

ASEAN Macro View

Malaysia Long View: Growth Themes for the Long Term

- **Focus on Malaysia** — In this edition of the ASEAN Long Term Macro View series, we assess Malaysia's long term growth prospects hinge on re-focus towards more productive export oriented sectors that can better leverage on a G3 recovery and synergies from ASEAN integration, and a broadening of growth centres away from the Klang Valley. Cost normalization need not erode competitiveness, but closing the human capital deficit is key if Malaysia is to escape the middle income trap.
- **Focus on sustainability of tradeable sectors, though oil & gas a question mark** — With capital productivity still healthy on aggregate, Malaysia could continue to invest more, but domestic headwinds suggests that sustainability – both from a growth and external balance perspective – hinges on focus on higher productivity net exporting sectors which accounted for the bulk of investment growth since 2010. The exception is oil and gas capex, which seems a heavy price to pay as a net oil exporter, even if absolute returns turn out to be high.
- **Opportunities to investment-driven growth from ASEAN integration** — Tighter integration with ASEAN is likely to increase Malaysia's attractiveness to manufacturing FDI, given increased production synergies, which will likely focus on producing intermediate goods oriented primarily to G3 final demand. ASEAN/Asian final demand will likely be met more through FDI in the services sectors and, more importantly, outward investments into ASEAN especially in services like banking and transportation. Notwithstanding the property glut and labour shortage in Iskandar, economic integration with Singapore still offers potential gains, especially if expanded northwards beyond Iskandar to the other states in the west coast.
- **Spreading domestic growth beyond the Klang Valley core** — Political factors aside, prospects of various states will hinge on geography and economic history. Outside of the Selangor-KL-Putrajaya growth core, Penang and Johor appear to have the clearest growth stories. Along the west coast of the Peninsula, Malacca, Negeri Sembilan, Perak, and Kedah could ride on spillovers from these states, riding on expanded integration with expanded Singapore. Kelantan, Pahang, Perlis, Terengganu, Sabah, and Sarawak could remain stifled by geographical isolation.
- **Cost normalization not an insurmountable challenge** — Cost normalization need not necessarily erode Malaysia's attractiveness as a destination for export-oriented investments. First, net exporting sectors appear significantly less affected by impending wage and electricity/gas tariff hikes, with affected sectors accounting for less than 15% of total VA of net exporting sectors, vs 48% for net importing sectors. Second, competitiveness is relative and costs have been rising amongst regional peers. Third, eliminating cost distortions may incentivize greater efficiency in the allocation of resources, raising productivity growth. Regression estimates suggest wage increases historically drive capex and in turn productivity growth.

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Executive Summary

Related Publications:

[Malaysia Banks - Focus on the Wholesale-cum-Regional Banks](#)

[Head-to-Head: Singapore vs. Malaysia - The Straits Choice – Malaysia a Relative Pick](#)

Malaysia Long View: Growth Themes for the Long Term

In this fourth edition of the ASEAN Long Term Macro View series, we identify a number of longer term growth opportunities and challenges for Malaysia.

This report is motivated by increasing questions regarding the sustainability of Malaysia's growth prospects, particularly the revival in private investments, in light of growing macro challenges such as weaker commodity prices, shrinking current account surpluses/fears of deficits, rising household debt, fiscal consolidation and cost normalization. These macro challenges have also revived long-standing questions about Malaysia's ability to break out from the middle income trap.

To answer these questions, this report is organized along four interconnecting themes.

- First, we examine the sustainability of investment growth by taking a deeper look at the productivity of capital investments, both at the aggregate level, and also comparing across various sectors, making a distinction between domestically and externally oriented industries. This is particularly relevant given recent concerns that the surge in investments is being channelled in unproductive sectors.
- Second, we take a closer look at the opportunities for Malaysia provided by tighter ASEAN integration, especially in the context of a medium term outward growth orientation, both from the perspective of inward FDI and increased trade, as well as outward investments by Malaysian companies.
- Third, we evaluate efforts to spread growth geographically beyond the Klang Valley core, differentiating the prospects of various growth corridors taking into account political, geographic and economic differences.
- Fourth, we take a detailed look at the cost structure of various sectors, to assess the extent to which recent policy efforts to normalize hitherto suppressed wage and energy costs could ultimately affect Malaysia's competitiveness, and potentially derail the investment revival

Overall, we conclude that Malaysia's investment drive still has legs, but provided it is able to re-orient away from its traditional domestic and commodity growth drivers, towards externally oriented sectors. We believe this requires a revitalization of manufacturing to leverage on a cyclical G3 recovery, and development of tradeable services that can best tap on long term growth in ASEAN. We expect tighter regional integration will facilitate this re-orientation, partly through production side synergies from the integration of intra-regional manufacturing supply chains, which should draw more manufacturing FDI into Malaysia. ASEAN integration should also provide demand opportunities from rising outward direct investments (ODI) from Malaysian services firms. Domestically, a geographical broadening of growth centres beyond the KL-Selangor-Putrajaya growth core may provide opportunities, especially for states along the West Coast of the Peninsular Malaysia, which may also benefit if economic integration with Singapore extends north of the Iskandar. Normalization in labour and energy costs is an obvious challenge to investment returns and export orientation. However we believe this is not an insurmountable obstacle given that the most affected sectors are domestically oriented, while higher costs can also incentivize more efficient resource allocation. But given Malaysia's long standing human capital deficits, whether we will see the surge in productivity growth needed to ultimately reach escape velocity and break out of the middle income trap remains in question. Figure 1 summarizes the sector specific opportunities and challenges that arise from these themes.

Figure 1. Summary of views

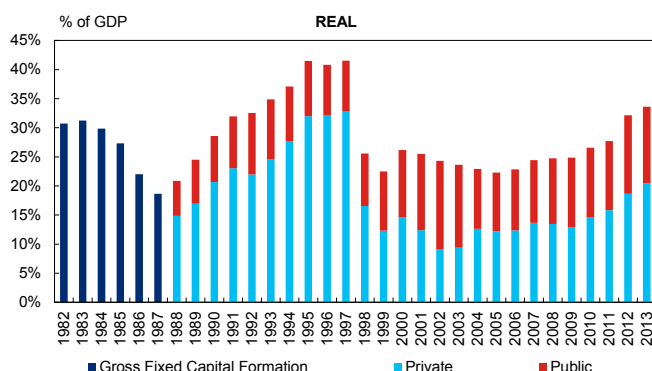
Themes	Sector Opportunities	Challenges
Returns on capex are higher within manufacturing and tradeable services, but are likely to remain low for oil and gas.	<p>Manufacturing: Domestic manufacturers which either export directly or have links to export oriented MNC clients based in Malaysia could be beneficiaries of a growth rebalancing story.</p> <p>Oil and Gas: With domestic oil and gas production unlikely to significantly exceed current levels, an ever larger amount of O&G capex would be needed to arrest the medium term deterioration in the commodity trade balance. This should benefit oil and gas capex providers.</p> <p>Banks: Sustainable investments benefit the larger balance sheet banks with a strong wholesale cum-investment bank presence. The previously weak business loan cycle has started to stage a recovery. But this may prove secondary to the size of funds raised in Malaysia capital markets, which has experienced a surge since 2009.</p>	<ul style="list-style-type: none"> ■ With domestic demand likely to face headwinds in the medium term, consumption or even property related plays could be challenged. ■ A more efficient way of maintaining the net commodity exporter position would be to reduce fuel subsidies, but the higher costs could potentially entail a loss of cost competitiveness ■ Heavy emphasis on commodities exposes the economy to commodity price volatility, may discourage investments (incl. human capital) and stifle efforts to break out of the middle income trap
Tighter integration with ASEAN is likely to increase the Malaysia's attractiveness to export oriented manufacturing FDI, boost intermediate goods exports to ASEAN, largely targeted at final demand in developed markets.	<p>Manufacturing: Domestic manufacturers which either export directly or have links to export oriented MNC clients based in Malaysia could be beneficiaries of a growth rebalancing story. Firms in electronics, chemicals and metals manufacturing could benefit from stronger intermediate exports to ASEAN brought about tighter integration.</p> <p>Automobiles: The high utilization of FTAs in the motor vehicles industry could help Malaysia realize its ambition to be regional automotive hub for energy efficient vehicles under the National Automotive 2014.</p> <p>Transport and logistics: Firms in this sector likely to benefit from intra-regional trade.</p>	<ul style="list-style-type: none"> ■ Tighter ASEAN integration could potentially divert manufacturing FDI to more cost competitive locations such as Indonesia, Philippines and Vietnam, whose export structure is competitive than complementary vs Malaysia.
Demand synergies from ASEAN integration, due to favourable demographics/urbanization trends will be met primarily through Malaysia's Outward Direct Investments (ODI), especially in services.	<p>Banks: Thanks to recent timely acquisitions the larger banks' IB capabilities have evolved beyond domestic Malaysia, enabling them to capture increasing investment flows and growth opportunities that are extending into the region. This could be both through financing Malaysian principals expanding organically in to the region, and also companies growing into other Asean markets through M&A.</p> <p>Equally for the larger Malaysian banks themselves, with dominant domestic mkt. shares, view the next stage of growth as pursuing their own direct opportunities in Asean, either via organic investment or via selective M&A where there is a strong business case.</p> <p>Gaming: More recent overseas expansion have been focused outside the ASEAN space, especially Japan Korea, US and the UK. Possible opportunities in Sri Lanka have been mooted but are not concrete.</p> <p>Transport: Transport has been a huge beneficiary of the connectivity of the ASEAN community driven by AIRA. AirAsia's expansion into Thai, Phils, Indo is the best example.</p>	<ul style="list-style-type: none"> ■ Political and regulatory obstacles could arise for investments in strategically sensitive sectors such as banks or telcos. ■ For developers, diversification into ASEAN (ex-Singapore) is less likely given the higher risks incurred for broadly similar margins vs Malaysia.
Outside of the Selangor-KL-Putrajaya growth core, Penang and Johor appear to have the clearest growth stories. Along the West Coast of the Peninsular, Malacca, Negeri Sembilan, Perak, and Kedah could ride on spillovers from these states, riding on expanded integration with expanded Singapore.	<p>Property: Outside of Selangor, Penang and Johor, key developers remain marginally represented in other states. Penang's strong manufacturing base, coupled with greater degree of land scarcity, ensures a more sustainable path for developers in the medium-term. That said, given the poorer economic infrastructure in Iskandar (vis-à-vis Penang), longer-term upside would favour Iskandar, due to its proximity to Singapore.</p> <p>Manufacturing: Relocation of manufacturing from Singapore may become more viable northwards of Iskandar as the available pool of skilled and semi-skilled labour could expand. Labour is currently in short supply in Iskandar as many of these workers are already working in Singapore. Lower industrial land costs along the West Coast states may provide a marginal safety valve for manufacturers escaping higher labour costs in the growth core.</p>	<ul style="list-style-type: none"> ■ Kelantan, Pahang, Perlis, Terengganu, Sabah, and Sarawak could remain stifled by geographical isolation. ■ While investments in Sarawak have been substantial, these largely reflect the political primacy of the state, with actual returns on investments relatively low to date. ■ Minimum wage implementation may neutralize at least part of the labour cost advantages of the West Coast periphery.
Cost normalization from subsidy cuts and minimum wage could erode Malaysia's cost competitiveness and its attractiveness as a destination for export oriented investments.	<p>Manufacturers: Eliminating cost distortions may incentivize capex in labour and energy savings technologies, which may benefit firms involved in these sectors.</p>	<ul style="list-style-type: none"> ■ Minimum wage impact has been largest in agricultural sectors (including CPO), rubber gloves, wood work/carpentry related products, restaurant and construction related sectors. ■ Electricity and gas tariff impact has been largest for clothing and textiles, iron and steel products, rubber gloves, cement and metal related industries transport related and other private services.

Source: Citi Research

Manufacturing and Tradeable Services Key to Sustainability of Investment Drive

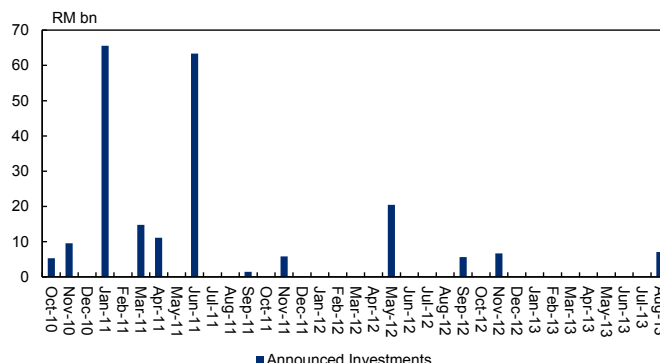
Since 2011, the surge in private investments after the long drought post the 1997/98 Asian crisis has led to questions about its sustainability, both from efficiency and external balance perspectives. This investment surge coincided with the launch of the ambitious Economic Transformation Programme (ETP) in late-2010 targeting US\$15,000 GNI per capita by 2020. More fundamentally, the ETP aims to help Malaysia escape the middle-income trap, which requires that the economy transition towards productivity-driven growth as factor (especially labour) accumulation becomes less viable as a growth strategy. To meet this target, the government estimates that the ETP would have to attract US\$444bn in investments, which would result in the creation of 3.3mn jobs by 2020. After a promising start, the US\$69.3bn of investments projects netted so far represents just 16% of the target, while announcements of new investments have become less frequent even as the sizes announced have also fallen.

Figure 2. Private and Public investment to GDP ratio



Source: CEIC, Citi Research

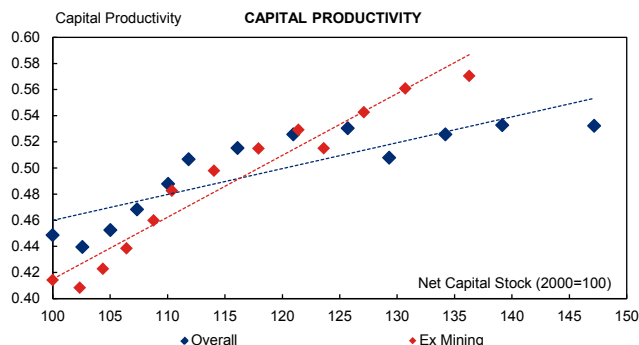
Figure 3. Not only have announcements of new investments under the ETP become less frequent, the sizes announced have also fallen off



Source: Pemandu, Citi Research

Overall, while a serious human capital deficit (see [Malaysia Macro View - Macro Themes for 2012](#) and [Malaysia Macro View - Assessing the Impact of the Minimum Wage](#)) remains a serious obstacle towards productivity-driven growth, we think growth driven by capital accumulation remains sustainable as measures of capital productivity/efficiency remain healthy. On aggregate, there is little evidence to suggest a sizeable decline in the efficiency or returns on investments over time. Comparing output levels with net capital stock in real terms, we find that at the aggregate level, the productivity of capital stock has been rising over time, especially excluding Mining and Quarrying where the gestation period for investments is much longer. Meanwhile conventional measures such as the ICOR (incremental capital-to-output ratio) – which measures the amount of *investment* needed to generate each additional unit of GDP – also suggest Malaysia's capital productivity remains fairly competitive.

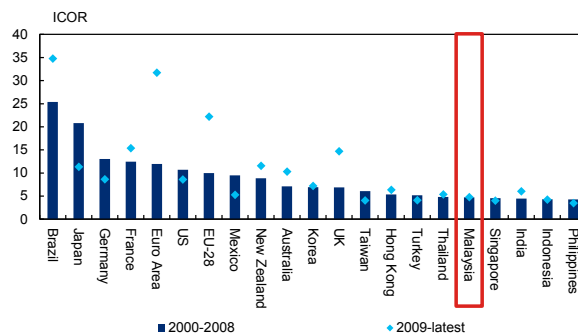
Figure 4. At the aggregate level, the productivity of capital stock has been rising over time, especially ex Mining



Note: We define capital productivity as the ratio of GDP to net capital stock (in real terms).

Source: Department of Statistics, CEIC, Citi Research

Figure 5. Malaysia's ICOR remains relatively low vs more developed economies



Note: We calculate ICOR as the ratio of cumulative GFCF over the period to the absolute change in GDP levels over the same period (in real terms).

Source: Department of Statistics, CEIC, Citi Research

The relevant question therefore is not *whether* but rather *where* to invest – in this regard, we think Malaysia's best opportunity remains Manufacturing. A simple linear regression between output levels (measured in terms of real sectoral GDP) and net capital stock (also in real terms) suggests every additional unit of real net capital stock in Manufacturing generates about 1.5 units of real output, though there is great variation between subsectors. Within Manufacturing, the best returns appear to be in Transport Equipment and Other Manufactures (more likely ships and maritime engineering than motor vehicles); Non-metallic Mineral Products, Basic Metal and Fabricated Metal Products; and Electrical and Electronics.

