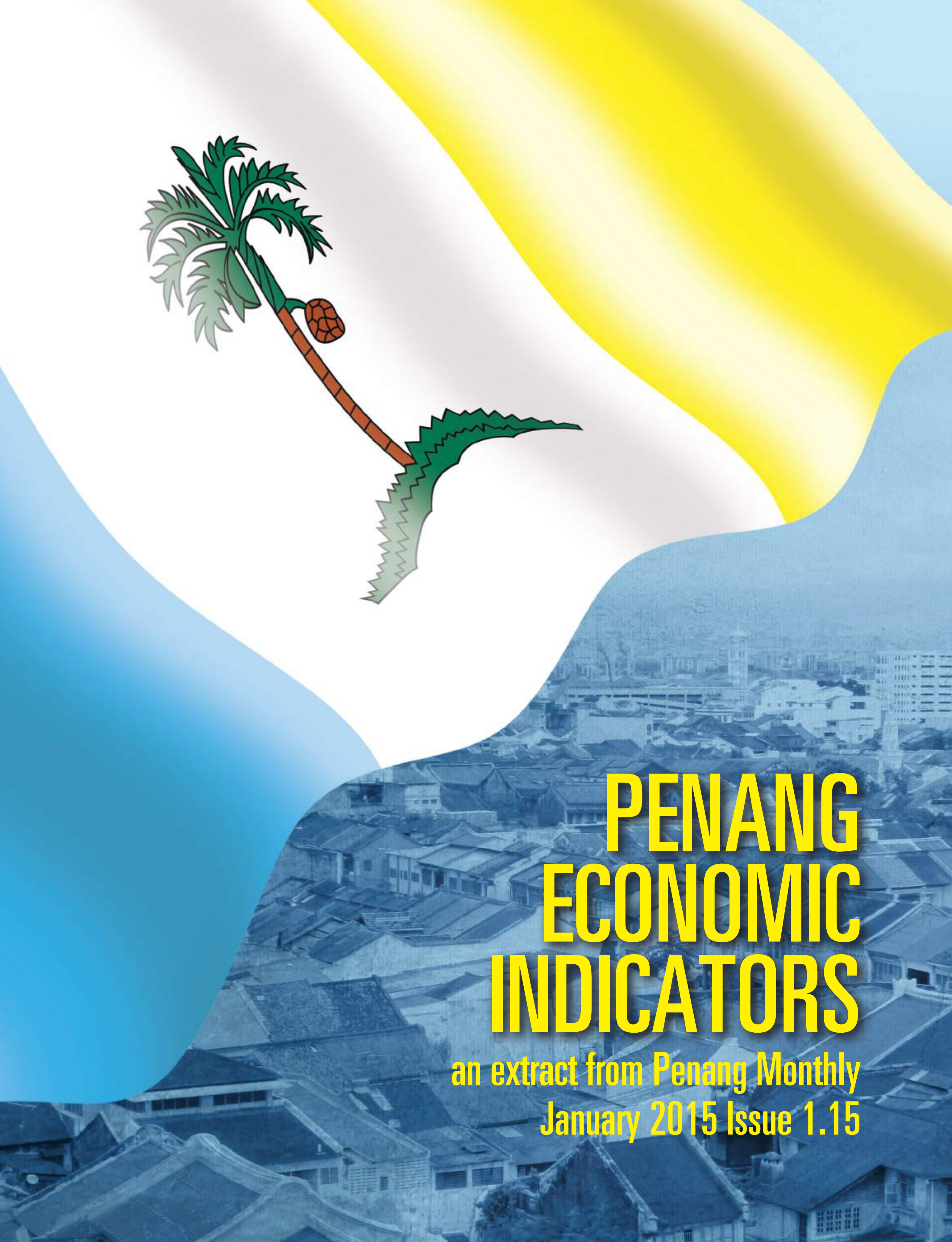


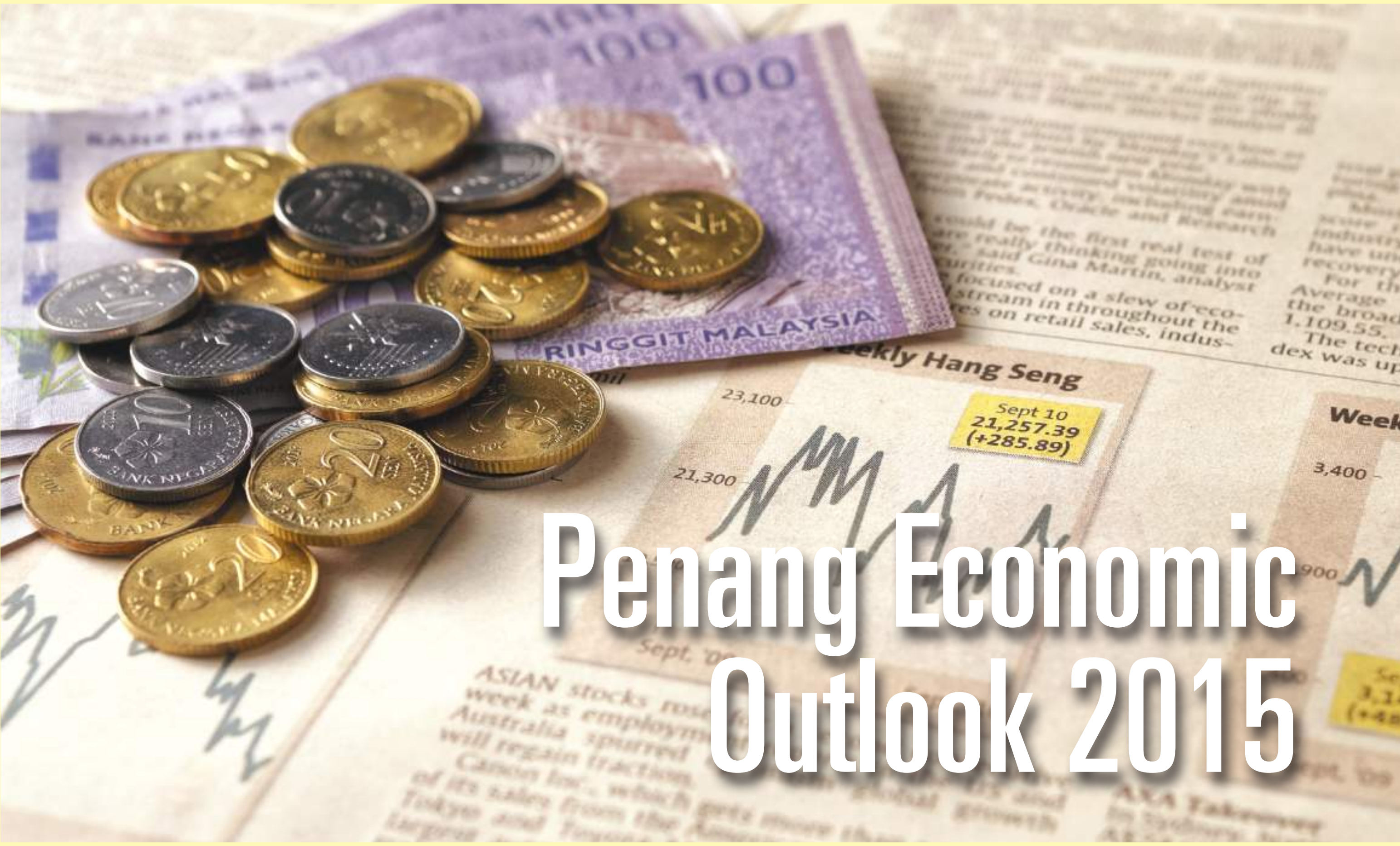
PENANG ECONOMIC INDICATORS

an extract from Penang Monthly

January 2015 Issue 1.15

By Lim Kim-Hwa

Penang Economic Outlook 2015



- The external macro environment, in particular the crude oil price, the timing on the start of the rise in US interest rates and its ensuing impact on financial capital flows, will introduce higher volatility to Malaysia's economy, including the risk of twin deficits. Nevertheless, Penang is expected to continue to contribute trade surpluses in 2015 due to the weakening of the Ringgit, and the state budget is expected to remain in surplus.
- At the same time, Malaysia's domestic environment will become more challenging given the introduction of the GST from April 1, 2015 and the sensitivity of Malaysian households to any interest rate hike due to their high debt levels.
- The combined effects are likely to dampen the housing market, thus giving some first time buyers opportunities to climb on the property ladder. However, higher building costs will insulate prices. Furthermore, limited supply of properties within the George Town Unesco World Heritage Site is likely to provide support to prices.
- Penang's manufacturing, especially the electrical and electronics (E&E) sector, is likely to benefit from the US recovery. With investments in the services sector such as the Penang International Technology Park, it will mean higher degree of convergence between the manufacturing and services sectors, thus enhancing the cluster effect in Penang.
- Penang's tourism and medical tourism sectors are well placed to continue to benefit from the rising middle income class in Asia as well as an ageing population. The rejuvenation and addition of several tourism attractions will continue to reinvigorate Penang's appeal.
- FDI will continue to push Penang's economy ahead. Penang has received about 13% of Malaysia's total investment between 2008 and 2013. Nevertheless, as Penang's economy matures, domestically driven economic activities will become increasingly important economic drivers in the years ahead.
- Employment growth is likely to remain stable, with labour shortages continuing to be an issue.
- Plans are in progress to improve Penang's connectivity. The implementation of the Penang Master Transport Plan through the Request for Proposal of the RM27bil project is underway; DHL is investing additionally in Penang's airport, and double-tracking of the rail service to Ipoh and KL from Butterworth is scheduled for completion in 2015.
- The introduction of the Asean Economic Community from December 31, 2015 offers Penang opportunities to cement its role as an intelligent and international city, and with better connectivity, poising it as a hub in the region.

