly charge: 15/kw+42; Rate per kWh: 0.14 ■ Out of Special Economic Zones, including other expenses: Basic monthly charge: 16/kw+47; Rate per kWh: 0.16	Rate per kg: 1.44	1.08
Vietnam	Hanoi	111	Basic monthly charge: Nil Rate per kWh: ■ Manufacturing - Off-peak hours: 0.036 - Standard hours: 0.058 - Peak hours: 0.103 ■ Trade & Service - Off-peak hours: 0.054 - Standard: 0.095 - Peak hours: 0.163 VAT(10%) included	Basic monthly charge: Nil Rate per kg: 1.46	0.97
	Ho Chi Minh	130	Same as Hanoi	Basic monthly charge: Nil Rate per kg: 1.51 / kg	0.97
Myanmar	Yangon	68	Basic monthly charge: Nil Rate per kWh: 0.12	Basic monthly charge: Nil Rate per 1,000ft ³ : 7.74	1.15
Cambodia	Phnom Penh	82	Basic charge: Nil Rate per kWh: 0.216	Basic charge: Nil Rate per kg: 1.33	1.21
Laos	Vientiane	117.6	Basic monthly charge: Nil Rate per kWh: ■ 22kV: 0.063 ■ 0.4kV: 0.074	n.a.	1.189

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

Figure 59. BOX ITEM: The Singapore Inc. Led Overseas Industrial Park Model as a Vehicle for Regionalization

One prominent vehicle through which the government facilitated past regionalization efforts was via the government-led Overseas Industrial Park. Through this vehicle, the government acted as a dominant stakeholder, facilitator and partner to domestic enterprises venturing abroad.

The modus operandi came at three levels, with heavy involvement of the state in one way or another. First, senior politicians would negotiate and secure investment privileges from host country governments. Second, a consortium of GLCs would be the primary investors in infrastructure development that would be unattractive to private enterprises. Third, government agencies like EDB would actively market and promote the industrial parks to Singapore-based MNCs as well as Singapore-grown companies.

Involvement of Singapore Firms in Industrial Parks

Firm	Country	Industrial Park Projects
Sembcorp	China	Singapore-Sichuan High-tech Innovation Park
		Wuxi-Singapore Industrial Park
		Sino-Singapore Nanjing Eco Hi-tech Island
	Indonesia	Batamindo Industrial Park, Batam Island
		Bintan Industrial Estate, Bintan Island
	Vietnam	Vietnam Singapore Industrial Park (VSIP)
		VSIP Binh Duong Integrated Township & Industrial Park
		VSIP Bac Ninh Integrated Township & Industrial Park
		VSIP Hai Phong Integrated Township & Industrial Park
		VSIP Quang Ngai Integrated Township & Industrial Park
Ascendas	China	Dalian Ascendas IT Park
		Ascendas Innovation Hub
		iHub Nanjing
		Lyra/Hyra/Nexus/Singapore-Hangzhou Science & Technology Park
		Ascendas iHub Suzhou Ph1A
		Wujiang Industrial Park
Keppel	China	Sino-Singapore Tianjin Eco-City

Source: Sembcorp, Ascendas, Keppel, Citi Research

The performance of Singapore's previous flirtations with industrial parks have been mixed. Singapore's first overseas industrial parks Batamindo Industrial Park (BIP) and Bintan Industrial Estate (BIE) on the Riau islands of Batam and Bintan in Indonesia began operations in 1992 and 1994 respectively but the outcome has been far from uniform. BIP saw much interest from Japanese firms and has turned out to be a success with 88 companies employing 66,000 workers and investment commitments in excess of US\$1bn as of 2002, with Japanese firms in the park. BIE however had just 35 tenants and 13,000 workers (vs. initial projections of 130,000) and was downsized to 500 hectares from its original 4000 as only 110 hectares had been developed. The park has since experienced some revival since 2009, though investment realizations, which averaged US\$205mn between 2009-2012, are well below the peak of US\$500mn in 1998.

The Suzhou industrial park in China perhaps best exemplifies the pitfalls of the strategy. Officially launched in 1994 at an estimated cost of US\$20bn, the China-Singapore Suzhou Industrial Park (CS-SIP) was Singapore's most ambitious and controversial overseas township project, which had a distinct political agenda to showcase the Singapore development model and its transferability to other Asian environments. This was a joint venture between Chinese and Singapore-based investors known as the China-Singapore Suzhou Industrial Park Development Company (CSSD) consortium, with Singapore having a 65% stake (mainly Singapore GLCs and the Salim Group) and the Chinese having a 35% stake (mostly SOEs and investment companies of Suzhou and Jiangsu province). Because of the complexities of having to contend with multiple tiers of government administration and the competition between these tiers, the project had only about 1,000 residents in the township and a total workforce of 6,000 by end-1998. Singaporean investors involved in peripheral projects suffered financial losses and in 1999, Singapore announced it would scale back transfer majority ownership of CSSD to the Chinese consortium from 2001. Investments poured in thereafter, with profits experienced for the first time in 2001.