Figure 6. Sectoral GDP and Net Capital Stock (real terms)

Sector	Direct and Indirect Exports (% of Value Added)	Total Direct and Indirect Net Exports (% of Value Added)	Coefficient	R ²
Agriculture	69.7%	49.4%	1.06	0.94
Mining and Quarrying	80.0%	68.5%	-0.10	0.86
Manufacturing	361.7%	120.7%	1.54	0.78
Manufacturing: Food, Beverage and Tobacco	275.8%	144.7%	1.07	0.97
Manufacturing: Textiles, Leather Wood, Paper Products, Printing and Publishing	189.3%	105.9%	0.19	0.13
Manufacturing: Petroleum, Chemicals, Rubber and Plastic Products	309.7%	128.4%	1.30	0.86
Manufacturing: Non-Metallic Mineral Products, Basic Metal and Fabricated Metal Products	255.4%	55.1%	1.83	0.79
Manufacturing: Electrical and Electronic	515.8%	155.2%	1.57	0.79
Manufacturing: Transport Equipment and Other Manufactures	286.7%	4.1%	2.62	0.65
Construction	47.7%	-83.7%	2.04	0.93
Services	47.7%	17.4%	0.81	0.99
Services: Transport, Storage and Communication	101.5%	64.9%	0.59	0.98
Services: Finance, Insurance, Real Estate and Business Services	54.4%	35.6%	1.48	0.99
Services: Utilities	53.6%	19.2%	0.66	0.53
Services: Wholesale and Retail Trade, Accommodation and Restaurants	55.2%	41.7%	1.97	0.99
Services: Other Services	49.4%	35.5%	1.01	0.97
Services: Government Services	17.1%	-22.9%	0.25	0.91
Overall GDP	154.4%	60.7%	0.60	0.98

Note: We estimate a simple linear regression of the form $y = \alpha + \beta x$, where y = sectoral GDP and x = net capital stock, both of which are in real terms. The coefficient thus measures the marginal increase in real sectoral GDP for every unit increase in real net capital stock.

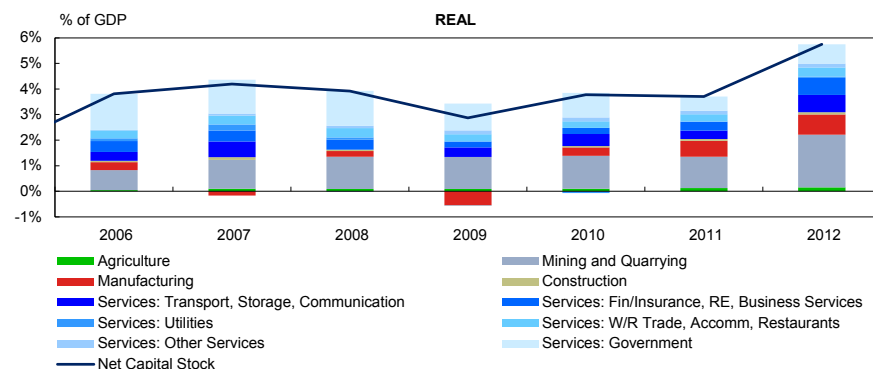
Source: Department of Statistics, CEIC, Citi Research

While the Services sector has on aggregate rather unimpressive returns on capital (coefficient of 0.8), this again masks great differences within the sector. The Wholesale and Retail Trade, Accommodation and Restaurants subsector has a coefficient of about 2.0, followed by Finance, Insurance, Real Estate and Business Services (1.5) – both with good fit/consistency.

The manufacturing and services sub-sectors with higher capital productivity of capital stock tend to be tradeable sectors with a higher ratio of exports to overall value-added. Manufacturing has the highest coefficient and within manufacturing for example, it is E&E with the highest export to value added ratio and a coefficient higher than the sector average. Similarly within services, sectors with higher coefficients generally have a higher export to value-added ratio. This is not to say that all export-oriented sectors generate higher returns on capital or that all non-tradeable sectors have lower returns on capital, but it seems reasonable that the economies of scale provided by a larger international market would generate higher returns for each dollar of capital invested.

The glaring exception is Mining, which despite having a high export-orientation, actually obtained a *negative* coefficient. This apparent low capital productivity appears worrying at first glance since mining and quarrying accounted for around 35% of the increase in net capital stock between 2008-2012, largely reflecting aggressive capex in the oil and gas sector by Petronas.

Figure 7. Changes in Net Capital Stock

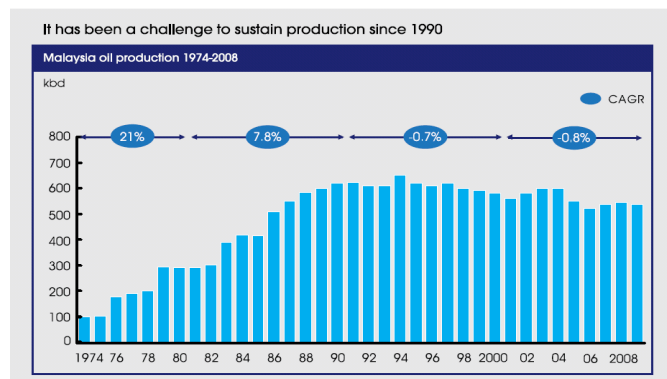


Note: W/R Trade, Accom, Restaurants refers to Wholesale and Retail Trade, Accommodations and Restaurants; Fin/Insurance, RE, Business Services to Finance and Insurance, Real Estate and Business Services.

Source: CEIC, Citi Research

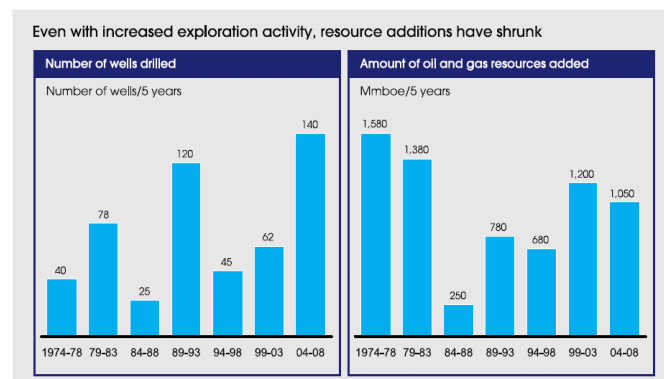
Even if *absolute* returns turn out to be high, we think the high capex in the oil and gas sector – in addition to the long gestation period – is a heavy price to pay to maintain Malaysia's position as a net oil and gas exporter. Low O&G capital productivity likely reflects [1] declining oil production due to the normal maturation of traditional shelf basins, which has forced exploration into marginal oil fields which are smaller and difficult to extract, and [2] significant lags between oilfield exploration and development and actual production. While the latter should recede with time, Pemandu has admitted that domestic oil and gas production are unlikely to significantly exceed current levels, given shrinking resources added despite a larger number of wells drilled – in fact, production has been capped for sustainability reasons to ensure at least 22 years of reserves for oil and 37 years for gas, further limiting the upside to any windfall. An ever larger amount of capital investments in commodity sectors would be needed just to arrest the medium-term deterioration in the commodity trade balance, with even larger investments needed if commodity prices do decline. We believe a more efficient way of maintaining the net commodity exporter position would be to reduce fuel subsidies, therefore reducing domestic consumption and imports of refined petroleum products. But the higher costs that these imply in the short term could potentially entail a loss of cost competitiveness in the short to medium term, undermining returns on investments in tradeable sectors – though as we argue later, this is not an insurmountable obstacle.

Figure 8. Oil production has been declining due to the normal maturation of traditional shelf basins



Source: Pemandu

Figure 9. The size of discovered oil and gas resources has been shrinking despite the number of exploration wells being drilled remaining stable

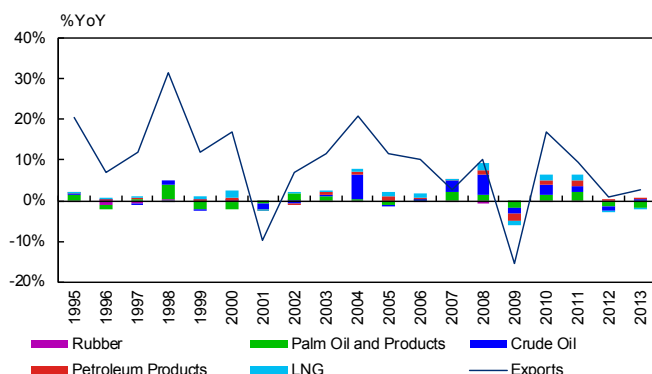


Source: Pemandu

More broadly, the heavy emphasis on commodities exposes the current account and growth prospects to commodity price volatility and could stifle efforts to break out of the middle income trap. Weighting the value-volume spreads of commodity exports to estimate the impact of commodity price vs export volume changes, overall export value growth in 2013 – which had clocked in at a relatively anemic 2.5% – would have been 1.6%pt higher were it not for commodity price declines. With regards to GDP growth, while the contribution of commodities extraction to real GDP has been small, the contribution to nominal GDP growth – and therefore household and corporate incomes – has been larger and more volatile. Between 2006-2011, swings in commodity prices accounted for half of the spread between overall nominal and real GDP growth. An IMF study found that commodity price volatility hurts growth by discouraging risk averse investors from physical capital accumulation, whilst commodity exporters can also be lulled into thinking commodity booms will last forever and thus saving less¹. Meanwhile, windfall commodity revenues may discourage low-income rural households from investing in human capital, stifling long-term productivity growth.

¹ Cavalcanti, Tiago V. De V.; Mohaddes, Kamiar; Raissi, Mehdi. "Commodity Price Volatility and the Sources of Growth" (2012). International Monetary Fund Working Paper.

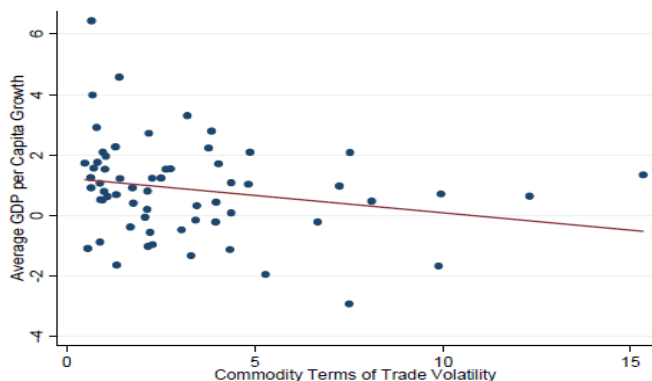
Figure 10. Weighted Value-Volume Spreads of Commodity Exports



Note: We weight the value-volume spreads of commodity exports by their share of total exports a year ago.

Source: CEIC, Citi Research

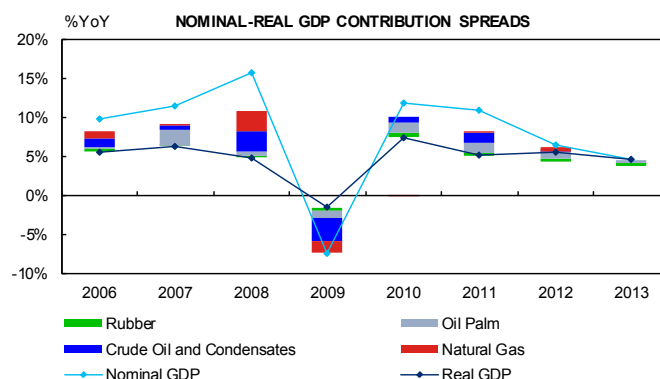
Figure 12. Commodity price volatility hurts economic growth in countries which are primary commodity exporters...



Note: Primary commodity exporters are those countries for which the ratio of primary commodities to total exports exceed 50%.

Source: Cavalcanti, Tiago V. De V.; Mohaddes, Kamari; Raissi, Mehdi. "Commodity Price Volatility and the Sources of Growth" (2012). IMF Working Paper.

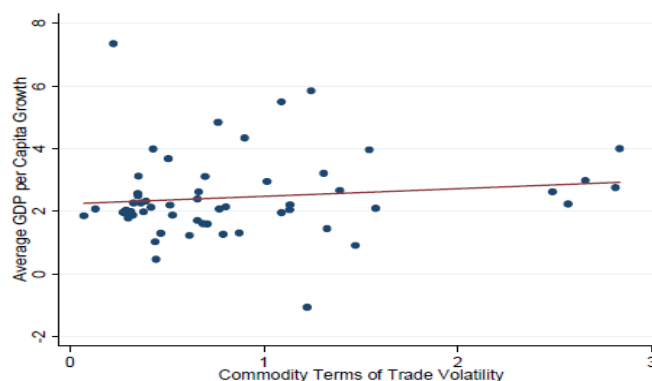
Figure 11. Much of the difference between overall nominal and real GDP growth can be attributed to commodities



Note: The nominal-real spread is the difference between the contributions to nominal and real GDP growth.

Source: CEIC, Citi Research

Figure 13. ...but not for other countries



Source: Cavalcanti, Tiago V. De V.; Mohaddes, Kamari; Raissi, Mehdi. "Commodity Price Volatility and the Sources of Growth" (2012). IMF Working Paper.

Opportunities from Regional Economic Integration

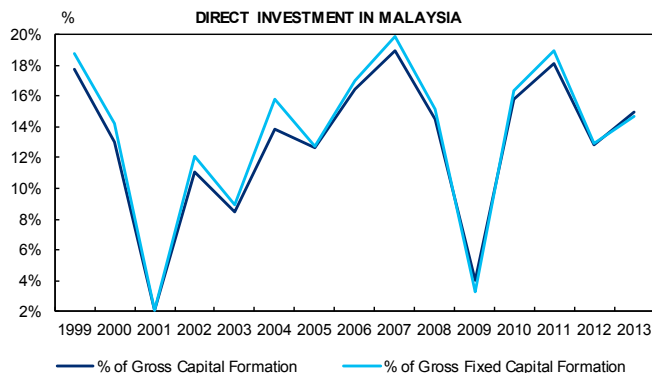
Tighter integration with ASEAN is likely to increase Malaysia's attractiveness to manufacturing FDI, given increased production synergies, which will likely focus on producing intermediate goods oriented primarily to G3 final demand. ASEAN/Asian final demand will likely be met more through FDI in the services sectors and, more importantly, outward investments into ASEAN especially in services like banking and telecommunications. Notwithstanding the property glut and labour shortage in Iskandar, economic integration with Singapore could provide the largest boost to long-term growth, especially if expanded northwards beyond Iskandar.

ASEAN Integration May Increase Manufacturing FDI for External Markets

Tighter integration with ASEAN is likely to increase Malaysia's attractiveness to manufacturing FDI, the importance of which should not be underestimated. While we estimate total FDI accounted for only 15-16% of total GFCF between 2010-2012, it accounted for 39% of overall Manufacturing GFCF and 57%

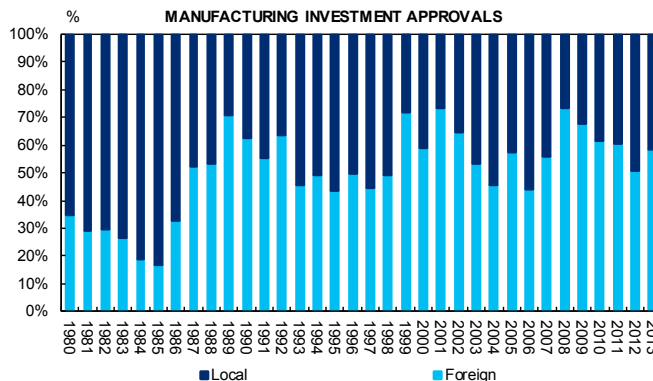
of manufacturing investment approvals. In the mining sector (which includes oil and gas), foreign investments were also important, accounting for 18% of the total or 38% of private investments. We have already discussed elsewhere Malaysia's success in attracting FDI within the context of a broader southward shift of FDI from China to ASEAN (see [Malaysia Macro View - Prospects 2014: Resistance from Rebalancing](#)).

Figure 14. Share of FDI in Gross Capital Formation and Gross Fixed Capital Formation



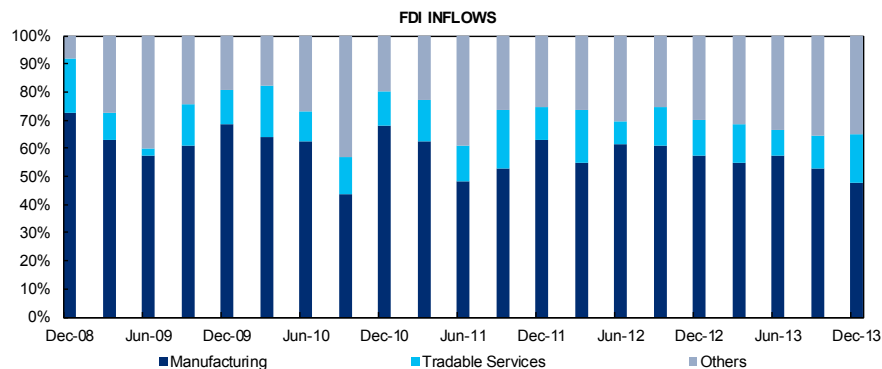
Source: CEIC, Citi Research

Figure 15. Local and Foreign Manufacturing Investment Approvals



Source: CEIC, Citi Research

Figure 16. Manufacturing and Tradeable Services in FDI Inflows



Source: CEIC, Citi Research

The proliferation of FTAs and other regional integration initiatives (including the AEC in 2015) could spur FDI and other GDP gains in ASEAN, including Malaysia. By reducing tariff and non-tariff barriers to trade and investments in both goods and services, the reductions in production costs associated with the AEC should cascade down the entire intra-ASEAN supply chain, facilitating intra-regional trade and a more effective division of labour according to each country's comparative advantage.