The global economic outlook deteriorated significantly at the end of 2014. A combination of factors, such as the Ukraine crisis, the slowdown in Chinese growth, the success of shale oil in the US and the determination of the Organization of the Petroleum Exporting Countries (Opec) to defend its market share, has all contributed to the collapse of the price of crude oil. This is expected to have a profound impact on Malaysia given the huge contribution made by Petronas to government coffers, and will certainly affect the ability of the government to reduce the fiscal deficit.

On the other hand, recovery in the US economy will be positive for global growth and for Penang, given how highly exposed to the E&E sector it is. Nevertheless, Malaysia is vulnerable to the withdrawal of foreign capital once US interest rates increase. Should Bank Negara raise interest rates in that situation in order to defend the Ringgit, domestic consumption will be negatively affected, due to Malaysia's high household debts (87% of GDP in 2013).

Although the US economy is recovering, EU economies remain mired in recession. With the Ukraine crisis unlikely to be settled in the near term, the sanctions against Russia will remain and thus continue to exert a negative drag on EU economies. This exposes Malaysia's economy to strong exports headwinds. With falling current account surplus, Malaysia risks ending up facing twin deficits (fiscal and current account) as early as the first quarter of 2015. This would be negative from an external macro point of view as the factor that has kept Malaysia from being lumped together with the Fragile Fives has been its strong trade and current account figures.

Therefore, the overall external picture has turned somewhat more challenging for Malaysia and Penang. While some quarters still harbour hope that with sufficient lobbying, the federal government may delay the introduction of the GST, the collapse in oil price has practically ensured that it will be introduced as scheduled from April 1, 2015. Domestic consumption will be significantly dented, especially for middle income households, which according to our research will neither receive BR1M nor benefit from sufficient income tax cuts to ameliorate the payment of GST.

> 2015 will likely be a volatile and challenging year for Penang and Malaysia. Nevertheless, looking beyond 2015, there are several positive factors including the achievement of the Asean Economic Community on December 31, 2015.

With rising inflation (through the introduction of the GST and via imported inflation due to the fall in Ringgit), the cost of living will increase significantly. With stagnant wages, more households will feel the strain and potentially suffer some negative social ramifications. Although payments of regular BR1Ms will provide a constant infusion of cash to the economy, there will be more cries to increase the amount of BR1M as compression in living standards increases. This will certainly test the government's political will to implement fiscal reforms, for fear that sustained government cash handouts will encourage a dependency culture.

The impact on Penang will no doubt be mixed. Having matured over the years, its economy is less dependent on FDI. Growth in the services sector, especially in medical tourism and support services outsourcing, will boost the overall economy. The overall stability and good infrastructure in Penang will continue to make it the preferred choice for investors.

On the other hand, the property market in Penang is likely to be stagnant at best and may even fall should the sentiment deteriorate. While some will view this as a negative, others wanting to climb the property ladder will surely welcome this turn of events.

2015 will likely be a volatile and challenging year for Penang and Malaysia. Nevertheless, looking beyond 2015, there are several positive factors including the achievement of the Asean Economic Community on December 31, 2015.

This economic briefing will begin by looking at the overall nature of Penang's economy, focusing on the manufacturing sector and the property market. It includes an external perspective of Malaysia and Penang from the Malaysian-German Chamber of Commerce.

Lim Kim-Hwa, PhD, is CEO and head of Economics at the Penang Institute, fellow in Finance & Financial Reporting at the University of Cambridge and associate chartered accountant of the Institute of Chartered Accountants in England & Wales.

By Ong Wooi Leng

Ripples from global events threaten local economy

Recent economic events, particularly the fall in oil price, are predicted to significantly shade the economic outlook for Penang and for Malaysia at large.

The economy of Malaysia – and of Penang – depends to a significant degree on global trends, since both are highly exposed to externalities nowadays. The October 2014 *Economic Outlook Update* published by the International Monetary Fund (IMF) stated that world output growth is estimated to have remained unchanged for 2014. This is due to a mix of accommodative measures and negative forces, including uneven growth in the Euro area, weaker activity in China, continued strife in the Middle East, and geopolitical tensions between Ukraine and Russia. However, the growth is likely to be reckoned by stronger employment growth and a healthier housing market in the US, improved lending conditions in the Euro zone, and sturdier domestic demand in emerging market and developing countries.

Figure 1 shows the GDP growth for selected economies in the world vis-à-vis Malaysia. As can be seen, the growth in emerging market and developing countries surpassed the growth in advanced economies. While advanced economies are anticipated to have grown by 1.8% in 2014 and will expand 2.3% in 2015, the growth in world output is projected to have remained at 3.3% in 2014, and it is expected to grow by 0.5 percentage point in 2015. Likewise, it is estimated that growth in emerging market countries had continued to expand but at a slower rate of 4.4% in 2014 compared to 4.7% in 2013 due to weaker residential investment in China. Malaysia, on the other hand, is predicted to have grown at 5.9% in 2014 and will grow by 5.2% in 2015, outpacing the overall projected growth in emerging market and developing countries.

The prospects remain uneven across countries within the groups. Among the advanced countries, growth is estimated to have picked up in the Euro area in 2014, with a positive expansion of 0.8%, and in the US, with 2.2%, but to have been slower by 0.6 percentage point in Japan (Figure 2). However, growth in Japan may have been weaker than expected as the Japanese economy shrank at a 1.6% annual pace in the third quarter of 2014, leaving the country in a technical recession. Among major emerging markets, growth is projected to have remained strong in emerging Asia, with a moderate slowdown in China and a steady pickup in India and Malaysia.

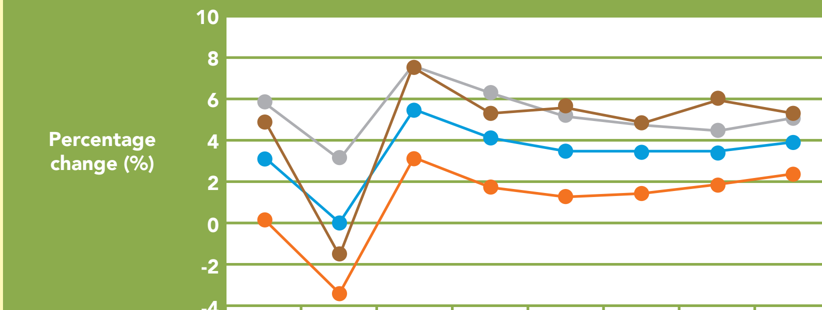
The Malaysian economy in 2015

The outlook in Malaysia shows a neutralised drift. According to the *Economic Report 2014/2015*, Malaysia's economy is expected to grow steadily between five per cent and six per cent in 2015, with the growth momentum remaining resilient in the private sector, albeit moving at a slower pace. Given the constant nominal income, it is estimated that the recent fall in oil price will lower the cost of production for producers and raise consumers' purchasing power. However, this effect may be temporary because private consumption may be subdued by the removal of fuel subsidies and the introduction of the goods and services tax (GST) in April 2015. Domestic demand is therefore anticipated to be affected.

In view of the fall in global oil price, the removal of fuel subsidies seems to have little impact on fuel users. Should the price of crude oil continue to plunge to US$50 per barrel, it is estimated

Ellwood Oil Field off the coast of California. In view of the fall in global oil price, the removal of fuel subsidies seems to have little impact on fuel users.

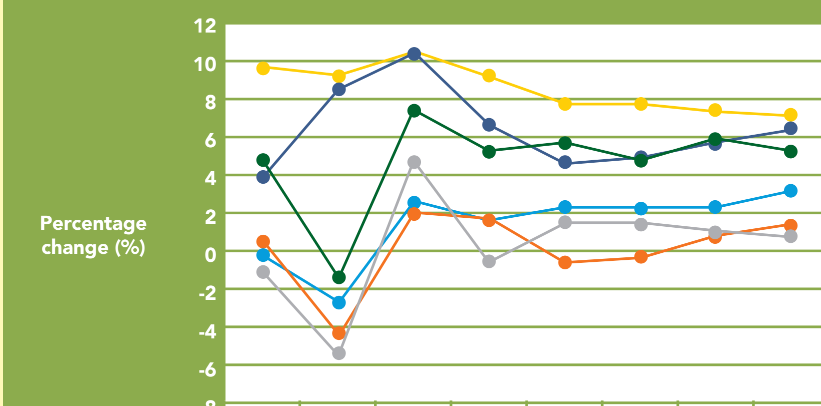
Figure 1: GDP growth forecasts by selected economies vis-à-vis Malaysia



	2008	2009	2010	2011	2012	2013	2014	2015
							Projections	
World	3.0	0.0	5.4	4.1	3.4	3.3	3.3	3.8
Advanced economies	0.1	-3.4	3.1	1.7	1.2	1.4	1.8	2.3
Emerging market and developing countries	5.8	3.1	7.5	6.2	5.1	4.7	4.4	5.0
Malaysia	4.8	-1.5	7.4	5.2	5.6	4.7	5.9	5.2

Source: International Monetary Fund, World Economic Outlook Database, October 2014.