The experience with the five Vietnam Singapore Industrial Parks has been happier. The maiden VSIP project is located in Binh Duong province's Thuan An district, primarily for industrial use. The later four VSIP projects integrate industrial, commercial and residential solutions, but adapted to local needs. All five VSIP projects occupy 6,000 hectares gross floor area with industrial saleable land of 1,900 hectares and commercial and residential saleable land of 1,100 hectares, excluding VSIP Quang Ngai. Cumulatively, the joint industrial parks in Vietnam have pulled investments worth some US\$5.3 billion since the first one started in 1996. Per hectare, the parks now attract US\$6 million in investments, nearly twice the national average of US\$3.5 million. Approximately 110,000 jobs have been created as a result of the collaboration.

The top-heavy 1990s-style government-led overseas industrial parks model will likely generate the strongest synergies in the frontier ASEAN economies, where infrastructure quality is poor and therefore investments by Singapore conglomerates/real estate conglomerates will play a welcome constructive role in infrastructure investments, apart from manufacturing jobs for the local population. The higher level of uncertainties and risks involved may also necessitate a heavier involvement of the state and, in particular, top-level leaders to ensure their success. Needless to say, good government-to-government relations will be crucial for this strategy to take off.

There could be opportunities for Industrial REITs/conglomerates in Myanmar and perhaps even Laos and Cambodia in addition to Vietnam. Apart from reinvigorating the industrial parks in Indonesia, new projects in Indonesia may be contingent on how government-to-government relations evolve and other critical changes/incentives by Indonesia to improve the investment climate. Encouragingly since 2011, Indonesia now allows for a tax allowance and tax holiday facility for 'pioneer' industries, i.e. which have high linkage and externalities, use new technology, and have strategic value. These industries include basic metals, oil refining, organic chemicals, machinery, renewable resources and telecommunications equipment. Facilities include income tax deductions; exemption / reduction of import duties for capital goods; exemption / reduction of import duties for raw materials; exemption / delay of VAT for capital goods imports; accelerated depreciation; and reduction of land and building tax.

But this top-heavy government-led industrial park model of the 1990s may need to be modified elsewhere in the region, perhaps with less explicit involvement by politicians. In particular, the model may not work in countries where infrastructure quality is relatively high or where there may be lingering suspicion at the government-to-government level – Malaysia is probably the prime example exemplifying both factors, while Thailand's infrastructure also appears relatively well developed. Indeed, we understand that the future model of industrial parks may involve less explicit involvement by top-level politicians on both sides, in order to keep the business insulated from the ups and downs in political relationships. The relative absence of top-level political involvement however does not preclude the involvement of GLCs (as in the Ascendas-UEM industrial park, though decisions may be undertaken on largely commercial grounds)

Source: Caroline Yeoh et al (2003), "Singapore's Regionalization Blueprint: A Case of Strategic Management, State Enterprise Network and Selective Intervention"

Figure 60. Some firms that have chosen to locate their regional headquarters in Singapore