- A 2009 study found that the ASEAN Free Trade Agreement (AFTA) of the early 1990s helped to increase ASEAN's attractiveness to FDI. The study found that AFTA helped European countries increase investments in ASEAN more than any other region, while USA and Japan invested more in ASEAN-5 than new ASEAN members².
- Another 2009 study by Plummer and Chia³ – assuming a complete elimination of tariff and non-tariff barriers, liberalization of five services sectors, AEC-induced changes, and a 5% reduction in trade costs – found that ASEAN GDP would be 5.3% higher vs baseline on average, higher than the 3% increase for Malaysia. That said, the likely GDP gains to Malaysia from AFTA at 1.4% were found to be higher than the ASEAN average of 0.8%. The study moreover found that through the spreading of best practices, competition policy alone could raise per capita GDP by 26-38% in ASEAN-6 relative to baseline whilst helping the CLMV economies converge with ASEAN-6.
- Another 2012 simulation by the Economic Research Institute for ASEAN and East Asia (ERIA) quantifies the impact of the complete elimination of tariffs and reduction in services trade barriers equivalent to a 20% tariff reduction and also a 20% reduction in time costs for trade (through better logistics). The simulation found that with tariffs already very low in most ASEAN countries (including Malaysia), the impact of tariff elimination on GDP would be low for most countries. Instead, the largest GDP gains come are likely to come from services liberalization, and reduction in time cost to export and import (i.e. improved logistics and trade facilitation).

Figure 17. Welfare Gains of the AEC in 2015

	US\$ bn (2004p)		% of GDP	
	AFTA	AEC	AFTA	AEC
Brunei	0.2	0.5	2.6	7.0
Indonesia	1.0	27.6	0.2	6.2
Malaysia	2.7	5.7	1.4	3.0
Philippines	0.9	4.5	0.6	3.2
Singapore	2.6	12.1	1.6	9.7
Thailand	1.6	12.2	0.6	4.9
Cambodia	0.3	0.6	2.7	6.3
Lao PDR	0.0	0.2	0.6	3.6
Myanmar	0.0	0.6	0.3	4.4
Vietnam	0.9	2.4	1.1	2.8
ASEAN	10.1	69.4	0.8	5.3

Source: Plummer and Chia (2009)

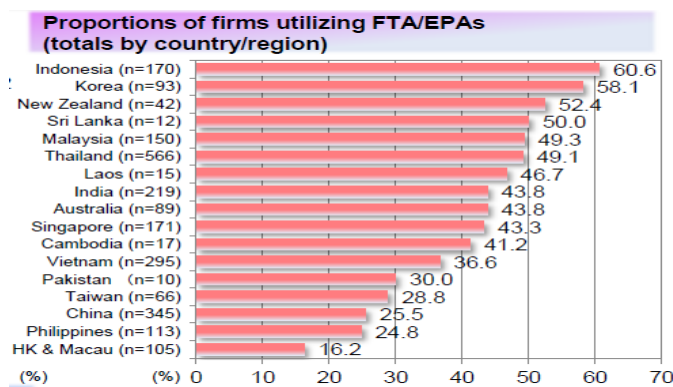
Drilling down, Malaysia's participation in regional FTAs and economic partnership agreements may be an additional factor drawing manufacturing FDI, especially in sectors where intra-ASEAN cross-border distribution of production could spur intra-ASEAN trade in these products. Surveys by the Japan External Trade Organization (JETRO) indicate that Japanese firms within ASEAN are increasingly utilizing FTAs/EPAs and utilization in Malaysia is the second highest within ASEAN.

² Normaz Wana Ismail, Peter Smith, Maurice Kugler, "The Effect of ASEAN Economic Integration on Foreign Direct Investment", Journal of Economic Integration 24(3), September 2009

³ See Plummer, M. G and S.Y Chia, eds 2009, *Realizing the ASEAN Economic Community: A Comprehensive Assessment*, Singapore: Institute of Southeast Asian Studies

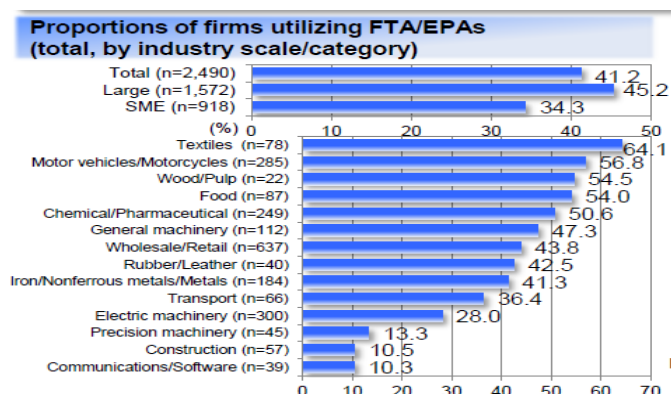
The high utilization of FTAs in the motor vehicles industry could help Malaysia realize its ambition to be the regional automotive hub for energy efficient vehicles. Under the National Automotive 2014, the government targets to produce 1.35mn vehicles by 2020, with at least 200,000 units to be exported and exports of components to reach a minimum of RM10bn by 2020. This would be achieved by transforming Malaysia into a regional hub for energy efficient vehicles (EEV), with manufacturing licenses to be given to foreign automakers that produce EEV, alongside other customized taxes and other grants and incentives.

Figure 18. Utilization of FTAs by Japanese firms in Malaysia is the second highest in ASEAN, after Indonesia



Source: Japan External Trade Organization

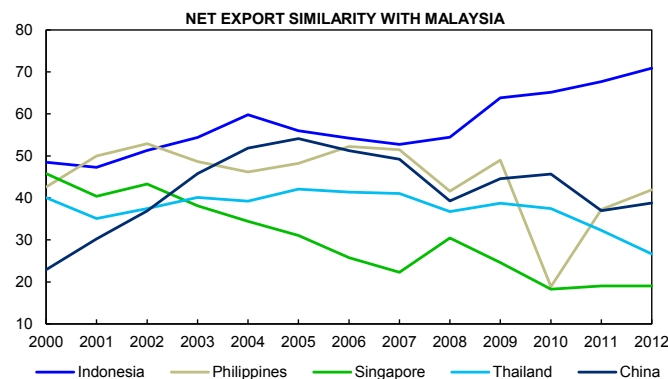
Figure 19. Utilization of FTAs by Japanese firms is comparatively high in the motor vehicle sector



Source: Japan External Trade Organization

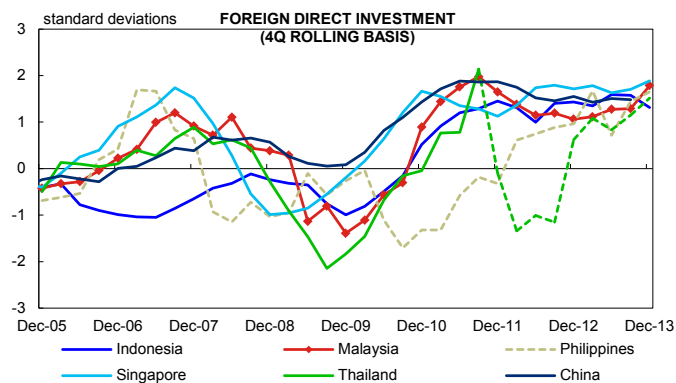
Rather than experiencing zero sum competition in manufacturing FDI between ASEAN countries, Malaysia could well stand to benefit from a boost to manufacturing FDI into some other ASEAN countries, especially Singapore and Thailand. FDI into other parts of ASEAN may not necessarily be at the expense of FDI into Malaysia (and could even be complementary), but this depends on whether the industrial structure of the country is competitive or complementary to Malaysia. The Finger Kreinin net export similarity index can be a proxy measure for the degree of competition between the manufacturing sectors of Malaysia and ASEAN economies (higher similarity = more competitive and vice versa) – our calculations suggest that the extent of competition/complementarity with Malaysia has evolved over time alongside the transformation of industrial structures. Malaysia's biggest export competitors in the early 2000s were Philippines and Singapore, with Thailand subsequently replacing Singapore in the mid-2000s (reflecting the shift in electronics firms from Malaysia to Thailand in that period). More recently, 2011 and 2012 data suggest Indonesia and to a lesser extent Philippines and China are bigger competitors, while Singapore and Thailand seem to have evolved into a less competitive – or even complementary export – structure. The increasing degree of complementarity in industrial structure may, amongst other factors, partly explain why FDI into Malaysia in recent years has become more positively correlated with that into Thailand, Singapore, and even China, whilst the correlation with FDI into the Philippines has turned *negative*.

Figure 20. Malaysia's export similarities with other ASEAN countries have evolved over time, with Malaysia's exports least competitive with Singapore and Thailand



Source: UN Comtrade, Citi Research

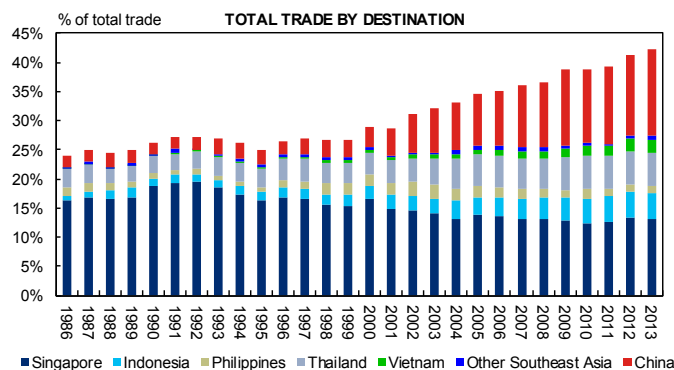
Figure 21. FDI into Malaysia is fairly correlated with FDI into Indonesia and Singapore, and – prior to the floods – Thailand



Source: CEIC, Citi Research

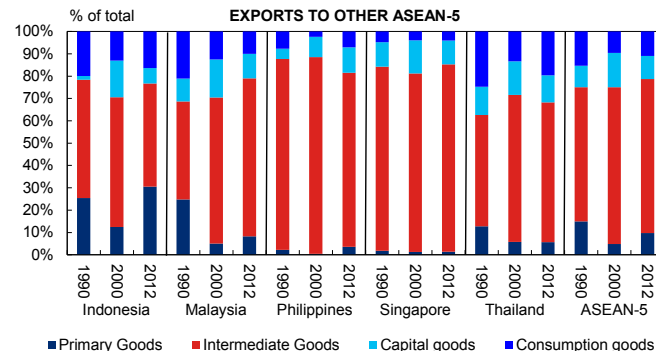
Manufacturing FDI into Malaysia is linked to its trade with ASEAN, which has risen 27.4% of Malaysia's total trade in 2013, up from 24% in 2001, and would have seen a larger increase if not for [1] the reduced share of trade with Singapore, reflecting attempts to reduce dependence on Singapore's entreports and diversification of trading partners – excluding Singapore, trade with ASEAN has actually risen 5.1%-pts to 14.2% of total trade since 2001 – and [2] China's rise as a manufacturing hub in regional production chains which may have displaced trade with other ASEAN countries, given the relocation of parts of the intra-ASEAN production network to China.

Figure 22. Trade with Southeast Asia has grown in importance, though partly displaced by trade with China



Source: CEIC, Citi Research

Figure 23. Trade with Southeast Asia is dominated by intermediate goods exports

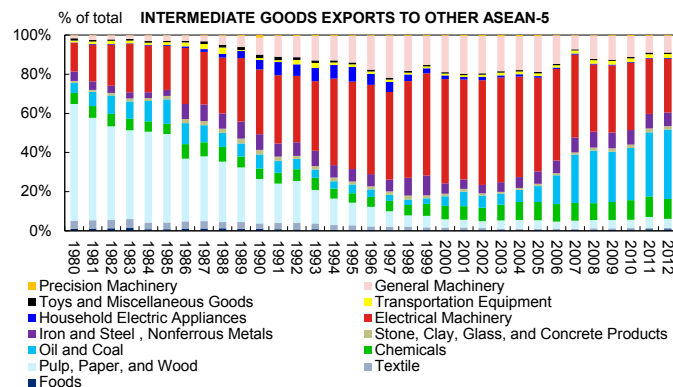


Source: RIETI, Citi Research

Malaysia's trade with ASEAN is dominated by intermediate goods, which have become increasingly diversified beyond electronics over time. Based on data from the Japan-based Research Institute of Economy, Trade, and Industry (RIETI), 70.8% of Malaysia's exports to the other ASEAN-5 countries were dominated by intermediate goods, which are closely tied to the fragmentation of supply chains spanning various ASEAN countries according to each country's comparative advantage. The dominance of intermediate goods is also evident in intra-ASEAN trade amongst the other ASEAN countries. The likelihood that such intra-ASEAN production networks have proliferated across a broader range of industries can be seen in the more diversified nature of intermediate goods. For example, while

electrical machinery (including electronics) accounted for 53.3% of Malaysia's intermediate goods exports to other ASEAN-5 in 2000, this share had halved to just 27.3% by 2012, with increasing shares of oil and coal (2012: 35.5%, 2000: 5%), chemicals (2012: 10.1%, 2000: 6.9%), and metal products (2012: 7%, 2000: 5.3%).

Figure 24. Intermediate goods exports to ASEAN have diversified beyond electronics since 2001



Source: RIETI, Citi Research

Figure 25. Intra-ASEAN exports are more closely tied to the partner's exports to G3 rather than ASEAN domestic demand

Correlation	Partner Exports to US	Partner Exports to Japan	Partner Exports to Europe	Partner Domestic Demand ex Inventories
%QoQ Growth Rates				
Malaysia Exports to Indonesia	0.43	0.47	0.23	0.24
Malaysia Exports to Philippines	0.50	0.38	0.15	0.23
Malaysia Exports to Singapore	0.59	0.44	0.26	-0.21
Malaysia Exports to Thailand	0.03	0.34	0.34	0.12
%YoY Growth Rates				
Malaysia Exports to Indonesia	0.45	0.54	0.36	0.32
Malaysia Exports to Philippines	0.41	0.56	0.18	0.34
Malaysia Exports to Singapore	0.58	0.68	0.39	0.49
Malaysia Exports to Thailand	0.46	0.69	0.46	0.55

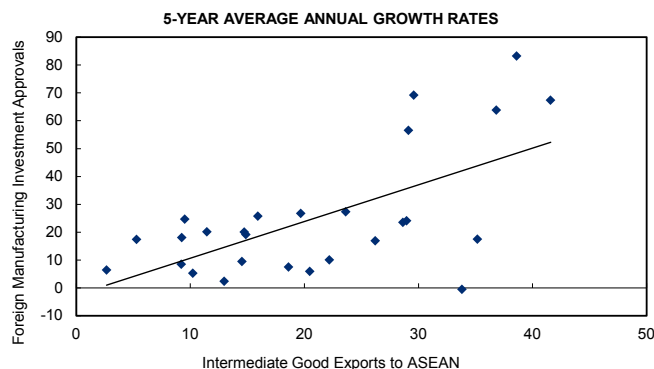
Source: CEIC, Citi Research

Malaysia's intermediate goods exports to ASEAN are more tightly correlated to final demand from G3, suggesting exports and therefore FDI could ride on a cyclical recovery in G3 final demand. These can be seen for, example, in the fact that growth in overall exports to ASEAN are more highly correlated with the partner country's exports to the G3, rather than the partner country's own domestic demand. This suggests that the intermediate good exports to other ASEAN countries are largely for processing into final exports to the G3.

Putting it all together, we can infer that a boost in intermediate goods trade due to the removal of barriers to intra-ASEAN trade should help draw manufacturing FDI into Malaysia – Figure 26 below shows a stronger correlation between MIDA foreign manufacturing approvals and intermediate goods exports to ASEAN, as compared to final goods exports. Our estimates suggest a 1% increase in intermediate goods exports translates to a 1.35% increase in foreign manufacturing investment approvals, whereas a similar increase in final goods exports to ASEAN has a negligible effect on investment approvals.

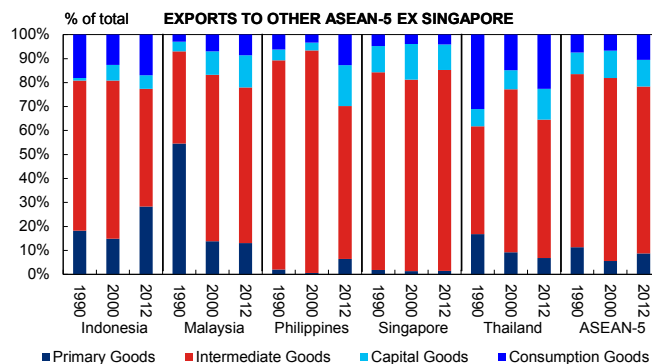
That said, while still small, the role of ASEAN final demand in Malaysia's trade with ASEAN has been rising over time, especially once Singapore is excluded. While a rising share of Malaysia's exports to the ASEAN-5 have been in intermediate goods, this largely reflects the rising importance of intermediate goods in exports to Singapore, from 64.5% of total exports in 2000 to some 78% by 2011. This largely reflects Singapore's role as a hub for high-end manufacturing partly dependent on inputs from Malaysia, as well as its traditional entrepot role for Malaysia (including intermediate goods). Once Singapore is excluded from the analysis, the share of consumption goods in Malaysia's exports to Indonesia, Philippines, and Thailand rose from 6.9% in 2000 to 8.6% by 2012 – including capital goods exports, the overall final goods export share to these countries rose from 16.8% to 21.9%. It therefore follows that over time, manufacturing FDI into Malaysia could see an increasing orientation towards ASEAN final demand.