Figure 2: GDP growth rate forecasts for selected countries vis-à-vis Malaysia



	2008	2009	2010	2011	2012	2013	2014	2015
							Projections	
US	-0.3	-2.8	2.5	1.6	2.3	2.2	2.2	3.1
Euro zone	0.4	-4.5	2.0	1.6	-0.7	-0.4	0.8	1.3
Japan	-1.0	-5.5	4.7	-0.5	1.5	1.5	0.9	0.8
China	9.6	9.2	10.4	9.3	7.7	7.7	7.4	7.1
India	3.9	8.5	10.3	6.6	4.7	5.0	5.6	6.4
Malaysia	4.8	-1.5	7.4	5.2	5.6	4.7	5.9	5.2

Source: International Monetary Fund, World Economic Outlook Database, October 2014.

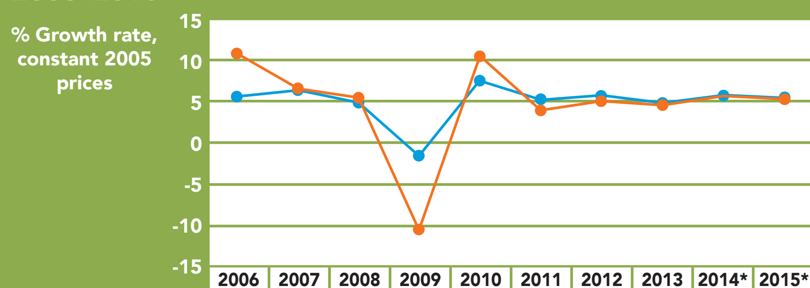
that the retail price of fuel, before the elimination of subsidies, will probably be equivalent to or lower than the price of fuel, after the removal of subsidies. Holding the current fuel price constant, the government essentially gains duple returns: one being the withdrawal of subsidies, and the other being the margin made as a result of the prolonged shrink in oil price.

Malaysia's external demand is expected to give both positive and negative implications. On the bright side, a cheap Ringgit makes Malaysia's exports more competitive, increases external demand, and thus accelerates national income. However, a weakening Ringgit in fact inflates imported prices. As prices of imports increase, prices of domestic goods using imported goods as raw materials also increase. This will then affect the purchasing power of domestic consumers in general.

In response to the fall in oil price, Malaysia's current account is expected to weaken. Since Malaysia is the net exporter of oil and gas, export revenue is likely to be narrowed if the oil price continues to fall. Further, the fiscal deficit is predicted to surge in early 2015, mainly due to the fact that about 30% of fiscal revenue is attributed to dividends paid by Petronas. This will then affect the revenue made to the public account. It is therefore projected that the economy is most likely to experience a threat of twin deficits in current account and fiscal balance in the first quarter of 2015.

On the supply side, all economic sectors are projected to have positive rates of growth. The services sector continues as the major contributor to the economy in 2015, accounting for about 56% of the total projected GDP, followed by manufacturing (25.1%), mining and quarrying (7.6%), agriculture (6.9%) and construction (4.3%). Buoyant growth in the wholesale and retail trade sub-sector lingers as a vital role in driving the services sector in Malaysia. The sub-sector is projected to grow at 7.7% in 2015. Construction of

Figure 3: GDP annual growth rate in Malaysia and Penang, 2006-2015*

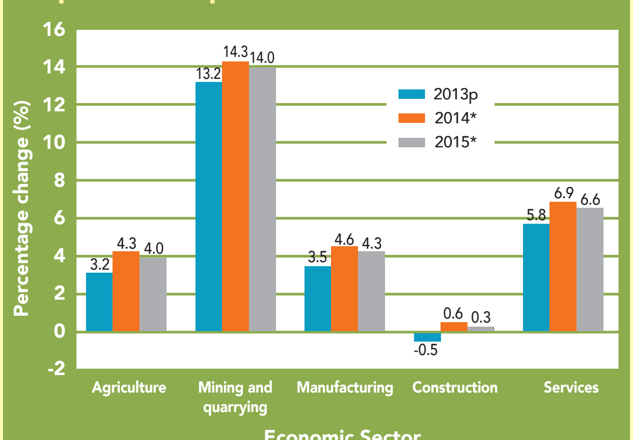


	2006	2007	2008	2009	2010	2011	2012	2013	2014*	2015*
Malaysia	5.6%	6.3%	4.8%	-1.5%	7.4%	5.2%	5.6%	4.7%	5.8%	5.5%
Penang	10.8%	6.5%	5.5%	-10.5%	10.4%	3.9%	5.0%	4.6%	5.7%	5.4%

Source: Department of Statistics Malaysia, Economic Report 2014/2015 and Penang Institute.

*forecast for Malaysian GDP growth is made available in the *Economic Report 2014/2015* where mid-point of the projected Malaysia's GDP growth is used for illustration purposes (2014: 5.5%-6.0%; 2015: 5.0%-6.0%) while forecast for Penang's GDP growth is calculated by Penang Institute[1].

Figure 4: Penang's GDP growth rate by sector, at purchasers' prices



Source: Department of Statistics Malaysia and Penang Institute.
*forecast; p: preliminary

Table 1: Penang's GDP sector share in Malaysia, 2013

Sector	Malaysia	Penang	Penang's GDP sector share in Malaysia
Agriculture	7.2	1.9	1.8
Mining and quarrying	8.2	0.0	0.0
Construction	3.8	2.4	4.4
Manufacturing	24.9	48.3	13.6
Services	55.9	47.4	5.9
Total	**100.0**	**100.0**	**7.0**

Source: Department of Statistics Malaysia.

[1] The projection of GDP growth rate is calculated using shift-share analysis, developed by David Creamer in early 1940s. The shift-share identity is presented as follows:- (ri-r)+(rij-ri)=(rij-r) where r = growth rate; i = national sector; and j = sector in state.

All economic sectors are projected to have positive rates of growth, with construction at 4.3% of total projected GDP.

infrastructure projects such as the Mass Rapid Transit (MRT) and extension of the Light Rail Transit (LRT) is expected to propel growth in the construction sector by 12.7% in 2014 and 10.7% in 2015.

Penang's economy: redividing the pie

Penang's economy is estimated to have grown slightly slower than that of Malaysia in 2014. The state GDP is expected to have strengthened further by 1.1 percentage point to 5.7% in 2014, but it will grow at a slower rate of 5.4% in 2015 (Figure 3). Among the economic sectors, Figure 4 shows that the mining and quarrying sector is projected to grow at the fastest rate, at 14.3%. This is then followed by the services sector (6.9%) and the manufacturing sector (4.6%). Despite significant growth in the mining and quarrying sector, this constitutes less than one per cent in total of Penang's output (Table 1).

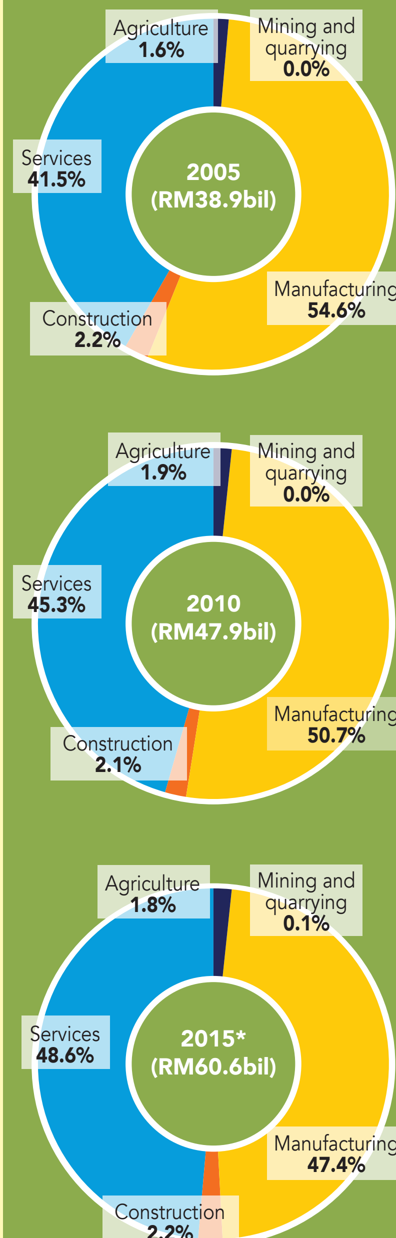
Penang is demographically the second smallest state in Malaysia, holding merely six per cent (or 1.6 million) of the entire population of Malaysia, and a density of 1,598 people per sqkm.

Though Penang formed only seven per cent of the national GDP, its manufacturing sector contributed nearly 14% of the national manufacturing output. As in 2013, this sector continued to postulate as the key driver in Penang's economy. In 2013, it accounted for about 48% of the total output of RM55bil (Table 1), while about 47% of the total output was made up by the services sector.

This raises the interesting question of whether manufacturing activities can sustain its contribution in the future given the fact that the services sector seems to have been catching up in recent years. Indeed, as can be seen in other mature economies, economic activities trends shift towards services – something that Penang can expect to see in the future.