Firm	Overview
Infineon Technologies	Leading global semiconductor company, Infineon Technologies, has earmarked €250 million (S\$440 million) to further expand its operations in Singapore, where it has located its regional headquarters for Asia ex Japan.
Rolls-Royce	In 2009, Rolls-Royce relocated its global headquarters for its marine business to Singapore, adding to the global head office for its Marine Services operation. The new Marine headquarters has global responsibilities for business development, marketing and corporate services.
Bosch	Robert Bosch (SEA) in Singapore is the Bosch Group's headquarters for the region with subsidiaries in Malaysia, Indonesia, the Philippines, Thailand, and Vietnam. The Automotive Aftermarket and Security Systems divisions have their Asia Pacific headquarters in Singapore. Apart from being the regional office for the Bosch Group, Singapore also houses the IT Center for Asia Pacific with an IT operations center to service more than 200 Bosch locations in the region and an IT R&D facility to design and develop global IT platforms and systems for Bosch.
Vestas Wind Systems	Vestas Wind Systems of Denmark - the world's leading manufacturer of wind turbines – opened its HQ in Singapore in 2007 and plans to invest up to S\$500 million over the next 10 years to develop its largest R&D centre outside of Denmark here.
Mitsui Chemicals	Mitsui Chemicals runs its Asia Pacific Headquarters in Singapore that houses several corporate functions such as sales and marketing, technical support, logistics and business planning. Mitsui Chemicals has also opened the Mitsui Chemicals Singapore R&D Centre (MS-R&D), its first and only R&D Centre outside of Japan. The addition of MS-R&D means that Mitsui Chemicals now has the entire value-chain of activities in Singapore that spans from regional headquarters, production and research.
Unilever	Singapore is Unilever's regional business headquarters for the SEA and Australasia cluster, and Unilever Food Solutions. Global functions undertaken by Unilever in Singapore include: brand development, supply chain management, customer development, procurement, engineering, HR, IT and finance. Unilever also manages some of its top global brands from Singapore.
Proctor & Gamble	Singapore is the regional headquarters for P&G's operations in Asia-Pacific. It carries out brand and business management activities covering manufacturing, marketing, supply chain management, research and development, finance and other corporate functions and talent development across the region. The country also serves as the headquarters for its Global Prestige and Global Baby Care categories, where it is able to drive brand management activities, and maintain global brand consistency while catering to in-market needs. At the regional level, P&G's design and consumer insights activities are also driven out of Singapore.
AAC Acoustic Technologies Holdings	On 26th July 2009, China's largest manufacturer of miniature acoustic components for electronic goods, AAC Acoustic Technologies Holdings, unveiled its international headquarters in Singapore, signalling the start of a US\$40 million investment here with incremental headcount of 100 professionals in 5 years. The Singapore office is now the international headquarters for the firm's corporate training, technical support services, sales, marketing control and strategic business planning. The firm is also looking to set up its first manufacturing facility outside China in Singapore within the next three years. When completed, about 10 per cent of the firm's total manufacturing output will come from Singapore. Research and development will also be undertaken at the site, with US\$20 million of the total investment earmarked for this activity.
Eastman Kodak	Eastman Kodak has been operating its 60-man worldwide R&D headquarters in Singapore since January 2009, with the aim of undertaking various engineering development and design work, including software, firmware and development for its inkjet printers. The company has plans to double its R&D headcount over the next few years. Besides product development, the Singapore centre will also oversee and manage the firm's printer supply chain and manufacturing activities around the world.
Baxter	Baxter, a global healthcare company in medical devices, pharmaceuticals and biotechnology, has its South and Southeast Asia regional headquarters in Singapore. As Singapore's largest Medtech employer, Baxter creates over 2000 jobs in its manufacturing plants.
Becton, Dickinson and Company	BD Medical Singapore is the Asia Pacific regional headquarters of US-based Becton, Dickinson and Company, one of the world's leading medical device companies. The company manufactures a wide range of medical devices such as hypodermic needles and syringes, catheters, immunisation products, safety needles and blood collection needles as well as critical care products in the global markets. BD has also expanded its corporate R&D centre in Singapore to develop healthcare solutions in the area of medical surgical, immunisation and diagnostics for Asian markets.
Hoya Surgical Optics	Hoya Surgical Optics, the world's fourth largest manufacturer of intraocular lenses (IOLs), established its headquarters in Singapore. The company also integrated key functions and manufacturing operations in Singapore to enhance its operational efficiency and be closer to customers in Asia, including those in emerging markets.
Siemens Medical Instruments	Siemens Medical Instruments (SMI) is the Singapore subsidiary of Siemens Audiologische Technik (SAT) GmbH, one of the leading companies in hearing solutions. SMI's operations in Singapore include its global commercial headquarters, global manufacturing and supply chain management headquarters, global product lifecycle management, IP management headquarters and regional competence centre for customer relationship management.
Abbott	Abbott has established its regional headquarters in Singapore for several businesses, including diabetes care, diagnostics, nutrition, pharmaceuticals and vision care.
GlaxoSmithKline (GSK)	GlaxoSmithKline (GSK) has anchored its Emerging Markets & Asia-Pacific (EMAP) headquarters in Singapore since 2010, with the team responsible for almost 40% of GSK's turnover.
Takeda	Leading Japanese pharmaceutical company, Takeda, inaugurated its regional headquarters (Takeda Pharmaceuticals Asia) and regional clinical coordination centre (Takeda Clinical Research Singapore) in Singapore in July 2009.

Source: EDB, 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

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Singapore.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Singapore.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Singapore in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Singapore.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Singapore.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Singapore.

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 Ratings Distribution

Data current as of 5 Oct 2012	12 Month Rating			Relative Rating		
	Buy	Hold	Sell	Buy	Hold	Sell
Citi Research Global Fundamental Coverage	51%	38%	11%	7%	85%	7%
% of companies in each rating category that are investment banking clients	50%	47%	45%	59%	47%	50%

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:

Citigroup Global Markets Singapore PTE LIMITED

Wei Zheng Kit; Brian Tan; Adrian Chua, CFA

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Singapore. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

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 an 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 Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 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 Büyükdere 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 ("DFSA") 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.

© 2012 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, disseminated 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