Figure 26. Foreign manufacturing investment approvals are more sensitive to intra-ASEAN exports of intermediate goods exports than final goods



Source: RIETI, CEIC, Citi Research

Figure 27. Excluding Singapore, final demand from ASEAN could play a bigger role in driving intra-ASEAN exports and tradeable investments going forward



Source: RIETI, Citi Research

Rather than manufacturing, ASEAN/Asian demand will likely be met more through FDI in the services sectors. While net FDI inflows into services appear to have slowed since the peak in 2011, the mix of services appears to be shifting increasingly towards tradeable services. Foreign investment approvals in services as of Jun 2013 were already 60% of 2012 levels, boosted by investments in tradeable sectors such as global operations hubs, transport, hotels and tourism, and healthcare – these tradeable service investments were geared towards demand from within Asia. In tourism for example, tourist receipts from ASEAN accounted for 4.5% of GDP or 67% of tourist arrivals in 2011, up from 4.3% and 66% respectively in 2008. Tourist receipts from Singapore were particularly important, accounting for three quarters of ASEAN tourism receipts.

Figure 28. MIDA investment approval data for the services sector also suggests foreign investment approvals as of Jun already amounted to 60% of last year's levels

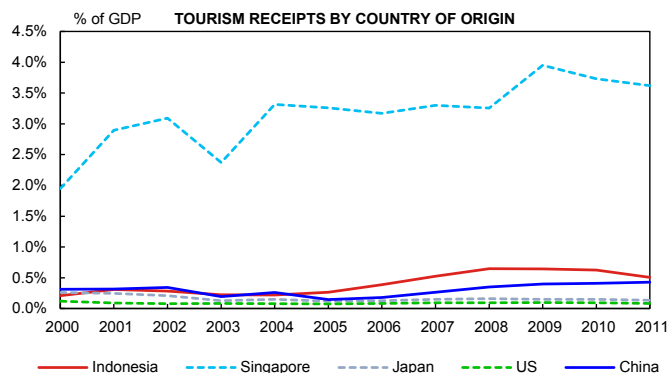
Sub-sectors	No. of Projects		Total Investment (US\$ mn)		Domestic Investment (US\$ mn)		Foreign Investment (US\$ mn)	
	Jan-June 2013	2012	Jan-June 2013	2012	Jan-June 2013	2012	Jan-June 2013	2012
Regional Establishments	79	111	211.1	665.3	18.1	168.2	193.0	497.0
Global Operations Hub	3	8	1,396.4	1,441.7	0.0	15.9	1,396.4	1,425.8
Support Services	69	114	580.1	1,092.2	515.0	839.5	65.1	252.7
MSC Status	89	213	324.0	954.8	226.2	724.9	97.8	229.9
Transport	35	68	1,930.4	2,853.1	1,777.3	2,777.4	153.1	75.7
Real Estate*	661	1,704	7,709.9	19,208.1	7,707.4	18,775.0	2.6	433.1
Utilities	N/A	N/A	1,328.9	4,106.5	1,328.9	4,106.5	0.0	0.0
Telecommunications	153	1,044	626.1	3,295.2	626.1	3,295.2	0.0	0.0
Distributive Trade	743	2,676	594.0	1,606.7	429.8	961.8	164.2	644.9
Hotel & Tourism	82	79	1,997.8	2,905.4	1,788.4	2,800.6	209.3	104.8
Financial Services	24	55	338.0	1,474.7	334.1	1,203.0	3.9	271.7
Health Services	13	6	416.9	111.0	337.1	111.0	79.8	0.0
Education Services	309	485	116.8	306.1	110.5	297.5	6.4	8.6
Others	8	11	53.9	147.6	31.4	119.4	22.5	28.2
TOTAL	2,268	6,574	17,624.2	40,168.4	15,230.2	36,196.0	2,394.0	3,972.4

Note: The original data is presented in MYR terms – for consistency, we convert to USD using exchange rates provided by MIDA for manufacturing approvals.

* – Preliminary, N/A – data not available

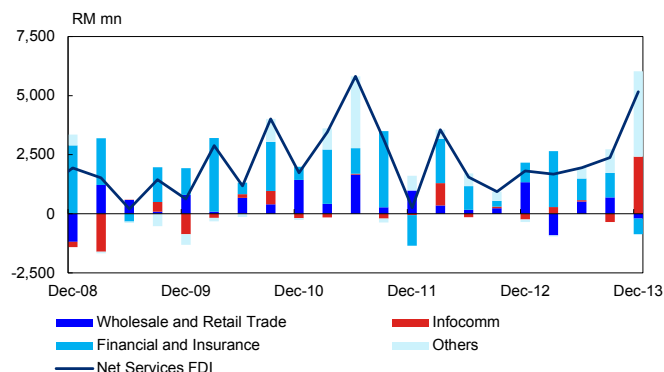
Source: MIDA, Citi Research

Figure 29. Indonesia and China are somewhat significant tourist markets for Malaysia, but could be offset by Singapore



Source: CEIC, Citi Research

Figure 30. Net FDI Inflows into Services



Source: CEIC, Citi Research

Regional and domestic liberalization of services trade and investments may continue to be a driver of services FDI inflows. Domestically, the government started the liberalization of 27 services sub sectors in 2009, with no equity conditions imposed, including in the areas of health and social services, tourism services, transport services, business services, and computer and related services. The ASEAN Economic Community envisages that by end 2015, there should be substantially no restriction to ASEAN services suppliers in providing services and establishing companies across national borders, subject to domestic regulations. Indeed, the 2012 ERIA study found that the biggest lift to GDP growth for the ASEAN-5 and Vietnam from regional integration would come from services trade liberalization.

Boosting ODI to tap ASEAN Demand

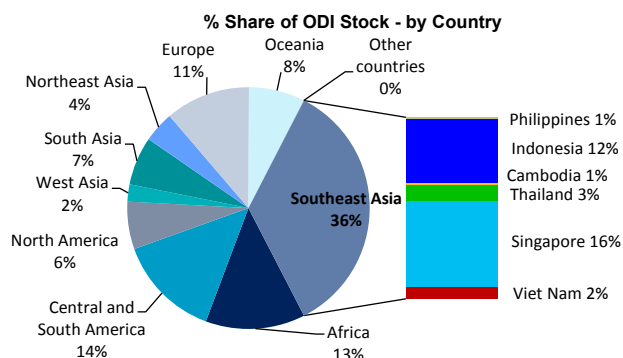
Whilst manufacturing FDI likely will tap on supply side synergies from regional integration, the demand synergies from regional integration will likely be met primarily through Malaysia's Outward Direct Investments (ODI), especially in services.

Malaysia's ODI has been on the rise since the early 1990s and this outflow appears to have accelerated in the years since the Global Financial Crisis⁴. By 2012, Malaysia's stock of ODI had risen to RM358bn (US\$112bn) or 39.1% of GDP, from just RM321.8bn or 30.1% of GDP in 2008 and just 6% in 1990, though this still pales in comparison to Singapore's ODI stock of over US\$300bn.

Malaysia's ODI surge since in recent years was primarily driven by investments in ASEAN, compared to the 1980s and 1990s where the focus was on developed countries. By 2012, ASEAN was the single largest ODI destination for Malaysia, accounting for 35.6% of the total stock of ODI, of which Singapore accounted for 16.2%, followed by Indonesia (12.1%), Thailand (3.2%) and Vietnam (2.3%). Just looking at the growth in ODI stock between 2008-2012, ASEAN accounted for a larger 40.6% more than half (23.7%) of which was accounted for by Singapore, while Thailand's share of outflows in this period matches that of Indonesia. In short, it has been Singapore and Thailand, and to a smaller extent Indonesia, that have driven the recent increase in ASEAN's share of Malaysia's ODI.

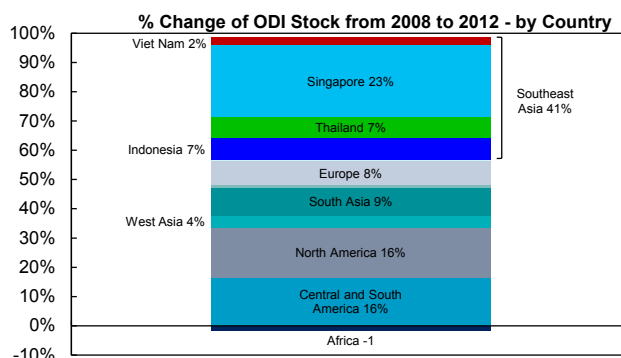
⁴ For an interesting discussion of the history of Malaysia Outward Direct Investments, see Dr. Mohamed Ariff, Gregore Pio Lopez, "Outward Foreign Direct Investment: The Malaysian Experience", <http://www.icrier.org/pdf/Mohamed%20Ariff%20and%20Greg%20Lopez.pdf>

Figure 31. At 35% of ODI stock at end 2012, ASEAN was Malaysia's largest ODI destination, led by Singapore and Indonesia



Source: Bank Negara Malaysia, Citi Research

Figure 32: ASEAN has contributed more to recent ODI increases between 2008-2012, especially Singapore and Thailand.



Source: Bank Negara Malaysia, Citi Research

Malaysia is the second largest source of intra-ASEAN FDI after Singapore, but the heavier focus on ASEAN suggests Malaysian companies could potentially be a better proxy for equity investors to leverage on the ASEAN domestic story. Available survey data from the IMF Coordinated Direct investment Survey suggests Malaysia accounts for roughly 29% of total intra-ASEAN FDI data, vs Singapore's 60%⁵. But while from Malaysia's perspective, ASEAN's share in Malaysia's ODI has been rising in recent years, the opposite has been true for Singapore's ODI, which has seen the share of ASEAN fall from almost one third in the early 1990s to less than a quarter today.

Figure 33. Intra-ASEAN FDI (% of total)

Investment from	Investment to					Total
	Indonesia	Malaysia	Philippines	Singapore	Thailand	
Indonesia			0.0%	11.7%	0.2%	11.9%
Malaysia	5.9%		0.2%	20.9%	2.0%	29.0%
Philippines	0.0%			1.8%	0.1%	1.9%
Singapore	20.3%	12.9%	1.6%		17.7%	52.5%
Thailand	1.6%	-0.1%	0.2%	3.0%		4.6%
Total	27.8%	12.8%	2.0%	37.3%	20.0%	100.0%

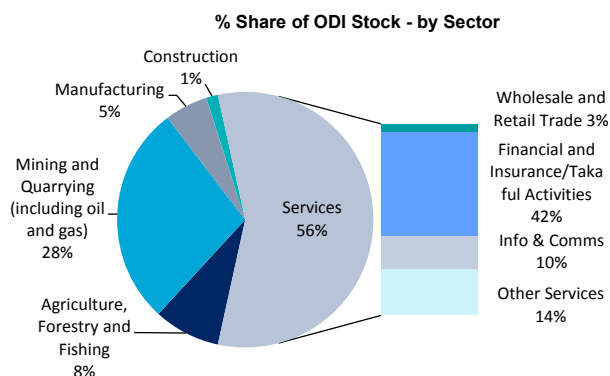
Note: We use data on inward direct investment positions. Data for FDI from Indonesia and Philippines to Malaysia are classified or not available – the total excludes these figures.

Source: Coordinated Direct Investment Survey (CDIS), Citi Research

By sector, the bulk of Malaysia's ODI in recent years has been driven by market seeking investments in services, which accounted for two thirds of the increase in Malaysia's ODI stock between 2008-2012, such that services ODI accounted for 56.9% of the ODI stock in 2012, from just 51.3% in 2008. Almost two thirds of net services ODI flows between 2008-2012 (or 42.2% of the total) was in Financial/Insurance Services, reflecting the significant regionalization efforts of Malaysian state owned banks in ASEAN. Information and Communications were also significant, along with Other Services.

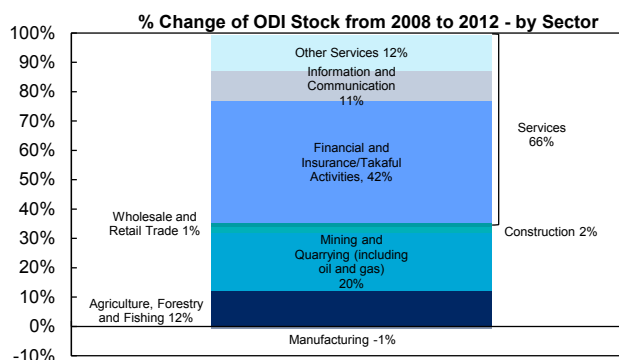
⁵ The data for FDI from Indonesia and Philippines to Malaysia are classified or not available – our calculations of intra-ASEAN FDI flows thus exclude these.

Figure 34. As at end 2012, more than half of Malaysia's ODI stock is in services, especially financial and infocomm.



Source: Bank Negara Malaysia, Citi Research

Figure 35: Services accounted for an even larger two thirds of increase in ODI between 2008-2012, whilst the share of manufacturing shrunk



Source: Bank Negara Malaysia, Citi Research

This marks a significant shift from the resource-seeking ODI in mining, manufacturing, and agricultural sectors in earlier years, which have seen a decline in combined ODI share from 47.5% in 2008, to just 41.6% by 2012. In fact, in absolute terms, the stock of manufacturing ODI actually fell by almost RM1bn between 2008-2012, whilst net ODI flows in Agriculture were actually negative in 2010 and 2012. Apart from cyclical reasons related to the GFC (for manufacturing) and lower soft commodity prices (for Agriculture), other reasons for this decline in resource-seeking ODI include [1] rising labour and other costs especially in China, which may have reduced its attraction as a manufacturing base, causing Malaysian companies to relocate some operations back to Malaysia, and [2] the shift in Petronas' capex for 2011-2015 towards domestic rather than foreign operations.

Looking ahead, Malaysia's ODI will likely continue to be driven primarily by market-seeking services sectors into ASEAN as longer term structural demand drivers remain intact as discussed in our [ASEAN Economics Long View - Singapore Swing – Refocusing on ASEAN Regionalization](#). By 2017, the IMF projects that ASEAN-10's GDP would have reached US\$3.8bn – around 21% larger than India's. In our [ASEAN Economics Long View - Indonesia: En Route to a Top-10 World Economy by 2025](#), we noted that Indonesia could be the world's eighth largest economy by 2025. Average per capita GDP is projected to rise to US\$5,800 by 2017 – the historical experience of Taiwan and Korea suggests that as per capita incomes rise above US\$3,000, consumption becomes more heavily weighted towards services⁶. Rising urbanization should also provide sizeable opportunities especially in Indonesia, with the United Nations expecting the urban population of ASEAN-10 to increase by 88mn persons by 2025, of which half will come from Indonesia.

Within services, we believe the biggest opportunities to expand within ASEAN lie within banks and transport, with overseas expansion by gaming companies, developers, and healthcare more likely outside ASEAN.

- For banks: [1] Thanks to timely acquisitions in recent years to expand wholesale and investment banking platforms, the larger banks' IB capabilities have evolved beyond domestic Malaysia, enabling them to capture cross border investment flows and growth opportunities that are extending into the region. This could be both through financing Malaysian principals expanding organically in to the

⁶ See "China Macro View: Who Will Spend and What to Spend On", dated 3 September 2009, Citi Research

region, and also through M&A. This will not only provide room for more lending but also fee-earning activities such as forex, trade finance, and advisory. Some banks are also targeting the supply chain of key Malaysian principals that are already operating in ASEAN. [2] Equally for the larger Malaysian banks themselves, with dominant shares in the domestic banking industry, these banks' mgmt. view the next level of growth as pursuing direct opportunities in Asean. Typically this is further (organic) investment in building out existing geographic platforms or operating subsidiaries, but it has also driven a wave of regional bank M&A in recent years, and selectively (where there is a strong business case and a deal makes sense financially) we could see this M&A trend continue.

- In transport, AirAsia's expansion into Thailand, Philippines, and Indonesia is the best example, in our view. They also use the Malaysian holding company to acquire aircraft from Airbus and sub-lease the aircraft out to their associates across ASEAN and eventually Japan and India). Though not ASEAN focused, another example is MAHB investing in India and most recently Istanbul. That said they have been a significant beneficiary of the connectivity of the ASEAN community driven by AIRA.
- In gaming, Genting group's successful bid for Resorts World Sentosa in December 2006 was followed in Aug 2009 by Resorts World Manila by Genting Hong Kong, as part of the Philippines US\$20bn Pagcor City development in Manila Bay. More recent overseas expansions have been focused outside the ASEAN space, especially Japan Korea, US, and the UK. Amongst future investment opportunities, possible opportunities in Sri Lanka have been mooted but are not concrete.
- Within the telecom space we think that there is not enough growth stories left in ASEAN outside of frontier markets like Cambodia, Myanmar, and the Lao PDR – outside of Axiata, none of the telcos have ventured or are interested in investing outside of their home market. Axiata is unlikely to raise its stakes in Indonesia and Singapore and is trying to divest its token presence in Thailand. Of the other major telcos, Maxis communications (delisted, not Maxis Berhad) did have a minority 14.9% stake in Axis Telekom (Indonesia) which it exited when XL took over Axis recently.
- Some bigger developers have ventured abroad, preferring mature markets (Singapore, UK and Australia) where regulations are well-established and transparent. Some developers have also invested in emerging economies such as China and Vietnam, drawn by the favorable demographics trends relative to Malaysia. Near-term, a possible slowdown in domestic sales could result in more developers taking a harder look at geographical diversification but these may involve mid-sized players entering into more mature markets like UK and Australia. Diversification into ASEAN (ex-Singapore) is less likely given the higher risks incurred for broadly similar margins vs Malaysia.
- In healthcare, while Khazanah had acquired Singapore's Parkway in 2010, more recent overseas investment have been few but sizeable, primarily in Turkey and Hong Kong. Recent expansion into Turkey was drawn by the industry transformation and also to capture the medical tourism market in Turkey which has been boosted by its strategic location at the cross roads of Asia, Europe and the Middle East, and its relatively high quality facilities and strong concentration of specialists capable of performing complex procedures. In Mar 2013, IHH also secured a hospital site in Hong Kong to build a private hospital and China would likely be a key focus for overseas expansion going forward, though this could take time to realize given regulatory obstacles.