It is important to look at how the economic structure has evolved over the last decade. Figure 5 illustrates the sector share of each economic activity between 2005, 2010 and projected 2015 in Penang. As can be seen, the manufacturing sector contributed over half of Penang's total GDP in 2005. The

Figure 5: Economic structure in Penang between 2005, 2010 and 2015*



Source: Department of Statistics Malaysia and Penang Institute.

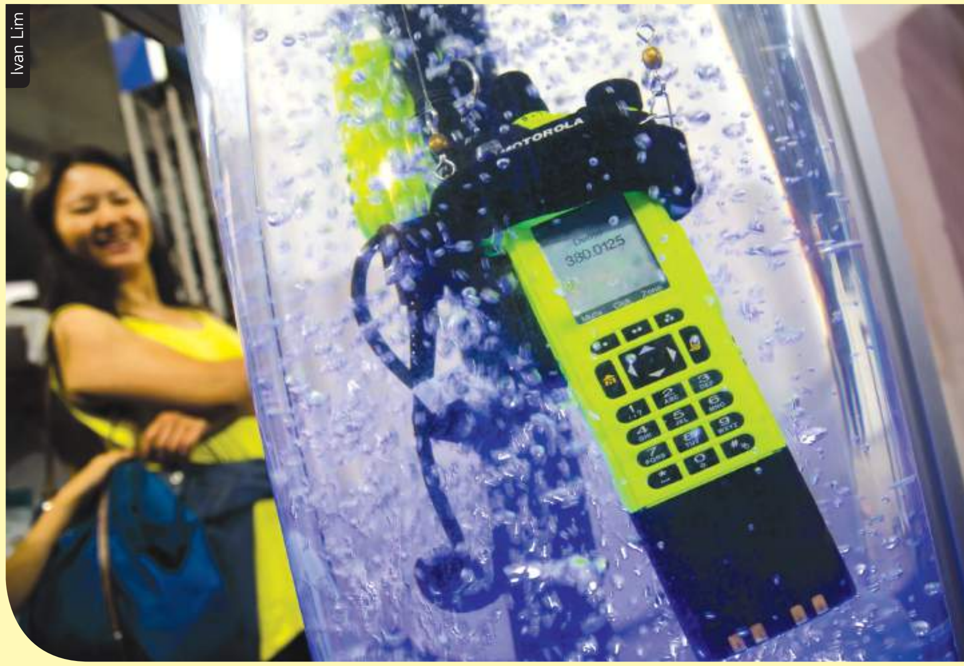
*forecast

Note: The total GDP excludes import duties which constitute about four per cent of the GDP.

share declined to about 51% in 2010, and it is projected to further reduce to about 47% in 2015.

The services sector, in turn, is predicted to gradually overtake the manufacturing sector. This prediction is rather convincing as it will go in line with the Penang state government's initiative to converge manufacturing and services industries through shared services outsourcing related businesses. This is essentially a measure being taken to move Penang's breadwinners out of the middle income trap.

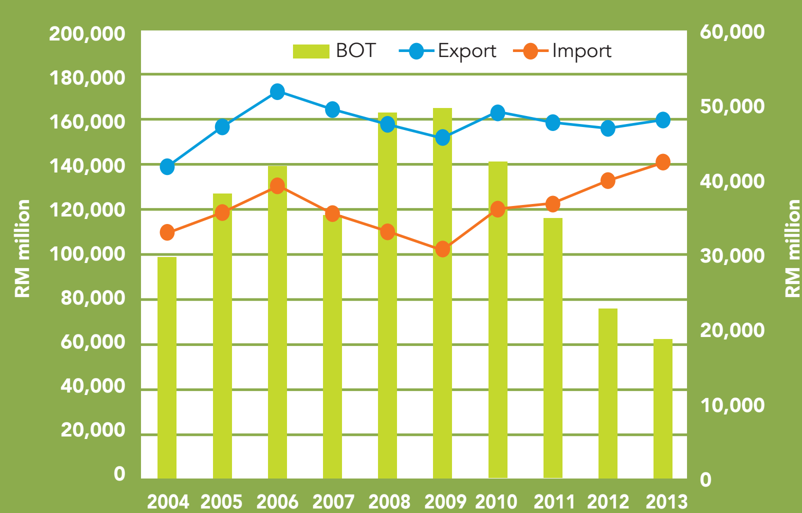
The tourism sector is expected to flourish in 2015 due to Visit Penang Year. According to Penang Global Tourism, the tourism sector contributed to more than a third of Penang's total GDP. The figures from Tourism Malaysia show that Penang received 4.7 million hotel guests in 2013, while data from Ministry of Health Malaysia revealed that Penang treated a total of approximately 230,000 foreign patients for the first three quarters of 2014. An in-depth analysis of the tourism sector's contribution, and medical tourism in specific, will be published in future issues of *Penang Monthly*.



Ivan Lim

Investment in the state is expected to grow further. Penang attracted investors from Singapore's investment arm agency, Temasek Holdings (Private) Ltd., to joint-venture with Penang Development Corporation (PDC), with the aim to spur investment into knowledge-intensive innovation-led manufacturing services industries with an estimated value of RM11.3bil located in Penang International Technology Park, Batu Kawan and BPO Prime, Bayan Baru. Among other companies providing global shared services in Penang are First Solar, Citigroup Transaction Services Malaysia, IHS, Wilmar and AirAsia.

Figure 6: Export, import and balance of trade in Penang, 2004-2013



Source: Department of Statistics, Malaysia.

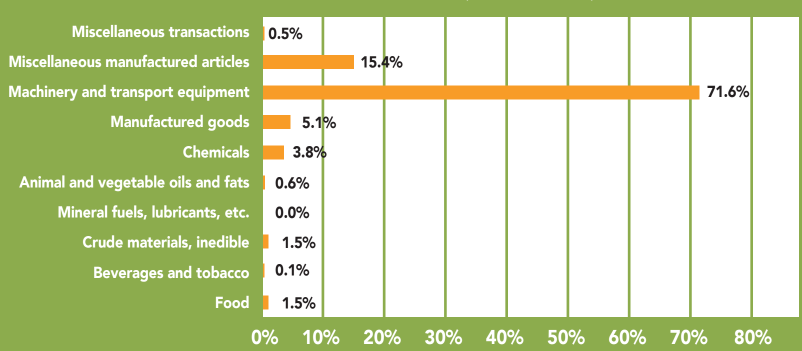
With this recognition, Penang gains confidence to elevate manufacturing industries up the value chain, attracting potential investors and hence talents with high income, knowledge and innovative intensive jobs.

Penang ranked among the top capital investment receivers in Malaysia, accounting for an average of about 13% of total Malaysia's capital investment in 2008-2013. As of September 2014, Penang recorded a total of RM6bil in capital investment, of which RM2.7bil was invested by domestic investors while RM3.3bil was generated by foreign investors.

External trade outlook: cautiously optimistic

External trade shows a cautiously optimistic trend. In 2013, Penang's external trade appeared to exhibit

Figure 7: Export by SITC section in Penang, January-September 2014



Source: Department of Statistics, Malaysia.

much slower growth relative to its GDP growth, In particular, Penang's total trade growth was recorded at four per cent while its GDP grew to 4.6%. Though export and import values were recorded to coherently increase, import value swelled at a faster rate compared to the growth rate of export, entailing a smaller trade balance. This in turn has resulted in a downward trend in the proportion of Penang's trade surplus in Malaysia. Penang contributed an annual average of 37.7% of total national trade surplus in 2004-2010. The share had shrunk by nearly 10 percentage points to 27% in 2013.

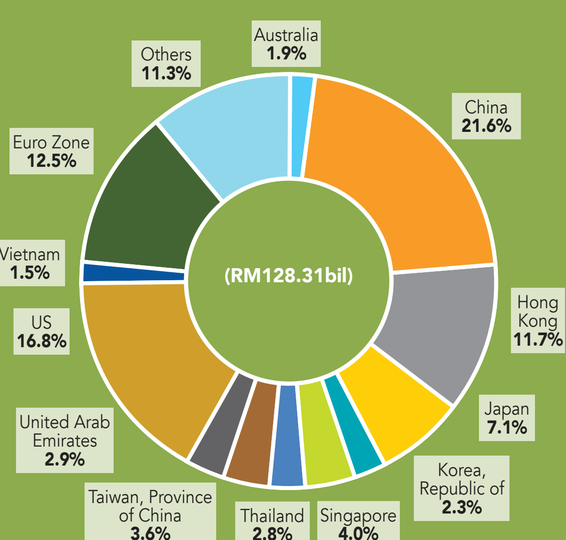
Figure 6 depicts a declining trend in Penang's trade surplus since 2009. As can be observed, the surplus slumped substantially by about 21% from about RM50bil in 2009 to RM20bil in 2013. For the first nine months of 2014, Penang's trade registered an additional surplus of about RM4bil than that of the same period in 2013, with export and import growths of 10.5% and 8.2%, respectively. This seems to show an optimistic trend in Penang's trade surplus due to its narrow surplus.