That said, resource-seeking ODI in lower cost ASEAN economies are likely to continue on a selective basis, potentially to act a “safety valve” for Malaysian companies hit hardest by cost normalization.

- On the oil & gas exploration segment, Petronas’s investments & activity have since 2011 been focused on domestic projects given the government’s push to rejuvenate Malaysia’s depleting O&G resource. However, there have been selective examples where Malaysian service providers have started to push ahead globally, with Sapura Kencana now having operations in Angola, Brunei, Equatorial Guinea, Indonesia, Thailand, Trinidad and Tobago.
- The plantation sector has been one of the pioneers in investments externally, with a focus on growing hectareage in Indonesia given the lack of agriculture land for further growth in Malaysia. Malaysia’s largest planter group Sime Darby now has 39% of its planted area in Indonesia. Indonesia’s push to increase local value-added content via secondary processing of raw resources as well as restrictions on land ownership may lead to Malaysian entities eventually list their Indonesian units in Jakarta.

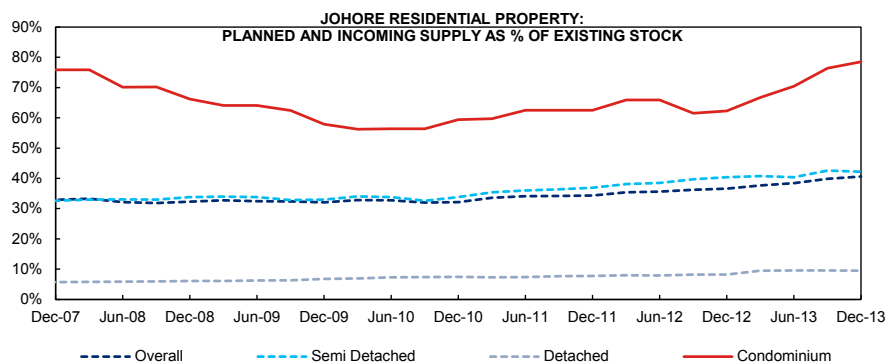
Integration with Singapore beyond Iskandar?

Economic integration with Singapore can provide the largest boost to growth and capex potential. Much ink has already been spilt about the strong economic rationale behind the development of Iskandar in Southern Johor. In theory, while Malaysia would benefit from increased FDI from Singapore that may also raise productivity growth, expansion into Iskandar allows Singapore-based firms, especially SMEs, more economic space to overcome increasingly binding domestic supply side constraints of land and labour.

Given these synergies, political buy-in from both sides has strengthened since 2012. Of the cumulative RM128.1bn in committed investments since 2006, 44% (RM55.8bn) has been realized. Local investors accounted for 65% of the total, with foreign investors forming the rest. Singapore was the top foreign investor between Jan-Jun 2013, followed by Spain, Japan, US and Netherlands.

Unfortunately, these productive synergies appear to have been overshadowed by a number of obstacles that may continue to dog investors in the short- to medium-term. First, there are risks of overinvestment in residential property. Residential, retail, and industrial segments collectively contribute cumulative investments of RM48.09 billion, the single largest sectoral contribution to growth in investment commitments since 2006. Incoming and planned supply of condominiums in Johore have seen an upswing to about 76.4% of existing stock compared to other types of housing which have headed north more gently. The entry of developers from China and Singapore has not helped. **Ultimately, we think there needs to be a heavier emphasis on productive economic activities that capitalizes on Iskandar’s comparative advantages, especially in manufacturing, which draws in the population base.**

Figure 36. Incoming and planned supply of condominiums in Johore have seen an upswing



Source: CEIC, Citi Research

Second, Singapore firms seeking to overcome domestic labour supply constraints have been disappointed so far, as a large chunk of Iskandar's skilled labour supply are already working in Singapore, drawn by far higher salaries and the strength of the SGD. There are reportedly over 300,000 Malaysians working in Singapore, of which a large number commute across the border every day. Drawing these Malaysians back to work in Iskandar would require significant wage hikes, thereby negating part of Iskandar's cost advantages. Alternatively, a further tightening of Singapore's foreign labour policies may help correct for these imbalances, but workers could opt to work for higher wages in Klang Valley rather than Iskandar. Regardless, it has become increasingly clear that the main cost advantage in Iskandar will more likely be land rather than labour.

Third, domestic policy uncertainty has not helped investor confidence either. Case in point was the announcement by the Sultan of Johore that the workweek in Johore will be adjusted to Sunday-Thursday starting 2014, effectively reducing the number of working days per week to four, with consequences for productivity. Changes in property policies, in particular rules governing foreigner purchases, whilst warranted on macroprudential grounds, have not helped perceptions either.

These are however surmountable obstacles that should not detract from the strong longer term rationale behind bilateral economic integration, with the strongest synergies in tradeable sectors, particularly manufacturing, which recorded the second highest cumulative committed investment at RM45.68 billion including investment from the sectors of Electric and Electronics, Petrochemical and Oleo-chemical and Food and Agro-processing tourism (RM2.50 billion). In theory, Singapore manufacturing firms with production facilities in Malaysia could potentially leverage on Singapore's comprehensive network of bilateral Free Trade Agreements. Tweaks in the Rules of Origins within existing agreements and utilization of Outward Processing concept could help MNCs that locate parts of their production chain within both Malaysia and Singapore to label their products as being produced in Singapore, despite the bulk of value-add being done in Malaysia. This concept is already applied to the US-Singapore FTA. Utilization of such synergies would in theory reduce costs of production, achieve a more efficient division of labour and better allocation of scarce resources, and ultimately raise productivity on both sides.

Ultimately, full utilization of synergies may require bilateral economic integration to extend beyond Iskandar to the rest of Peninsular Malaysia in order to overcome existing constraints within the Iskandar region. In theory, investments from Singapore could extend northwards all the way up the west coast

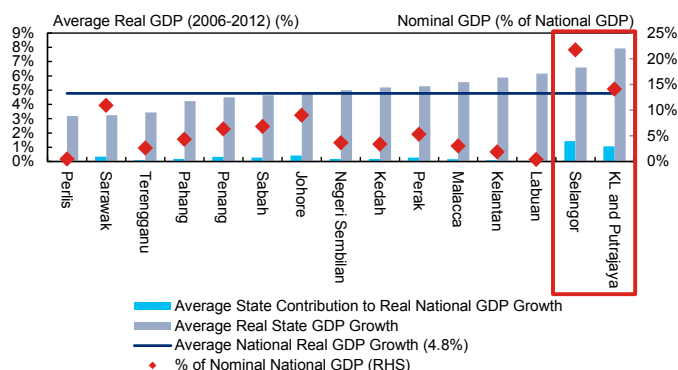
of Peninsular Malaysia. Given the greater distance from Singapore which would make it harder for the indigenous labour force to simply commute across the border, investments further north are less likely to encounter the kinds of labour shortages that now exist in Iskandar. This deeper level of integration would effectively tap on the existing manufacturing supply chains that already exist in the Klang Valley, Penang and Kedah, linking these with higher-end manufacturing, logistical, financial and R&D capabilities in Singapore. Deepening bilateral integration would require further improvements in cross-border connectivity. The extension of Singapore's MRT into Johor in 2018 is just a start, while the proposed KL-Singapore High Speed Railway could be extended northwards to Penang. Facilitating the movement of goods may also require a third border crossing with Singapore.

Opportunities from the Regional Development Agenda

Opportunities from a geographically inclusive growth model will likely receive renewed attention given the primacy of the rural vote, though prospects will vary significantly amongst states/growth corridors, depending on political factors, geography and economic history. Outside of the Selangor-KL-Putrajaya growth core, we find that Penang and Johor have the clearest growth stories, riding on integration with Singapore and an increased focus on export led growth. Along the west coast of the Peninsula, Malacca, Negeri Sembilan, Perak, and Kedah could ride on spillovers from these states, but Kelantan, Pahang, Perlis, Terengganu, Sabah, and Sarawak are possibly victims of geography and could struggle to achieve lift-off.

Economic activity and growth remains heavily concentrated in the Selangor-KL-Putrajaya growth core. In a country spanning 330 th sq km and separated by the South China Sea, it should come as no surprise that the geographical distribution of growth is rather uneven in Malaysia. Malaysia is divided into 13 states and 3 Federal Territories – of these, the state of Selangor and the Federal Territories of Kuala Lumpur (KL) and Putrajaya stand out as Malaysia's growth core. With a quarter of the Malaysia's population of 29.6mn, the growth core accounts for 36% of national GDP and contributed to more than half of economic growth in 2006-2012.

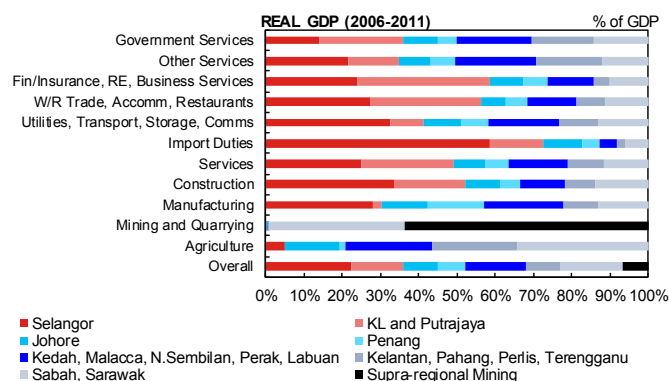
Figure 37. The state of Selangor and the Federal Territories of Kuala Lumpur (KL) and Putrajaya stand out as Malaysia's growth core...



Note: State contributions to national GDP growth do not add up to 4.8% and state share of nominal national GDP do not add up to 100% as supra-regional mining and quarrying is excluded.

Source: Department of Statistics, CEIC, Citi Research

Figure 38. ...accounting for the bulk of national Manufacturing and Services GDP

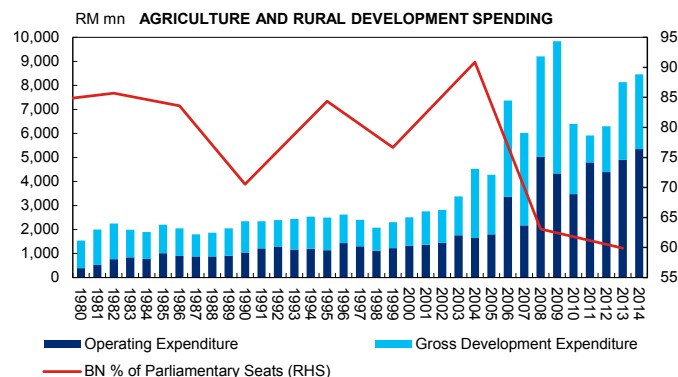


Note: W/R Trade, Accom, Restaurants refers to Wholesale and Retail Trade, Accommodations and Restaurants; Fin/Insurance, RE, Business Services to Finance and Insurance, Real Estate and Business Services.

Source: Department of Statistics, CEIC, Citi Research

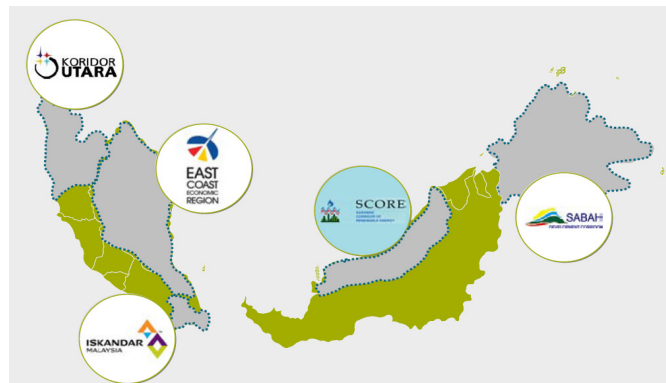
Regional development could gain greater political urgency after the BN coalition's failure to court the urban vote in the 2013 General Elections. The BN is likely to devote greater spending and attention to the rural states as it shifts to a defensive strategy centered on securing the rural vote. After peaking at RM9.8bn in 2009, total gross federal government spending on agriculture and rural development was cut sharply to RM6.4bn in 2010 in the first Budget under Najib's premiership after he replaced former PM Badawi in Apr-2009. However, as it became increasingly apparent that PM Najib's overtures to the urban voters were not bearing fruit, agriculture and rural development spending was hiked to RM8.1bn in 2013 (2012: RM6.3bn) and is Budgeted to rise further to RM8.5bn in 2014. The politics thus suggest that the various regional growth corridors – Iskandar Malaysia, the North Corridor Economic Region (NCER), the East Coast Economic Region (ECER), the Sarawak Corridor of Renewable Energy (SCORE), and Sabah Development Corridor (SDC) – will likely receive more attention in coming years.

Figure 39. We expect the BN to devote greater spending and attention to the rural states as it shifts to a defensive strategy centered on securing the rural vote



Source: Ministry of Finance, CEIC, Citi Research

Figure 40. Current growth corridors

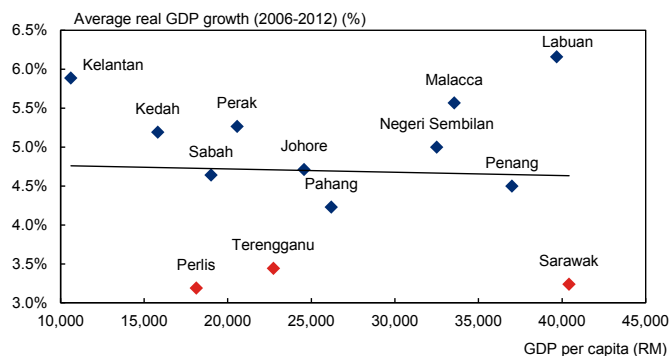


Source: Economic Planning Unit

Outside the Selangor-KL-Putrajaya growth core, the individual growth contributions of the remaining 12 states and the Federal Territory of Labuan are much more modest, with individual states contributing not more than 0.4%pts out of the average national growth rate of 4.8% over 2006-2012, though for many states, this is more a function of low GDP base rather than poor growth. Five states – Negeri Sembilan, Kedah, Perak, Malacca, and Kelantan – were in the 5-6% range. Closer to the national average of 4.8% are Penang, Sabah, and Johore.

We identify Kelantan, Pahang, Perlis, Terengganu, Sabah, and Sarawak as the laggard states. According to our analysis, Perlis, Sarawak, and Terengganu are clear growth laggards, while Pahang also appears relatively slow. Kelantan's relatively stronger growth has been propped up by Government Services respectively, possibly suggesting some underlying underperformance in private sector activity. Similarly, Sabah's relatively high growth rates are disproportionately concentrated in the mining and quarrying sectors.

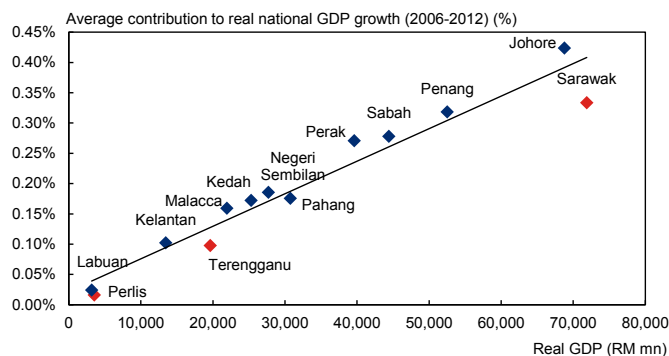
Figure 41. Perlis, Sarawak, and Terengganu are clear laggards in terms of growth rates...



Note: Excludes Selangor, KL, Putrajaya, and supra-regional mining and quarrying.

Source: Department of Statistics Malaysia, CEIC, Citi Research

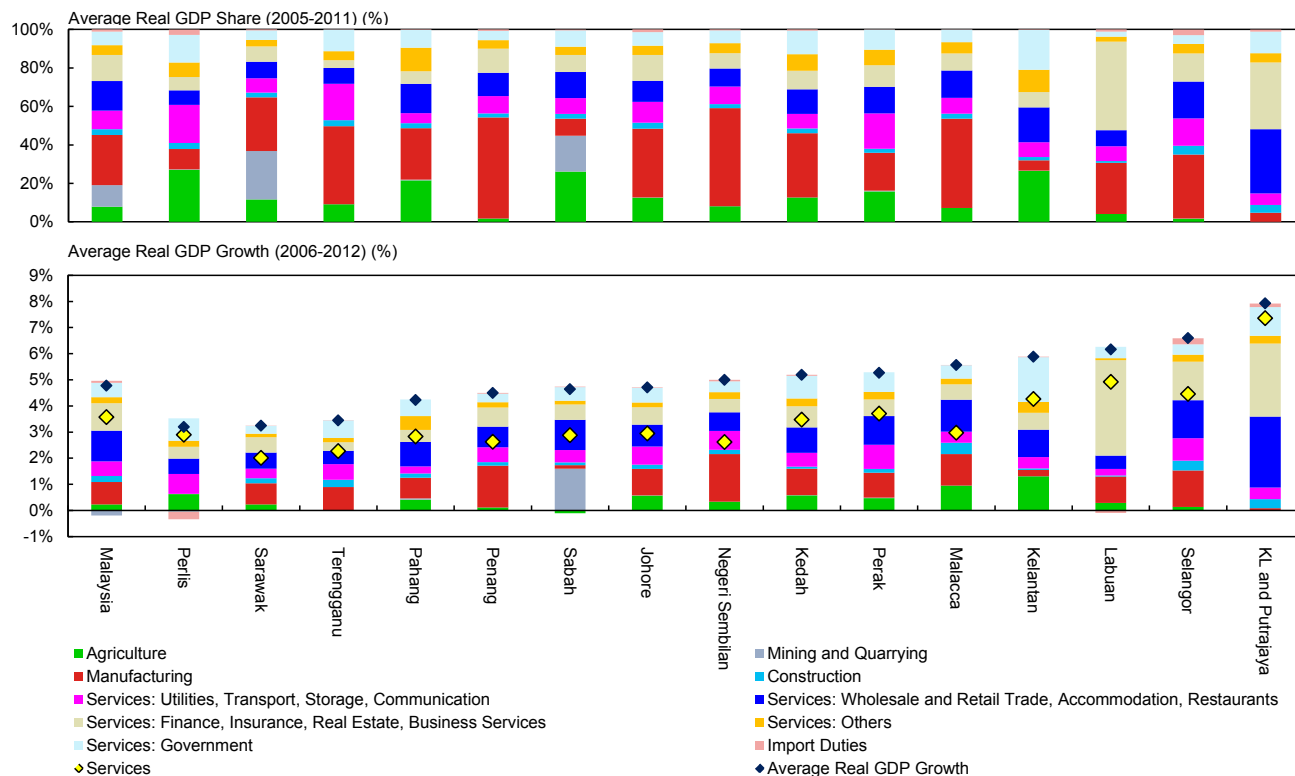
Figure 42. ...and thus contribution to national growth



Note: Excludes Selangor, KL, Putrajaya, and supra-regional mining and quarrying.

Source: Department of Statistics Malaysia, CEIC, Citi Research

Figure 43. A closer look at the drivers of growth also suggests underlying underperformance in Sabah and Kelantan where growth has been propped up by Mining and Quarrying as well as Government Services respectively (bottom chart)



Source: Department of Statistics Malaysia, CEIC, Citi Research

We think the single most important source of underperformance in the laggard states is geographic isolation from the major shipping routes, which in turn limits their attractiveness as destinations for export-oriented FDI. Kelantan, Pahang, Terengganu, Sabah, and Sarawak for example face the South China Sea but are not along the main shipping lane. Ships are thus forced to go out of their way in order to call at these ports – likely empty on the inbound or outbound leg of the voyage – which likely contributes to the dearth of vessel arrivals at ports outside of the Straits of Malacca. Their reluctance is reflected in the higher freight

rates demanded to call at these ports – the average freight rate to ship a 40ft equivalent unit container from Kota Kinabalu in Sabah or the Federal Territory of Labuan to Hong Kong is almost 8% higher than shipping the same container from Port Klang in Selangor⁷. Main line operators are reluctant to call at Sabah ports as they would have to return empty, thus leading to Sabah-bound containers being transshipped instead from Port Klang or Singapore. While Perlis is near the main shipping artery along the Straits of Malacca, it is too far from a major seaport.

Figure 44. Kelantan, Pahang, Perlis, Terengganu, Sabah, and Sarawak appear to be victims of geography



Source: Department of Statistics

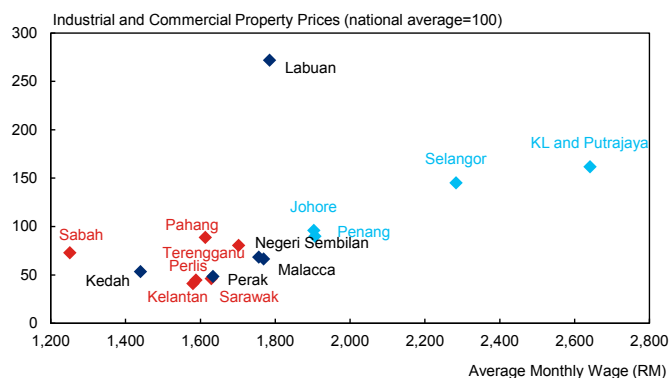
Figure 45. Average Freight Rate to Hong Kong

Port of Origin	State	Average Freight Rate (US\$)
Port Klang	Selangor	760-840
Port of Penang	Penang	810-900
Port of Tanjung Pelepas	Johor	860-950
Port of Kota Kinabalu/Labuan	Sabah/Labuan	820-910
Port of Singapore		740-810

Note: We present the simple average of freight rates for shipping a 40ft equivalent unit container to Hong Kong across all types of goods. Freight rates exclude other additional fees like duties and taxes.

Source: World Freight Rates, Citi Research

Figure 46. Despite the already fairly significant cost gap vis-à-vis the more developed states, this has not resulted in a significant diversion of investments to the laggard states

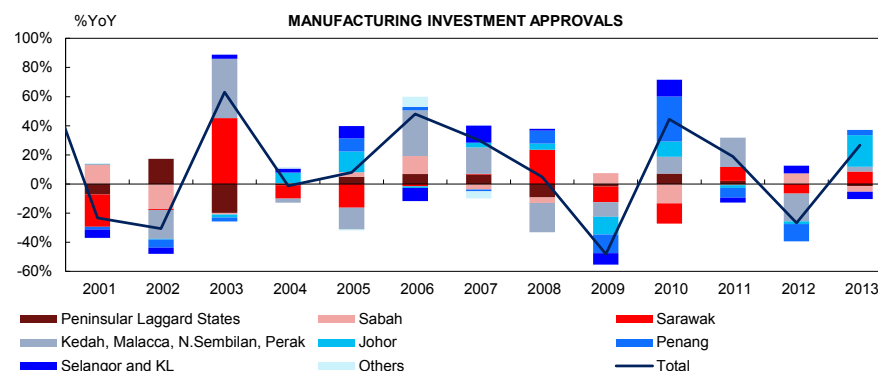


Source: Department of Statistics, CEIC, Citi Research

⁷ Freight rates from World Freight Rates, retrieved on 3 March 2014.

Geography thus helps to explain why lower land and labour costs have not been sufficient to attract investments in these states, with the exception of Sarawak. There is already a fairly significant cost gap vis-à-vis the more developed states – we estimate for example that average wages and industrial and commercial property prices are already almost 40% and 60% cheaper than the KL-Putrajaya growth core but this has not resulted in a significant diversion of investments to the laggard states. Indeed, excluding Sarawak, the share of laggard state's in overall MIDA manufacturing investment approvals has fallen from 15.5% between 2000-2007, to just 14% from 2008-2012.

Figure 47. MIDA Manufacturing Investment Approvals

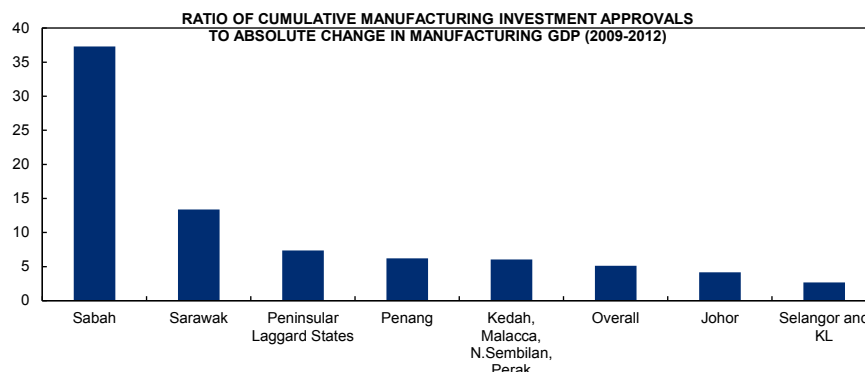


Source: CEIC, Citi Research

While there are port expansion plans that could potentially benefit these states, we hesitate in thinking of these as game-changers. Infrastructure upgrades could help reduce congestion at these ports, but the key problem discouraging ships from calling at these ports is the imbalance between import and export volumes, which results in incoming ships carrying imports being forced to sail the return leg of the voyage empty. We are thus faced with a chicken-and-egg problem – the relocation of export-oriented manufacturing into these states could improve the import-export volume balance and thus lower freight rates, but such firms likely require the encouragement of lower freight rates to relocate in the first place. Shippers may also require demand for outbound freight to reach critical mass levels before they agree to make regular calls at these ports and reduce freight rates. We believe this is a problem that goes beyond simple port infrastructure.

Political factors have made Sarawak the exception amongst the laggard states, but its inability to translate its sizeable jump in investments into higher GDP growth suggests geography remains an obstacle to raising returns on capital invested. Sarawak saw its share of MIDA manufacturing investment approvals jump from just 10.6% in 2000-2007, to 17% in 2008-2012, from making it the second largest recipient of manufacturing investment approvals amongst the states since 2008, after the Selangor. Increased investments reflect the increased political importance of Sarawak post the 2008 elections as the key “vote bank” that is expected to keep the incumbent Barisan Nasional in power, which resulted in increased focus on the Sarawak Corridor for Renewable Energy (SCORE). But Sarawak’s growth rates have lagged despite enjoying the lion’s share of new investment approvals – its manufacturing GDP growth averaged just 0.7% between 2008-2012, well below the national average of 2.6%, which may suggest very low returns on investments.

Figure 48. Ratio of Cumulative Manufacturing Investment Approvals to Absolute Change in Manufacturing GDP



Note: We take the ratio of cumulative manufacturing investment approvals between 2009-2012 to the absolute change in real manufacturing GDP between 2009-2012. A lower ratio implies less manufacturing investment approvals were needed to raise an equal amount of real manufacturing GDP, i.e. greater returns to capital.

Source: CEIC, Citi Research

Conversely, a better geographical position on the west coast of the Peninsula close to the main shipping arteries in the Straits of Malacca suggests the fortunes of Kedah, Malacca, Perak, and Negeri Sembilan are brighter. Cost levels in these states are comparable to the laggard states and they can serve as alternatives for firms seeking to avoid higher costs in the Selangor-KL-Putrajaya growth core. Returns on manufacturing investments in these states also appear high – despite a sizeable decline in their share of manufacturing investment approvals in the five years between 2008-2012, average manufacturing GDP growth for these four states exceeded the national average in three out of these 5 years.

Geography and history point to the clearest growth stories in Johore and Penang. The former benefits from its proximity to Singapore, and the latter is helped by the presence of strong existing manufacturing supply chains and port infrastructure. Since 2008, these two states have seen their combined share of manufacturing investment approvals jump to 31%, from less than 25% in the preceding 7 years, and as a result, manufacturing GDP growth of 8.1% in these two states between 2010-2012 exceeded the national average of 7.1%. **Extending economic integration with Singapore northwards beyond Iskandar would ultimately provide a significant boost to investment and growth prospects in all the states located along the west coast.**

Figure 49. Prospects for Regional Development

Corridor	State	Notable Projects	Comments
Iskandar	Johor		Johore shares a border with Singapore, which has made its Iskandar region the focus of Singapore's regionalization drive, attracting Singaporean firms seeking a lower-cost environment to escape higher costs at home.
NCER	Penang	Collaborative Research in Engineering, Science and Technology Center, Koridor Utara Biotech Centre	Penang has long been a key center for Malaysia's E&E manufacturing since the 1970s and saw a renewed boost in investments post-2011 as electronics manufacturers sought to diversify their global supply chains in the aftermath of the Tohoku earthquake in Japan and especially the floods in Thailand
	Malacca Negeri Sembilan		Malacca and Negeri Sembilan can likely leverage on spillovers from the Selangor-KL-Putrajaya growth core. Between the two, Malacca has a better educated labour force and stronger existing demand for skilled labour.
NCER NCER	Perak Kedah	Selinsing Aquaculture Complex Plant Science And Tissue Culture Node	Perak and Kedah can likely leverage on spillovers from Penang. Existing demand for skilled labour appears higher in Perak than in Kedah and we thus suspect firms find the former more attractive than the latter.
ECER	Pahang	Kuantan Port City, Kuantan Port-Free Zone, Kemaman Heavy Industrial Park, Kemaman Boat Building and Repair Industrial Park, Tanjung Agas Maritime Industrial Hub and Free Zone, Bentong Mixed Industrial Park, Gambang Halal Park, Pekan-Peramu Automotive Industrial Park, Palm Oil Industrial Cluster, and Petronas Petroleum Industry Complex	Pahang is not just the location of Kuantan Port, which is undergoing expansion and deepening to serve as a gateway to the East Coast – much of the ECER Special Economic Zone (SEZ) lies within the state. In particular, Pahang is the site of the bulk of the ECER's targeted manufacturing and industrial activities. There are also plans to construct an Eastern Rail Link from Kuantan to Kuala Lumpur.
ECER	Terengganu	Kertih Polymer Park, Kertih Integrated Petrochemical Complex	Terengganu is next closest to Pahang and should be next in line to benefit from the expanded Kuantan Port. Parts of the ECER SEZ fall under Terengganu, with manufacturing plans focusing on midstream and downstream oil and gas activities
SCORE	Sarawak	Samalaju Industrial Park, Bintulu	Sarawak's Bintulu Port is likely best positioned to serve as regional transshipment hub in East Malaysia. Sarawak's workforce is also considered better educated and infrastructure quality and reliability is regarded to be better than in Sabah.
ECER	Kelantan	Pasir Mas Halal Park	Kelantan is the furthest East Coast state from the Kuantan Port. Projects in Kelantan are focused more on agriculture and education.
SDC	Sabah	Brunei Bay Development Zone, Development of Kinabalu Harbour Front and Gold Coast Enclave	Infrastructure deficiencies are a major issue in Sabah. While there are plans to improve this, the time needed and whether these will prove sufficient remains in question.
NCER	Perlis	Downstream Programme – Food Processing (Drink products)	Perlis is hampered by its distance from international ports; the Kuala Perlis port is underdeveloped and international connectivity plans appear focused on regional connections with ports in Sumatera, Phuket, and Myanmar. Regional development plans appear to be agriculture-based.

Source: Citi Research

Challenges from Cost Normalization

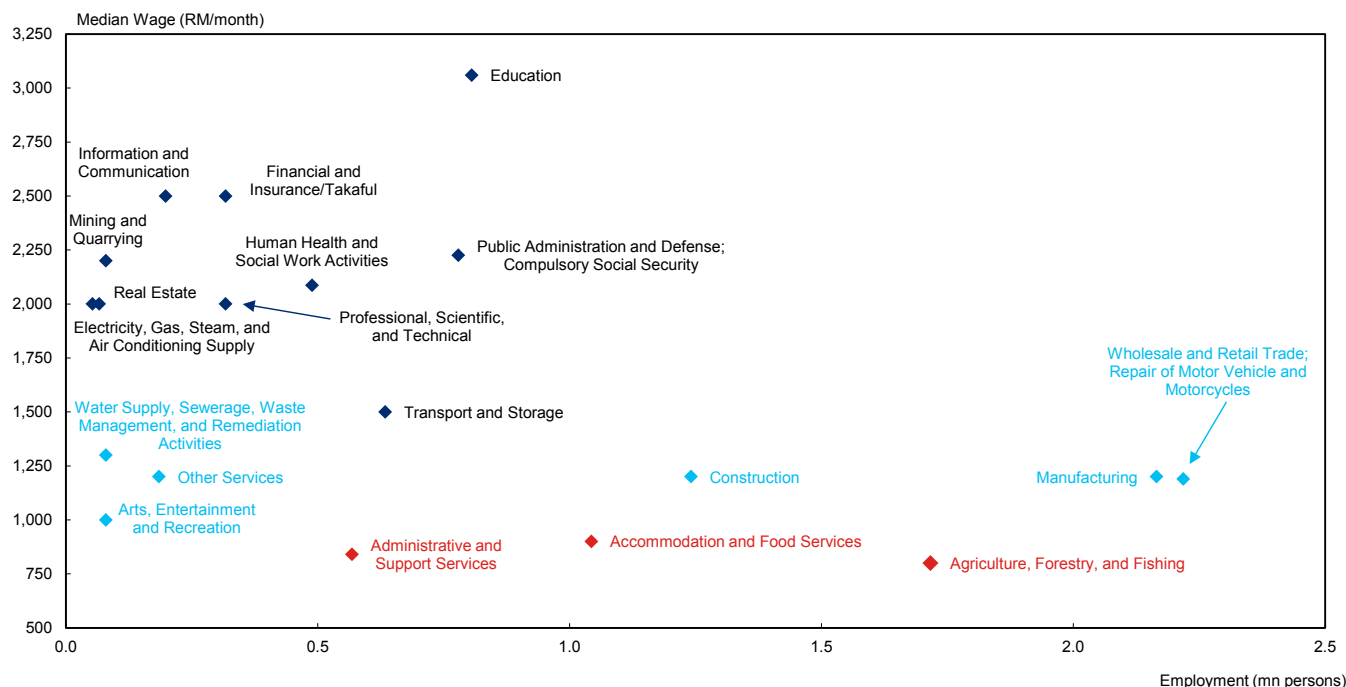
Cost normalization could challenge growth prospects, if it stifles cost competitiveness, reduces returns on capital in labour and energy intensive sectors, and diverts FDI in such sectors to more cost competitive destinations.