In terms of sector, machinery and transport equipment made up about 72% of Penang's total export from January to September 2014. This mainly includes electrical machinery, apparatus and appliances; office machines and automatic data-processing machines; and telecommunications, sound recording and reproducing apparatus and equipment. This indicates that external trade in Penang is still very much reliant on the electrical and electronics (E&E) industry. Meanwhile, about 15% of the total export was formed by miscellaneous manufactured articles, which consist of photographic apparatus; articles of apparel and clothing accessories; and professional and scientific instruments.

By destination, exports to China continued to contribute the largest share of total Penang exports, accounting for about 22% from January to September 2014 (Figure 8). This is then followed by exports to the US (16.8%), Euro zone (12.5%) and Hong Kong (11.7%). This suggests that China and the US are expected to remain Penang's main trading partners. In other words, Penang's trade is heavily dependent on the economic performance of these high-spending power economies. When both these economies perform relatively well, higher external demand is to be expected in Penang. Expected sluggish growth in the Chinese economy and stagnant growth in the US in 2015 may slow export growth and narrow the trade surplus.

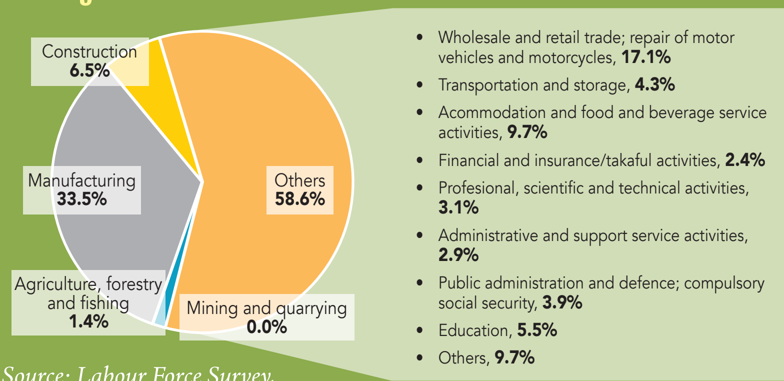
Nonetheless, Penang's trade outlook is predicted to be uncertain in 2015 due to the fact that moderate external demand theoretically worsens the trade balance while a cheaper Ringgit makes imported goods more expensive. Recently released external trade data show that Malaysia's export growth in October 2014 contracted by 3.1% compared to a year ago, fuelling a risk of a trade deficit in early 2015. Furthermore, the fall in exports was largely due to the contraction in exports of petroleum products (-19.1%) and E&E (-4.5%).

Figure 8: Export by country in Penang, January-September 2014



Source: Department of Statistics, Malaysia.

Figure 9: Percentage share of employed persons by industry in Penang, Q2 2014



Source: Labour Force Survey, Department of Statistics Malaysia.

With the US economy rebounding, the demand for E&E products is expected to grow positively. It is thus hoped that the performance of exports and imports for the last three months of 2014 offers a vital sign for shaping Penang's external outlook in the first quarter of 2015.

Employment outlook: labour shortages likely to persist

Penang's labour market has been performing at a healthy level over the past few years. Labour force participation rates hovered at about 70% for the first three quarters of 2014. The remaining 30% of the workforce aged 15-64 years consisted of students, housewives and unemployed persons. For Malaysia as a whole, the labour force participation rate lingered at 67% for the same period of 2014.

Turning to the employed persons by industry, the services sector made up the largest proportion of Penang's total workforce (Figure 9). For the second quarter of 2014, nearly two-thirds of the workforce worked in the services sector, followed by manufacturing (33.5%) and construction (6.5%).

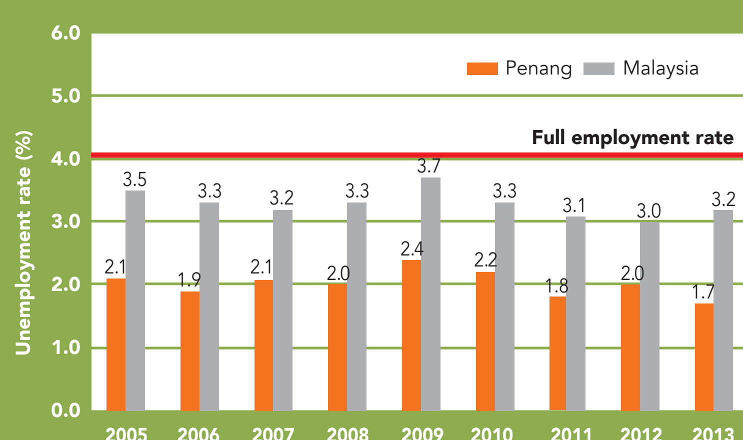
Of the services sub-sectors, wholesale and retail trade was recorded to have the largest workforce, accounting for about 17%, accompanied by accommodation, food and beverage service activities (9.7%) and education (5.5%). Given that there will be a mild shift in Penang's economic structure with the merging of services activities in the manufacturing sector, the share of labour force in the services sector is therefore expected to stay robust while the share in manufacturing sector is predicted to be subdued in 2015.

The fact that Penang is currently moving into high value-added businesses such as Business Processing Outsourcing and Information Technology Outsourcing (BPO-ITO) activities means that large pools of talents with data management and multimedia backgrounds will be needed to cater to the needs of SSO companies in Penang. It is also hoped that the situation will likely be aided by the complete arrival of the Asean Economic Community (AEC) by December 31, 2015.

In response to the weak and uneven global economic recovery, retrenchment of workers persisted in 2014. According to data provided by Penang's Labour Department, the number of workers who were retrenched or offered Voluntary Separation Schemes (VSS) had been considerably reduced since 2012 . Though retrenchment of workers still exist for the first 10 months of 2014, placement of jobs had been positive as many workers have been equipped with the skill sets required in the Penang labour market.

Furthermore, the unemployment figure offered encouraging signs that Penang has been consistently experiencing lower unemployment rates than the country as a whole. Despite the global economic crisis between 2007 and 2009, Penang's unemployment rate remains well below the natural rate of unemployment of four per cent. The unemployment rate fluctuated between 2.4% and 1.7% with the rate in 2013 being the lowest (Figure 10). This shows that the labour market has been competitive and sturdy thus far. A full employment situation is therefore expected to continue in 2015.

Figure 10: Unemployment rate in Penang and Malaysia



Source: Labour Force Survey, Department of Statistics Malaysia.

2015 projections

World economy

World output is expected to experience an anaemic growth in 2015. In the US, higher consumer spending and a modest increase in business investments are expected to shift the US economy upward, bolstered by a rebound in employment growth. Meanwhile, economic stagnation due to slow consumer-price growth in the Euro zone along with geopolitical tensions in Ukraine and Russia may cause weaker growth in world output. China, on the other hand, is predicted to experience a structural shift of economic activity towards the labour-intensive services sector, putting its overall growth at a volatile front.

Entrance to Intel Penang. The E&E industry makes up the largest share of Penang's manufacturing output.

Malaysian economy

Malaysia's output is expected to grow at a slower pace. Domestic demand remains as the main driver of the economy. Public and private consumption patterns will be affected with the implementation of the GST. Consumers may be more prudent in making daily expenses. However, with the collection of the GST, better social security and greater public infrastructure developments are likely to improve living conditions. With regards to the public account, dividends paid by Petronas will probably be affected if oil prices continue to fall. In addition, Malaysia's current account is likely to be lacklustre as it is a net exporter of oil and gas. Therefore, a risk of dual deficits is anticipated in the first quarter of 2015.

Penang economy

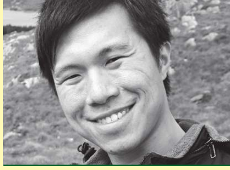
Output is expected to expand at a lower rate of growth in 2015. The introduction of the GST is likely to change consumers' spending behaviour. Manufacturing activities in the E&E industry will also be affected as Malaysia's export figures showed a contraction in the industry in October 2014. Since the E&E industry makes up the largest share of Penang's manufacturing output, the industry is likely to slow down if external demand continues to be weak. Job security is likely to be maintained due to its stable employment growth, but labour shortages will continue to be an issue. Upskilling and graduate employability programmes will be essential to resolve the issue. This step forward is crucial as Penang is shifting its pie towards merging manufacturing-services activities, and SSO businesses take prominence as the next emphasis of Penang.

Table 2: Key socioeconomic snapshot

Annual growth rate (unless specify)	Period	Penang	Malaysia
GDP	2013p	4.6%	4.7%
GDP per capita	2013p	3.9%	3.5%
Consumer price index	Oct 2013/2014	3.0%	2.8%
Export	Jan-Sept 2013/14	10.5%	8.6%
Unemployment rate	2013	1.7%	3.2%
Median household income	2009/2012	8.1%	8.5%
Gini coefficient	2009-2012	0.37	0.43

Source: Department of Statistics Malaysia.
p Preliminary

Ong Wooi Leng is a senior analyst at Penang Institute, and her interest lies in the reservation price on consumer products.



By Lim Chee Han

The housing market in Penang today

With an abundance of newly built high-rise condominiums, is Penang facing a property glut?

Malaysia's population crossed the 30 million mark in February 2014. According to the Population and Housing Census 2010, about three in 10 people fall in the 20-40 years old age group – the one most likely to be first-time home buyers. By 2020, that group is projected to grow to 11.3 million. In Penang, the current estimate for this age group is at 0.6 million, or 36% of the state population. The average property price in Penang currently stands at RM336,521. Even with the 50% stamp duty cut, middle income earners with two dependents can only afford houses priced at RM300,000 and below[1], and looking at the current national average price for all types of properties, RM300,000 is well below the average (Figure 1).