A key development is the full implementation of the minimum wage in 2014, which we estimate will affect 32.8% of workers or 4.2mn workers.

To ascertain the impact of higher wage costs on overall production costs and profitability for various sectors, we first calculate the share of wages in value-added from the 2005 Input-Output Tables, which provides the detailed cost structure of 123 different sectors. On aggregate, employee compensation averaged about 29% of total value added. That said, not all sectors with a high labour content in production would necessarily be affected by minimum wage nor would all sectors affected by minimum wage would have a high labour content to start off with.

We next identify sectors which are affected by minimum wage, which we think are those where median incomes are close to or below the minimum wage of RM900/m in Peninsular Malaysia, such that at least half the workers in these sectors would see wage increases. These include agriculture, forestry, and fishing (RM800); administrative and support services (RM840); and accommodation and food services (RM900). These correspond to 14 sectors in the IO table that total 9% of value-added, with wage to value-added share of 38% for these sectors.

Figure 50. Sectoral median monthly wage data suggest that the sectors most affected by the minimum wage will be agriculture, forestry, and fishing (RM800); administrative and support services (RM840); and accommodation and food services (RM900)



Note: Median wage as of 2012, employment as of 2Q13.
Source: Department of Statistics, CEIC, Citi Research

Sectors with median wages above but still relatively close to the minimum wage levels – arts, entertainment, and recreation; wholesale and retail trade; construction; and manufacturing – could still be affected, albeit to a smaller extent. The former three sectors account for around 14% of value-added, with an average wage to value-added share of 41%.

Manufacturing deserves a closer look, given the huge variation in wages amongst subsectors. While median wages for manufacturing sub-sectors is not available, the mean wage for broad manufacturing sector is about RM2,672/month. Assuming distribution of wages within each manufacturing subsector follows a normal distribution, sectors with a mean wage less than RM2,372 (or RM300 below the broader manufacturing mean wage – the equivalent gap between the median manufacturing wage of RM1200 and minimum wage of RM900) would have a majority of workers impacted by minimum wage. These account for 23% of manufacturing value-added (or 7% of total value-added) with an average wage to value-added share of 27%.

In all, we estimate that 44 out of 123 sectors in the IO tables accounting for 30% of total value-added have wages that are lower or close to minimum wage levels, and would thus be affected by minimum wage to some extent. Of these, 30 sectors (accounting for 23.1% of VA) have wage to VA ratios that are higher than the economy-wide average of 29%.

Most severely affected are 17 sectors which are not just affected by the minimum wage but also have a wage to VA ratio exceeding 40% (accounting for 8.8% of VA). Within net exporting sectors (where exports > imports as % of value added), agricultural sectors (including CPO), rubber gloves and other rubber products, as well as wood work/carpentry related products appear to fit these categories. Amongst net importers, it is the restaurant and construction-related sectors that would be most directly affected by minimum wage.

Figure 51. Tradeable sectors affected by minimum wage

Tradeable Sector	Direct Labour Content (% of VA)	Overall Labour Content (% of VA)
Other Private Services	69.8%	81.2%
Rubber Gloves	65.0%	108.3%
Vegetables	60.4%	63.0%
Fruits	55.7%	58.3%
Builders' Carpentry and Joinery	55.0%	80.5%
Paddy	53.4%	55.5%
Wooden and Cane Containers	52.4%	65.0%
Food Crops	49.1%	51.9%
Amusement and Recreational Services	48.0%	52.0%
Motorcycles	45.9%	55.0%
Oil Palm	45.4%	48.7%
Rubber Products	42.8%	46.0%
Bakery Products	37.0%	62.5%
Footwear	36.4%	44.2%
Wholesale and Retail Trade	34.8%	38.3%
Other Wood Products	34.6%	48.6%
Electric Lamps and Lighting Equipment	33.2%	42.6%
Clay and Ceramic	32.3%	37.2%
Leather Industries	32.2%	42.3%
Other Textiles	32.1%	46.0%
Plastics Products	30.6%	39.4%
Other Agriculture	30.5%	35.3%
Sawmilling and Planning of Wood	30.2%	43.6%
Casting of Metals	30.1%	44.0%
Veneer Sheets, Plywood, Laminated & Particle Board	28.9%	49.7%
Insulated Wires and Cables	28.4%	44.4%
Wearing Apparel	27.7%	35.5%
Printing	27.5%	30.8%
Preservation of Seafood	25.6%	55.7%
Optical Instruments and Photographic Equipment	24.7%	29.8%
Fishing	23.1%	25.2%
Rubber	22.3%	25.6%
Other Transport Equipment	19.3%	24.4%
Rubber Processing	17.6%	51.8%
Preservation of Fruits and Vegetables	16.8%	43.6%
Forestry and Logging	16.0%	17.4%
Other Electrical Machinery	15.7%	24.2%
Other Livestock	14.2%	17.5%

Source: Department of Statistics, Citi Research

Figure 52. Non-tradeable sectors affected by minimum wage

Non-tradeable Sector	Direct Labour Content (% of VA)	Overall Labour Content (% of VA)
Restaurants	66.5%	75.0%
Residential	66.1%	87.7%
Non Residential	65.6%	86.6%
Civil Engineering	59.3%	71.5%
Flower Plants	42.3%	55.7%
Accommodation	36.9%	43.4%

Source: Department of Statistics, Citi Research

Another cost normalization is that of electricity and gas, as the government has increased the average electricity tariff by 14.89% from 33.54sen/kWh currently to 38.53sen/kWh (an increase of roughly 5sen/kWh). While consumers on average faced a tariff increase of just 3.03sen/kWh (or a 10.6% increase), it was commercial and industrial customers that on average faced a 16.85% increase. With the Imbalance Cost Pass Through mechanism that allows changes in fuel costs to be passed through to electricity tariffs every six months, there may be scope for further increases in electricity prices going forward.

Figure 53. Commercial and Industrial Electricity Pricing and Tariffs

TARIFF CATEGORY		Commercial	Industrial
1	Low Voltage Tariff		
	Current Structure Effective 1 January 2011		
	For Overall Monthly Consumption Between 0-200 kWh/month		
	For all kWh	39.3 sen/kWh	34.50 sen/kWh
	The minimum monthly charge is RM7.20		
	For Overall Monthly Consumption More Than 200 kWh/month		
	For all kWh (From 1kWh onwards)	43.0 sen/kWh	37.70 sen/kWh
	The minimum monthly charge is RM7.20		
	New Structure Effective 1 January 2014		
	For the first 200 kWh (1 -200 kWh) per month	43.5 sen/kWh	38.00 sen/kWh
2	Medium Voltage General Tariff		
	Current Structure Effective 1 January 2011		
	For each kilowatt of maximum demand per month	25.9 RM/kW	25.30 RM/kW
	For all kWh	31.2 sen/kWh	28.80 sen/kWh
	The minimum monthly charge is RM600.00		
	New Structure Effective 1 January 2014		
	For each kilowatt of maximum demand per month	30.3 RM/kW	29.60 RM/kW
	For all kWh	36.5 sen/kWh	33.70 sen/kWh
3	Medium Voltage Peak/Off-Peak Tariff		
	Current Structure Effective 1 January 2011		
	For each kilowatt of maximum demand per month during the peak period	38.6 RM/kW	31.70 RM/kW
	For all kWh during the peak period	31.2 sen/kWh	30.40 sen/kWh
	For all kWh during the off-peak period	19.2 sen/kWh	18.70 sen/kWh
	The minimum monthly charge is RM600.00		
	New Structure Effective 1 January 2014		
	For each kilowatt of maximum demand per month during the peak period	45.1 RM/kW	37.00 RM/kW
	For all kWh during the peak period	36.5 sen/kWh	35.50 sen/kWh
	For all kWh during the off-peak period	22.4 sen/kWh	21.90 sen/kWh
4	High Voltage Peak/Off-Peak Industrial Tariff		
	Current Structure Effective 1 January 2011		
	For each kilowatt of maximum demand per month during the peak period		30.40 RM/kW
	For all kWh during the peak period		28.80 sen/kWh
	For all kWh during the off-peak period		17.30 sen/kWh
	The minimum monthly charge is RM600.00		
	New Structure Effective 1 January 2014		
	For each kilowatt of maximum demand per month during the peak period		35.50 RM/kW
	For all kWh during the peak period		33.70 sen/kWh
	For all kWh during the off-peak period		20.20 sen/kWh

Source: Tenaga Nasional, Citi Research

We find textile, rubber, metal-related industries, and port and airport operation services are most directly affected by electricity and gas price increases, with consumer electronics products possibly more affected if higher electricity costs are fully-passed through to other factor input costs. Returning to the input-output tables and looking at direct and indirect contribution of electricity and gas as a proportion of value-added, we find that amongst net exporting sectors, it is yarn and clothes (33.1% direct, 40.6% including indirect), iron and steel products (15.4% direct, 19% including indirect), and rubber gloves (14% direct content, 23.4% including indirect content) that rank amongst the most adversely affected. Other textile, rubber, cement, and metal-related industries also have fairly high direct content of electricity and gas, alongside transport-related and other private services. Amongst net importing sectors, motor vehicles, restaurants, accommodation, and publishing would rank amongst the most exposed directly to electricity and gas price increases.

Figure 54. Tradeable sectors with total direct and indirect electricity and gas content >10% of VA

Tradeable Sector	Total Content (% of VA)	VA (RM mn)	Sector VA (% of Tradeables VA)
Yarn and Cloth	40.6%	594	0.1%
Rubber Gloves	23.3%	662	0.2%
TV, Radio Receivers & Transmitters & Associated Goods	20.6%	1,729	0.4%
Iron and Steel Products	18.9%	3,451	0.8%
Other Fabricated Metal Products	16.2%	3,608	0.8%
Other Private Services	15.0%	596	0.1%
Watches and Clocks	14.9%	420	0.1%
Port and Airport Operation Services	14.6%	1,157	0.3%
Other Textiles	14.5%	672	0.2%
Petroleum Refinery	13.8%	4,753	1.1%
Tyres	12.9%	493	0.1%
Rubber Processing	12.7%	1,201	0.3%
Cement, Lime and Plaster	12.5%	1,371	0.3%
Casting of Metals	12.4%	795	0.2%
Meat and Meat Production	12.2%	169	0.0%
Veneer Sheets, Plywood, Laminated & Particle Board	12.0%	2,066	0.5%
Builders' Carpentry and Joinery	11.9%	543	0.1%
Plastics Products	11.6%	5,392	1.3%
Waterworks	11.3%	4,476	1.0%
Metal Ore Mining	10.8%	96	0.0%
Clay and Ceramic	10.3%	1,482	0.3%
Sheet Glass and Glass Products	10.1%	1,058	0.2%
Insulated Wires and Cables	10.0%	1,211	0.3%

Source: Department of Statistics, Citi Research

Figure 55. Non-tradeable sectors with total direct and indirect electricity and gas content >10% of VA

Non-Tradeable Sector	Total Content (% of VA)	VA (RM mn)	Sector VA (% of Non-Tradeables VA)
Motor Vehicles	77.5%	836	1.0%
Electricity and Gas	48.8%	9,389	11.4%
Grain Mills	17.0%	514	0.6%
Restaurants	16.9%	6,351	7.7%
Concrete & Other Non-Metallic Mineral Products	16.1%	704	0.9%
Accommodation	14.9%	4,440	5.4%
Publishing	14.1%	510	0.6%
Dairy Production	11.4%	817	1.0%

Source: Department of Statistics, Citi Research

Last but not least, a reduction in subsidies of RON95 and diesel could have a wide ranging cost impact across a range of industries. The available data in the IO table is insufficiently granular to isolate the impact of RON95 and diesel increases on production costs, as the most granular relevant input is the "petroleum refinery" category, which includes other outputs of refineries such as kerosene, jet fuel, RON97 petrol and other distillates, and even non-fuel outputs. Amongst net exporting sectors, air transport, rubber gloves, cement, basic chemicals, and water transport would rank as the most exposed to increases in output prices from petroleum refineries, as these sectors have a direct petroleum refinery contribution >20% of VA accounting for 7% of VA of net exporters and 14% once indirect contributions are included.

Figure 56. Tradeable sectors with total direct and indirect petroleum refinery content >20% of VA

Tradeable Sector	Total Content (% of VA)	VA (RM mn)	Sector VA (% of Tradeables VA)
Air Transport	291.1%	2,000	0.5%
Petroleum Refinery	223.5%	4,753	1.1%
Rubber Gloves	119.1%	662	0.2%
Cement, Lime and Plaster	99.9%	1,371	0.3%
Basic Chemicals	90.1%	6,919	1.6%
Metal Ore Mining	77.4%	96	0.0%
Clay and Ceramic	65.8%	1,482	0.3%
Water Transport	62.1%	4,454	1.0%
Iron and Steel Products	46.5%	3,451	0.8%
Other Chemicals Product	46.1%	9,468	2.2%
Fertilizers	40.9%	944	0.2%
Sheet Glass and Glass Products	36.5%	1,058	0.2%
Rubber Processing	35.2%	1,201	0.3%
Veneer Sheets, Plywood, Laminated & Particle Board	34.0%	2,066	0.5%
Tyres	33.4%	493	0.1%
Other Textiles	32.1%	672	0.2%
Stone Clay and Sand Quarrying	32.0%	1,135	0.3%
Other Fabricated Metal Products	30.1%	3,608	0.8%
Finishing of Textiles	27.4%	469	0.1%
Casting of Metals	27.1%	795	0.2%
Builders' Carpentry and Joinery	26.4%	543	0.1%
TV, Radio Receivers & Transmitters & Asso. Goods	24.3%	1,729	0.4%
Yarn and Cloth	23.9%	594	0.1%
Other Private Services	23.7%	596	0.1%
Land Transport	22.9%	8,136	1.9%
Bakery Products	22.6%	501	0.1%
Oils and Fats	20.4%	6,462	1.5%

Source: Department of Statistics, Citi Research

Figure 57. Non-tradeable sectors with total direct and indirect petroleum refinery content >20% of VA

Non-Tradeable Sector	Total Content (% of VA)	VA (RM mn)	Sector VA (% of Non-Tradeables VA)
Motor Vehicles	138.2%	836	1.0%
Concrete & Other Non-Metallic Mineral Products	84.6%	704	0.9%
Electricity and Gas	78.5%	9,389	11.4%
Restaurants	40.0%	6,351	7.7%
Special Trade Works	35.1%	1,401	1.7%
Non Residential	27.8%	2,746	3.3%
Grain Mills	26.9%	514	0.6%
Other Food Processing	23.6%	1,690	2.1%
Civil Engineering	20.6%	7,931	9.6%
Residential	20.3%	3,733	4.5%
Motor Vehicles	138.2%	836	1.0%

Source: Department of Statistics, Citi Research

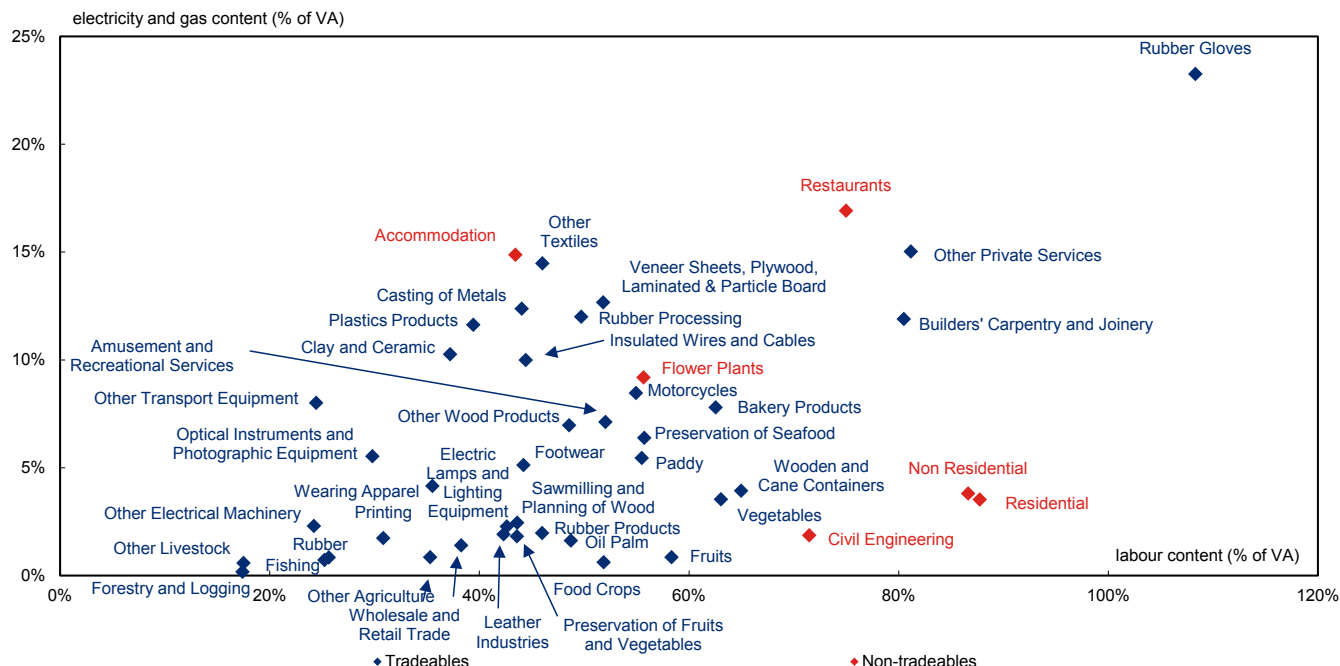
While cost normalization pressures will undoubtedly erode part of Malaysia's cost advantage that had formed the basis for attracting export-oriented FDI, we do not see this as an insurmountable challenge, for three reasons.