Besides increasing prices, public concern is on whether or not the property market is overheated; many suspect that currently there is an oversupply of properties, especially in Penang. The current existing stock of residential properties can house more than six people per household (Table 1), and as smaller households are the global trend for developed and developing countries, statistics indicate that there is still a growing demand for housing.

To meet market demands and expectations, a steady addition of incoming and planned supply to the

Figure 1: Average price for all types of properties as of Q2 2014 (preliminary)

Source: The Malaysian House Price Index Q1-Q2 2014, *National Property Information Centre (NAPIC).*

[1] Wooi Leng Ong, "Will the 50% stamp duty cut make a real difference?" *Penang Monthly*, December 2014.

Table 1: Existing stock, incoming supply and planned supply of residential properties in Malaysia as of Q2 2014

	Existing stock	Incoming supply	% to existing stock	Planned supply	% to existing stock
Malaysia	**4,769,328**	**725,489**	**15.2**	**622,698**	**13.1**
Penang	383,017	64,224	16.8	63,928	16.7
Selangor	1,367,819	156,296	11.4	89,410	6.5
Johor	710,324	131,994	18.6	182,866	25.7

Source: Property Market Report First Half 2014, *NAPIC and own calculation.*

existing property stock in Penang is still expected in the near future. Based on the population projection given by the Department of Statistics for Penang (1.75 million in year 2020), Malaysia Property Incorporated found that there is an oversupply of about 45,000 units this year and 22,000 units by 2020[2], assuming that the average household size stays at 3.98 people and housing supply stops after 2015.

A growing demand for housing with a potential oversupply of properties sounds contradictory enough, begging the question: will the potential glut be for a certain type of residential property, and are the right kinds of properties being built in the right areas?

Whither the low-medium cost housing?

On Penang Island, the most densely populated district is in the north-east; the area encompassing George Town, Jelutong, Air Itam, Gelugor, Tanjung Tokong and Tanjung Bungah still remains one of the most sought-after places for property. Despite limited land spaces, incoming and planned unit supply to this district has seen no sign of abating.

However, in recent years, the south-west of the island, where the airport and the industrial area are located, has become the hottest investment spot for big-name developers. The highest growth of property supply on the island is expected to be in this area, with the likely addition of 17,518 incoming units (33.3%) and 17,058 planned units (32.4%).

On the mainland, the more populated central Seberang Perai (SP) is expected to see more new housing units in coming years, compared to north and south SP. The opening of the Second Penang Bridge and the announcement of a series of development projects in Batu Kawan, including IKEA and branch campuses of University of Hull and KDU University College, certainly give south SP a huge appeal for future housing development. So far, the housing demand there has not jumped markedly. However, as a prelude, following the announcement of the projects, land prices in south SP skyrocketed to between RM50 and RM60 per sqft, compared to previous prices of RM8 to RM9 per sqft[3].

Within the high-rise category, there is a trend of developers preferring to build higher value condominiums (Table 3). In coming years, especially on Penang Island, a higher proportion of new high-rise units will come from condominiums. Although the construction of low cost flats is emphasised by both the federal government and the Penang state government, the supply of such units is slow and short in coming – at just half the number of the future supply for condominiums. The future supply of medium cost flats also cannot

Table 2: Existing stock, incoming supply and planned supply of residential properties in Penang by type as of Q2 2014 (preliminary)

	Existing stock	Incoming supply	% to existing stock	Planned supply	% to existing stock
Single-storey terrace	42,906	4,650	10.8	4,214	9.8
Two to three-storey terrace	63,101	14,177	22.5	13,188	20.9
Single-storey semi-detached	9,240	1,108	12	1,278	13.8
Two to three-storey semi-detached	17,060	4,714	27.6	4,042	23.7
Detached	7,347	3,369	45.9	2,531	34.4
Town house	2,928	776	26.5	800	27.3
Cluster	8,031	1,917	23.9	472	5.9
Low cost house	15,362	1,578	10.3	1,295	8.4
Low cost flat	55,426	7,128	12.9	7,337	13.2
Flat	114,117	8,948	7.8	11,225	9.8
Service apartment	1,213	869	71.6	588	48.5
Condominium	46,286	14,990	32.4	16,958	36.6
Total	383,017	64,224	16.8	63,928	16.7

Source: Residential Property Stock Table Q2 2014, *NAPIC and own calculation.*

3 "Bright outlook for Penang's booming property sector", *The Borneo Post*, January 27, 2014 (URL: www.theborneopost.com/2014/01/27/bright-outlook-for-penangs-booming-property-sector/).

2 YK Heng, "Penang: Real Estate Market", *MPI Property Quotient Issue 7*, 2013, Malaysia Property Incorporated Publication.

Table 3: Median sales prices of the top five most transacted types of residential properties in Penang as of Q2 2014 (in RM)

	District	Two to three-storey terrace (RM)	One-storey terrace (RM)	Condominium (RM)	Flat (RM)	Low cost flat (RM)
Penang Island	North-East	1,200,000	658,500	557,500	260,000	90,000
	South-West	701,325	563,500	530,000	279,000	85,000
Seberang Perai	North	314,100	200,000	178,000	91,500	60,750
	Central	380,000	187,000	145,000	95,600	60,000
	South	295,000	162,000	ND	ND	62,000

Source: Residential Property Stock Table Q2 2014, *NAPIC*.

Table 4: Number of residential property transactions by district in Penang, Q3 2013-Q3 2014

		2013-Q3	2013-Q4	2014-Q1	2014-Q2	2014-Q3
Penang Island	North-East	1,787	1,912	1,559	1,579	1,577
	South-West	605	672	572	456	497
Seberang Perai	North	597	655	652	860	647
	Central	938	901	909	1,094	879
	South	592	558	599	743	594
TOTAL		**4,519**	**4,698**	**4,291**	**4,732**	**4,194**

Source: Transaction Statistics (Penang) Q1&Q2 2014, *NAPIC*.

catch up with the supply rate and units of condominium, indicating that condominium sales seem more profitable for developers and that there may be an oversupply of higher value high-rise units in the near future.

Probably as the result of an influx of affluent local or foreign buyers, the supply for bungalows (detached) units has increased significantly. Service apartments have also become a new niche in the property market; the number of service apartment units is expected to double.

The island factor

Penang Island's attractiveness as a place to invest or settle in can be seen from its property prices; one condominium unit on the island normally costs more than twice or thrice that on the mainland. The same goes for the price of landed properties (Table 3).

Southbay Plaza at Bayan Lepas. In recent years, the south-west of the island has become the hottest investment spot for big-name developers.


Ivan Lim

Probably as the result of an influx of affluent local or foreign buyers, the supply of bungalow (detached) units has increased significantly.

Although this tendency is likely to persist for some time, the number of residential property transactions slowed down on the island for the first three quarters of last year whereas property sales in SP were generally unaffected (Table 4). Due to market-cooling measures – i.e. the introduction of more stringent real property gains tax (RPGT) and maximum loan-to-value ratio for individual and non-individual borrowers – laid by the federal government and Bank Negara to curb property speculating, the upward price index trend for both landed properties and high-rise units slowed down significantly for the first half of 2014. Given that the number of sales was also at a lower level in the third quarter compared to the previous year, property prices on the island for the latter half of 2014 were probably stagnant.

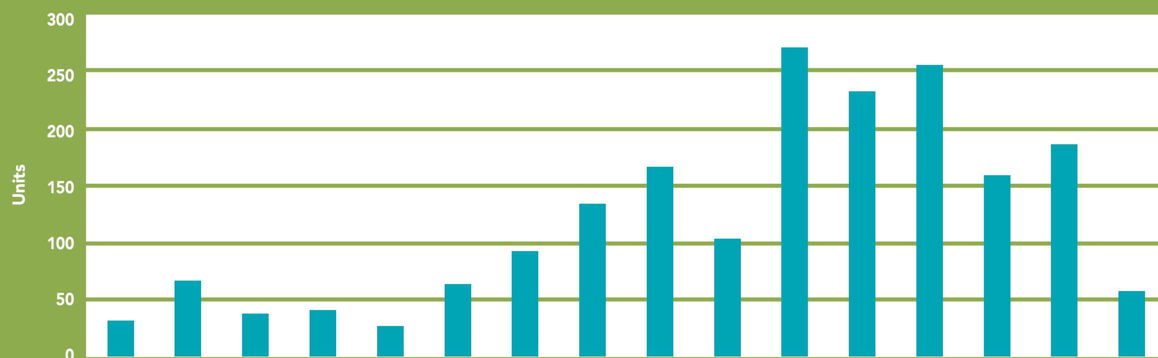
With the implementation of the goods and services tax (GST) on April 1, first-time home buyers may rush to make property purchases in the first quarter of 2015 to avoid paying the incremental cost. Although residential properties fall under the "Exempt Rated" basket of goods, property prices look set to increase due to the inflation cost of construction materials. According to a market survey, developers are facing ever higher compliance costs. Therefore, it is unlikely that house prices will drop this year when higher inflation is expected.

Meanwhile, the "Youth Housing Scheme" announced in Budget 2015 may encourage young families from lower and middle income groups to make their first home purchase. Under the scheme, those who qualify and are selected will be given RM200 monthly financial assistance by the federal government to pay the loan instalments, 50% stamp duty exemption on loan and transfer agreements as well as 100% loan financing.

Old is gold

Interest from investors in George Town's pre-war heritage properties has never been greater since the city was inscribed as a Unesco World Heritage Site in 2008. Under the draft of the George Town Special Area Plan, there is a total of 4,665 buildings located within the core (50.2%) and buffer (49.8%) zones. Given the immense potential for capital appreciation or gain from investments, these heritage properties are in red-hot demand. With the booming tourism in George Town, many investors have transformed old, neglected heritage

Figure 2: Number of pre-war unit transactions in George Town, 1999-Q3 2014



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Sep - 14
Transactions	33	67	38	42	28	65	94	134	167	104	270	231	255	159	186	58

Source: Henry Butcher Malaysia (Penang) and NAPIC.

shophouses into boutique hotels or commercial premises.

Before the repeal of the Rent Control Act in 1999, there were very few transactions and the price index did not move much for properties situated within the conservation zones. Since then, the compound annual growth rate for such properties from 1999 to 2013 was at 12.7%[4]. For the first half of last year, the average price for pre-war properties in George Town registered a new highest record at RM1,300 per sqft.

Similarly, the number of pre-war property transactions also soared especially after 2008 (Figure 2). However, despite the new highest record of average transaction price, there were fewer property transactions last year; the *Penang Real Estate Market Research Report* on pre-war properties published by Henry Butcher Malaysia (Penang)[5] suggests that the pre-war heritage property market has more buyers than it has sellers due to a limited supply of good listings. Because of this, the pre-war property market price could be very much distorted. For example, in March 2012, a 2,000sqft shophouse along Lebuh Pantai (considered a prime heritage area) was sold at RM4mil (or RM2,000 per sqft)[6] – an isolated case but way above the average market price nonetheless.

Since the number of pre-war heritage buildings in the historic George Town is fixed and more than a thousand of such properties were transacted since 2008, the proportion of "sellable" properties in the market will shrink by year while market demand for such properties remains high. Hence, it is reasonably expected to see even steeper transaction prices and fewer transacted pre-war property units in years to come.

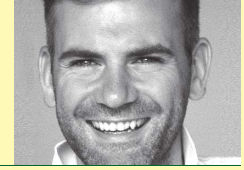
4 Laura Lee, "Penang heritage buildings in demand", *Focus Malaysia*, February 28, 2014 (URL: www.focusmalaysia.my/Assets/Penang-heritage-buildings-in-demand).

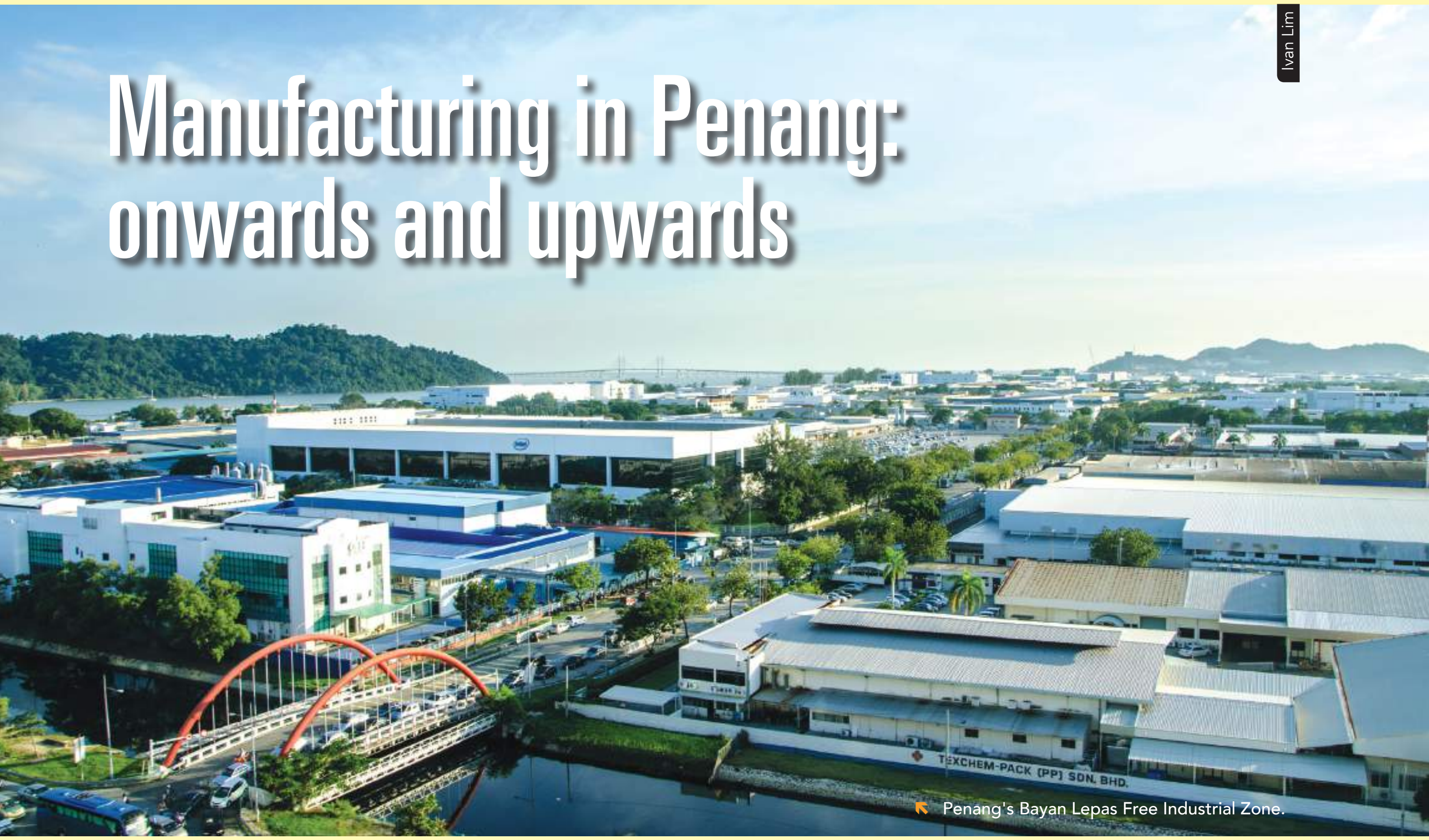
5 *Penang Real Estate Market Research Report Q1 2014*, Henry Butcher Malaysia (Penang) (URL: www.henrybutcherpenang.com/upload_files/621/HB%20market%20report.pdf).

6 Johnni Wong, "Skyrocketing shophouses", *The Star*, March 21, 2012 (URL: www.thestar.com.my/story/?file=%2f2012%2f3%2f21%2fmetrobiz%2f10824184&sec=metrobiz).

Lim Chee Han received his PhD in Infection Biology from Hannover Medical School, Germany. He is a senior analyst in the economics section of Penang Institute.

By Tim Niklas Schoepp





Manufacturing in Penang: onwards and upwards

Penang's Bayan Lepas Free Industrial Zone.

The manufacturing sector has always been crucial to Penang's development. With 2014 being generally a successful year for the industry, the outlook of this sector this year is interesting as well as important for the state's future.

In 2013, Penang's share of the manufacturing sector to the overall GDP of the state was almost equal to that of the service sector, at 47.8%. Penang shows that its manufacturers have a higher overall share towards its income than the Malaysian average.

Since 2005, Penang's manufacturing sector has seen constant growth. While the state's income from its industrial sector was about RM39bil in 2005, this increased to almost RM55bil in 2013. The increase from 2012 to 2013 was about 4.6%, near equivalent to the general Malaysian GDP growth in the same year. Furthermore, Penang contributed 13.6% of the Malaysian GDP generated within the manufacturing sector, making it the country's second most important industrial location outside Selangor.

Being the state with the third most approved manufacturing projects after Johor and Sarawak, Penang remains one of the Malaysian powerhouses. This trend will remain constant in 2015. In the first nine months of 2014, we saw total capital investments of RM6.0bil. As Penang is highly attractive for foreign companies, the majority of these investments were placed as FDIs amounting RM3.3bil, whereas the respective number for domestic businesses is about RM2.7bil.

According to the executive director of the Malaysian German Chamber of Commerce and Industry (MGCC) in KL, Alexander Stedtfeld, local companies benefited from the collaboration with foreign business companies in the past, but strategic investments are required to become important regional and international players in order to stay ahead. With this in mind, Penang's industry must continue investing in better infrastructure and techniques to remain strong.

Investments – an overview

Many new investments by foreign MNCs will either begin or be completed within 2015. As Penang has been one of the major Malaysian receivers of FDIs in the first half of 2014, it is expected that this trend will also continue this year.

Major investments in the manufacturing sector are located within the Bayan Lepas Free Industrial Zone as well as in the newly developed business centre in Batu Kawan. US-based Keysight Technologies plans to invest some RM500mil over the next three years into its Penang facilities, starting this year. Furthermore, one of the biggest investments in a facility upgrade will complete this year. With almost RM2bil invested between 2010 and 2015, B. Braun Medical Industries expanded its plant in Bayan Lepas, which will become the biggest manufacturing hub of the entire group worldwide. With its regional headquarters for Asia-Pacific moving back from KL to Penang, B. Braun will also relocate the strategic management of the regional group back to its production to the island state.