First, net exporting sectors appear significantly less affected by impending wage and electricity/gas tariff hikes. Looking at the impact of minimum wage for example, affected sectors (with wage costs >40% of VA) account for just 5.5% of VA of net exporting sectors – a manageable proportion, compared to 31% of total VA of net importing sectors.

Turning to electricity and gas hikes, the most affected sectors directly (defined as those where *direct* electricity and gas contribution exceed 10% of value added) account for just 4% of total net export VA, rising to 9% if the *indirect* impact of electricity and gas increases in costs of other factor inputs were included. For net importing sectors, direct exposure is a much larger 15% of non-tradeables VA, rising to 17% when indirect exposure is included.

In other words, taking the combined impact of minimum wage and electricity/gas tariff hikes, the most affected sectors account for less than 15% of total VA of net exporting sectors, vs 48% for net importing sectors. Put another way, net importing, i.e. non-tradeable, sectors would be the ones bearing the brunt of normalization cost pressures.

Figure 58. Sectors affected by the minimum wage and energy cost increases

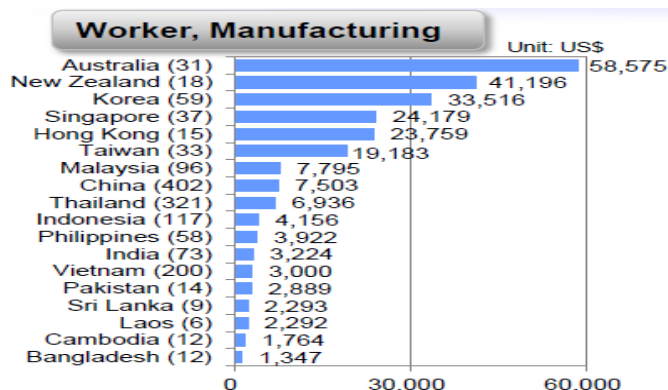


Source: Department of Statistics, Citi Research

Second, cost competitiveness is relative, with wage and other cost pressures rising as rapidly amongst regional peers. Data from the 2013 JETRO survey shows that average annual manufacturing wages in Malaysia are now virtually on par with China. Adjusted for productivity, our estimates suggest that Malaysia's overall unit labour costs remain significantly lower than China and Indonesia, and comparable with Thailand. While JETRO's latest surveys show Malaysia's own minimum wage has been of some concern to Japanese companies, this has not been to the same extent as in Thailand, Indonesia or for that matter China. Minimum wage is expected to significantly affect only 5% of net exporters VA. Moreover, the minimum wage of RM900/m in Peninsular Malaysia would, at US\$270, actually be 8% *below* minimum wages in China's Shenzhen region, and 48% and 33% above minimum wages in Thailand and Indonesia respectively.

Beyond the one-off pressures from minimum wages aside, Malaysia's demographic dividend and scope to increase labour force participation rates may continue to keep generalized wage inflation contained relative to regional peers. While China could see its working age population start to decline as a proportion of overall population from 2015, Malaysia should continue to see a small rise in the share of working age population from 68.5% in 2013 to 69.3% in 2020, before tapering off thereafter. Although Malaysia's demographic dividend will be smaller than Indonesia or Philippines, labour force participation rates in Malaysia are moreover amongst the lowest within ASEAN, which points to scope for further growth in the labour force beyond that implied by fertility rates.

Figure 59. 2013 data from JETRO shows that average wage levels for manufacturing workers in Malaysia are virtually on par with China



Source: Japan External Trade Organization (JETRO)

Figure 60. FY13 JETRO Survey of Japanese-Affiliated Companies in Asia and Oceania: Reasons for Decreased Operating Forecast for 2014

High or Rising Labor Costs	FY13	FY12
China	50.8	49.5
Thailand	29.3	30.1
Indonesia	19.9	21.0
Malaysia	17.8	15.9
Brazil	16.4	14.5
Vietnam	12.6	18.1
Russia	8.3	10.2
India	7.7	7.9
Turkey	6.4	6.2
Mexico	5.8	6.0
South Africa	5.7	6.2
Philippines	5.2	7.3
Myanmar	2.6	3.3

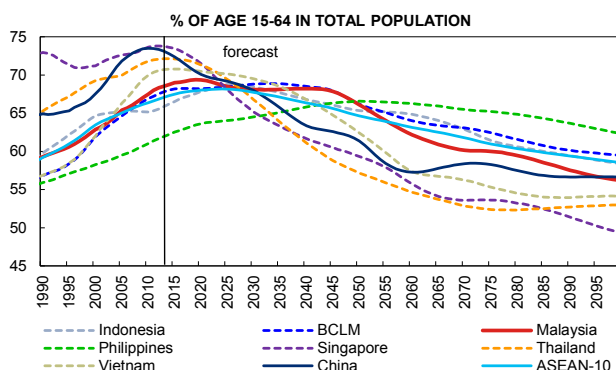
Source: Japan External Trade Organization (JETRO)

Figure 61. Minimum wages in ASEAN and China

Country	Description	US\$ terms (Citi estimates)
Indonesia	Minimum wage established by provincial and district authorities and varies by province, district and sector, averaging 1.570mn rupiah. The minimum wage ranges as high as 2.441mn rupiah a month in Jakarta and as low as 0.830mn rupiah in Central Java.	US\$200/month (Jakarta), US\$130/month (average).
Malaysia	Monthly minimum wage for the private sector of RM900 for Peninsular Malaysia and RM800 for Sabah, Sarawak and Labuan.	US\$270/month (Peninsular Malaysia), US\$240/month (Sabah, Sarawak, Labuan).
Philippines	Minimum wage set by tripartite regional wage boards of the National Wage and Productivity Commission. In the National Capital Region, the minimum wage is 429 pesos a day for agricultural workers and 466 pesos for non-agricultural workers.	About US\$9/day (NCR agricultural workers), US\$10/day (NCR non-agricultural workers) or US\$200/month, assuming 20 working days a month.
Thailand	300 baht a day.	About US\$9/day or US\$180/month, assuming 20 working days a month.
China	While there is no national minimum wage, the labor law requires local and provincial governments to set their own minimum wage. Monthly minimum wages vary greatly with Shenzhen, Guangdong Province, the highest at 1,808 RMB and Guizhou Province the lowest at 1,030 RMB.	About US\$300/month (Shenzhen).

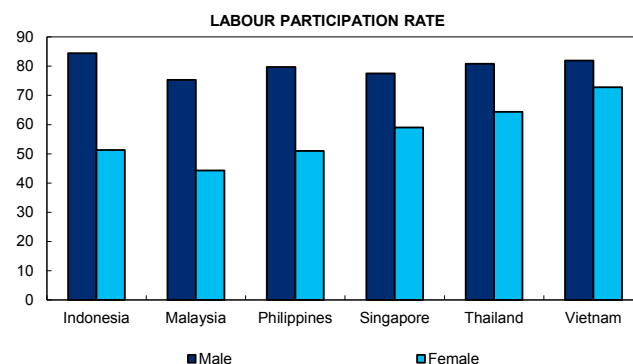
Source: Citi Research

Figure 62. Working age population



Source: Haver, Citi Research

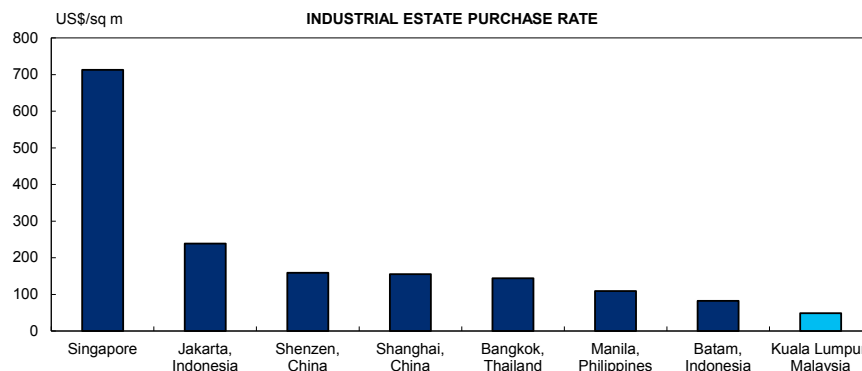
Figure 63. Male and female labour force participation rates



Source: Haver, Citi Research

Outside of wage costs, other costs in Malaysia remain competitive even in energy. Even after the 16.85% hike in electricity tariff hikes for example, industrial electricity tariff rates at US\$0.10/kWh are comparable with China, still significantly lower than Thailand, and almost half of Singapore's electricity tariff rates. The cost of purchasing industrial land in Kuala Lumpur is surprisingly amongst the lowest in ASEAN, and lower than China, with office rentals comparable to regional peers and store/showroom rents still very low.

Figure 64. JETRO survey of Investment Related Costs in Asia: Industrial Estate Purchase Rates



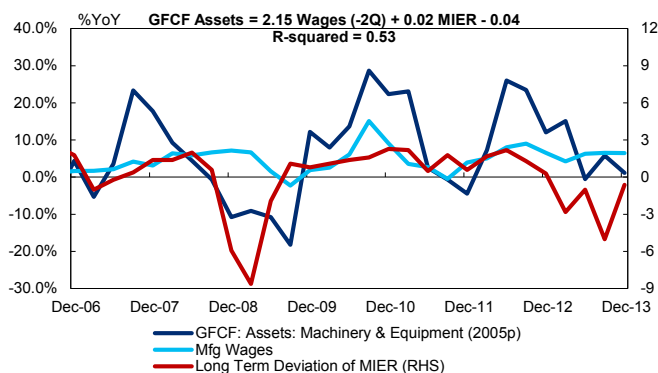
Note: We use a simple average where multiple values and ranges are presented.

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

Third, eliminating cost distortions could incentivize greater efficiency in the allocation of resources, raising productivity growth and in turn mitigating the initial loss of cost competitiveness from higher factor costs. We believe this is the economic rationale behind the minimum wage – by imposing a minimum wage, companies can no longer rely on artificially cheap labour inputs. This in turn induces more capex as the relatively higher price of labour incentivizes capital-labour substitution in production, thereby raising labour productivity growth. The increase in labour productivity in turn offsets much of the rise in wages, such that unit labour cost increases are significantly reduced (or may even fall). Put simply, higher wages are an important reason incentivizing productivity growth via capex.

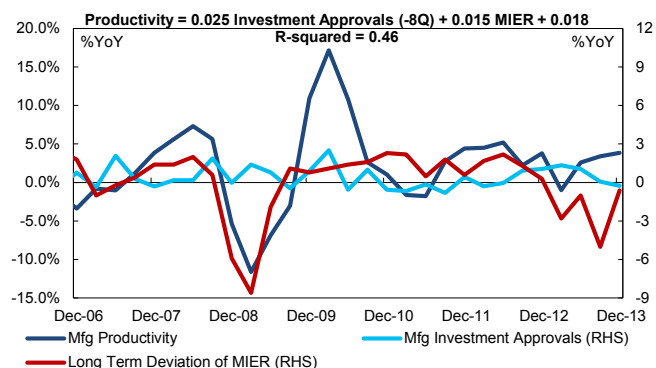
Figure 63 indeed suggests that historically, changes in wage growth have led changes in labour productivity growth by 2 quarters. But wages and labour productivity growth could be driven by more than capital labour substitution, as cyclical factors can play an equally important role. In a cyclical uptick coming from a position of below trend capacity utilization rates, i.e. significant resource slack, labour productivity first rises because of the utilization of spare capacity, and this increase in productivity in turn allows companies to pay higher wages. Only after existing capacity is more fully utilized is there an incentive to increase capex. This dynamic appears to have been in place from 2009-2011, as the initial wage and productivity jump from the recession trough in 2009 was due to the utilization of economic slack, with capex only kicking in from 2H10 after capacity utilization rates were above their long-term average. This capex in turn set the stage for stronger wage and labour productivity growth through 2011-2012. All in, regression estimates suggests productivity responds to capex and investment approvals, which in turn also respond to wage increases. In the current episode, with capacity utilization converging towards long term averages, further wage increases via the minimum wage could spur more capex and hence labour productivity increases.

Figure 65. Fixed asset investments tend to respond first to tighter capacity utilization, and then to wages with a lag



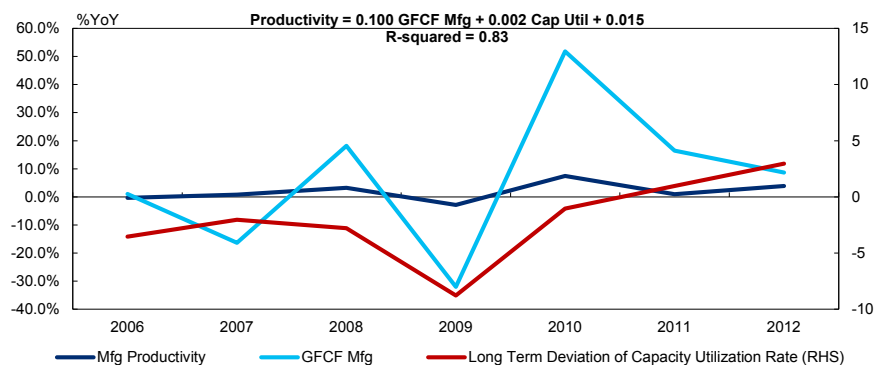
Source: CEIC, Citi Research

Figure 66. Controlling for cyclical factors, a 1% increase in MIDA manufacturing approvals raises labour productivity after 2 years



Source: CEIC, Citi Research

Figure 67. Manufacturing labour productivity is far more sensitive to manufacturing GFCF than capacity utilization rates.



Source: CEIC, Citi Research

Figure 68. Comparison of Labor, Utilities, and 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	449	Basic monthly charge: Nil Rate per kWh: 0.14-0.15	Rate per cu.m: 0.31-0.34	1.22
	Guangzhou	395	Basic monthly charge: 3.66/kVA X substation capacity + 5.09/KW X peak demand Rate per kWh: 0.11-0.16	Rate per cu.m: 2.94	1.19
	Shenzhen	329	Basic monthly charge: Nil 101- 3,000KVA: Capacity*3.82/KVA Others: Nil Rate per kWh: 0.04-0.18	Rate per cu.m: 2.48	1.19
Singapore	Singapore	1,230	Basic monthly charge: 6.06 Rate per kWh: 0.13-0.21	Rate per kWh: 0.19	1.32
Malaysia	Kuala Lumpur	344	Basic monthly charge: 197 Rate per kWh: 0.10	32 (minimum charge up to 5mmBtu), 6.25/mmBtu thereafter	0.59
Thailand	Bangkok	345	Basic monthly charge: 10 Rate per kWh: 0.15	0.99/kg	0.99
Indonesia	Jakarta	239	Basic monthly charge: Nil	Rate per mmBtu: 8.45	■ Diesel with subsidy: 0.46 ■ High cetane diesel (Pertamina DEX): 1.06
	Batam	177	Rate per kWh: 0.09	Rate per mmBtu: 8.45	■ Subsidized diesel: 0.46 ■ High cetane diesel (Pertamina DEX): 0.93
Philippines	Manila	301	■ Special Economic Zones: Basic monthly charge: 49+13/kw; Rate per kWh: 0.14 ■ Out of Special Economic Zones: Basic monthly charge: 54+14/kw; Rate per kWh: 0.17	Rate per kg: 1.57	1.03
Vietnam	Hanoi	145	Basic monthly charge: Nil Rate per kWh: ■ Manufacturing - Off-peak hours: 0.04 - Standard hours: 0.06 - Peak hours: 0.11 ■ Distribution & Service - Off-peak hours: 0.06 - Standard: 0.11 - Park hours: 0.18	Basic monthly charge: Nil Rate per kg: 1.75	1.05
	Ho Chi Minh	148	Same as Hanoi	Basic monthly charge: Nil Rate per kg: 1.28	1.05
Myanmar	Yangon	53	Basic monthly charge: Nil Rate per kWh: 0.12	Basic monthly charge: Nil Rate per 1,000ft3: 8.61	1.03
Cambodia	Phnom Penh	74	Basic charge: Nil Rate per kWh: 0.20	Basic charge: Nil Rate per kg: 1.40	1.29
Lao PDR	Vientiane	132	Basic monthly charge: Nil Rate per kWh: ■ 22kV: 0.08 ■ 0.4kV: 0.09	n.a.	1.16

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

Appendix A-1

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