Another medical provider is about to expand its local production and services. St Jude Medical has a current cumulative investment-presence totalling RM2.1bil in Penang. With the aim to further investments into a local vendor ecosystem, Penang

B. Braun Medical Industries's Bayan Lepas plant will become the biggest manufacturing hub of the entire group worldwide.

US-based Keysight Technologies plans to invest some RM500mil over the next three years into its Penang facilities, starting this year.

will strategically focus on further investments from other companies in the medical sector.

In May 2014, the Penang Development Corporation (PDC), the Economic Development Innovations Singapore Pte. Ltd. and Temasek Holdings (Private) Ltd. signed a Memorandum of Understanding to develop the Penang International Technology Park (PITP) and the Business Process Outsourcing Prime (BPO Prime). Both projects will have an estimated value of RM11.3bil. With a total size of 206.8 acres, both projects will be located in Batu Kawan and Bayan Baru and will fulfill Penang's infrastructural aspiration of becoming a top BPO hub in the future. Starting this year, the projects will be completed within the next five to 10 years and about 25,000 to 30,000 high income jobs are expected to be created.

Seagate, a US-based company manufacturing hard drives and storage solutions, on the other hand made a re-investment of RM1.05bil to boost the manufacturing industries in Batu Kawan over the next five years – a decision announced in August 2014. In addition, Toshiba Medical Systems Corporation began its first diagnostic imaging systems manufacturing base in December 2014. It is projected to employ 200 workers by 2020 to support the rapid delivery of high quality products to customers in the global market.

In order to support increasing shipment volumes in the future, DHL will invest RM10mil for its Penang gateway, which can be seen as an optimistic sign for the positive development of Penang's manufacturers.

Tim Niklas Schoepp is a senior executive officer/visiting analyst (economics) at Penang Institute.

Alexander Stedtfeld, Executive Director of the Malaysian-German Chamber of Commerce and Industry (MGCC), KL

How do you evaluate the current economic situation in Malaysia?
In a recent study conducted among our members, 97% of the respondents rate the country's economy as satisfactory or good. This corresponds with our own observations. Malaysia has achieved long-term growth of around five per cent and there is no change in sight. Other countries in the region may boast higher numbers from time to time, but what makes the Malaysian figures so impressive is their sustainability in an already advanced development stage of the economy.

It is encouraging to see that there is no sign of complacency within the government. The commitment to a sound financial management including budgetary control is reflected by recent policy decisions such as the introduction of the goods and services tax (GST) from April 1, 2015 as well as a significant reduction of subsidies. In addition, the Economic Transformation Programme (ETP) puts an emphasis on private sector engagement complemented by a framework conducive to business and utilises public funds for spurring private investments.

Referring to the next five years, where do you see the greatest strengths of the manufacturing sector in Malaysia?
Malaysia has developed a strong industrial base since the 1970s. Industry-friendly policies including attractive investment incentives, efficient administrative infrastructures, public investments in human capital development and protection of intellectual property rights have made many foreign companies choose Malaysia as their preferred base in South-East Asia.

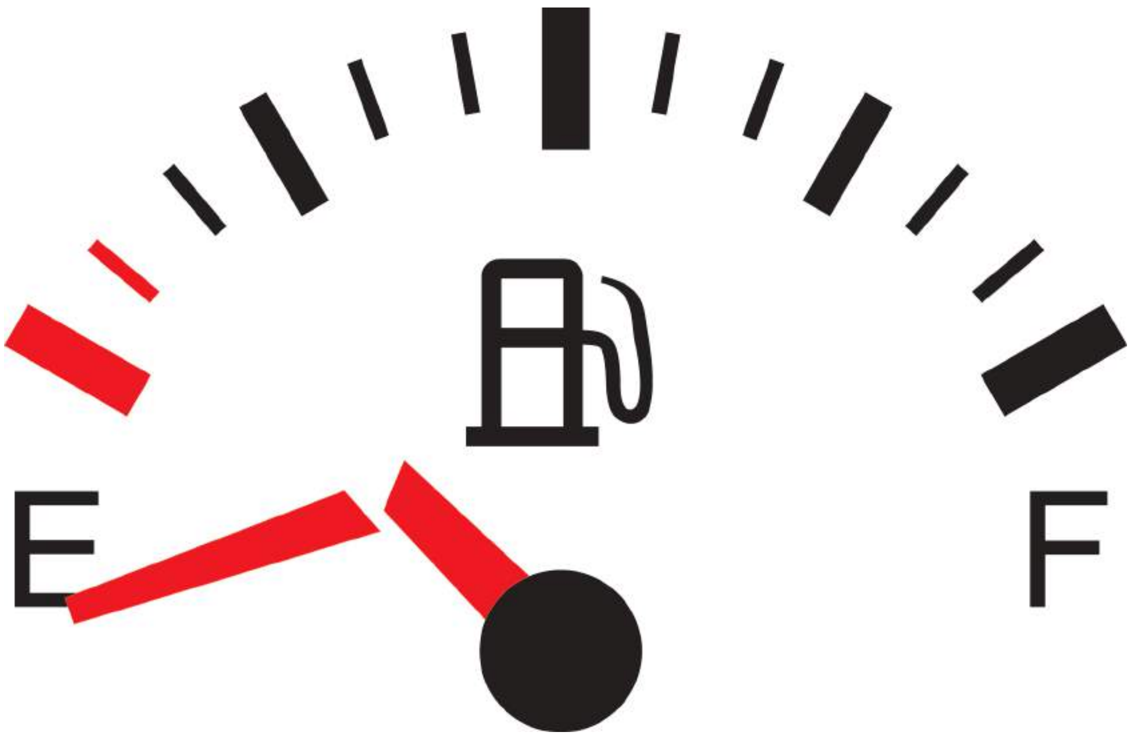
The Asean Economic Community coming at the end of 2015 has the potential to offer tremendous opportunities to Malaysian companies as they have comparative advantages over many of their regional competitors. To which degree such opportunities will eventually evolve, however, depends strongly on the will of Asean governments to achieve an environment with common standards, norms and licenses as well as enhanced free movement of goods, capital, services and professionals.

We believe the machinery industry will continue to do well, just like the traditionally strong sectors of electrical and electronics (E&E), medical equipment and chemicals will. Potential growth areas are oil and gas, especially in the downstream area, automotive and eventually green technology; the latter will have to rely on government policies to regulate or incentivise energy efficiency and renewable energies. The others are mainly market-driven.

What are the biggest challenges for manufacturers in 2015?
Many local companies have benefited from foreign firms providing them with a setting that allows them to move up the value chain. This is vital; competition does not stand still. While we believe that these companies can become important regional or international players because they already have a strong base, strategic investments will be required if they are to stay ahead.

Specific areas of engagement that will determine the future of Malaysia's manufacturing sector include modern production technologies with a higher level of automation, the development of young talents, particularly through vocational training, and research and innovation.

By Tim Niklas Schoepp



Will the falling oil price mean austerity for Malaysia?

The recent decline of the oil price – and therefore an increase in oil price volatility – have created a particularly uncertain forecasting environment that cannot be overlooked when attempting to forecast the economic outlook for 2015.

With the oil price falling more than 40% since June from US$115 a barrel to, as of press time, below US$70 a barrel, the US Energy Information Agency (EIA) again cut its crude price forecasts for 2015 after the Organization of Petroleum Exporting Countries' (Opec) decision last month to maintain its production ceiling. The agency trimmed its Brent crude estimate for 2015 to an average price of US$68.08 per barrel. If the 2015 oil price remains at its current low levels of less than US$60 a barrel, Malaysia would face a worst-case scenario in its economic projections.

But why is the oil price falling after nearly five years of stability?

Oil price is determined by actual supply and demand, as well as by expectations. Apart from seasonal changes, the demand is closely related to economic activities. Additionally, supply can also be affected by changing climate conditions or geopolitical unrest.

Today's fall of the oil price, however, is caused by four major factors. The current demand remains low; we can see weak economic activities (e.g. in China or Europe), an increased efficiency of energy consumption and a growing movement away from oil to other resources. Secondly, the turmoil in two big oil-producing countries, namely Iraq and Libya, has not affected their output. Thirdly, the US has replaced Saudi Arabia as the world's largest oil producer and therefore created a lot of spare supplies as it imports much less. Finally, the Saudis and their Gulf allies have decided not to sacrifice their market share to restore the price.

The intention is to affect the most vulnerable part of the oil industry – the American frackers, who have borrowed heavily on continuing high oil prices and Western oil companies with high-cost projects involving drilling in deep water. But the greatest damage is seen in countries where the regimes are strongly relying on high oil prices to secure costly policy favours and expensive social programmes for their people or electorates. Hence, countries like Malaysia, with a high dependence on oil income, are heavily affected.

Oil platform off the north American coast. The US has replaced Saudi Arabia as the world's largest oil producer.

Impacts on Malaysia

The most obvious sign of a falling oil price is the decline in petrol prices. But as good as this might seem, consumers in Malaysia will soon be paying new prices for daily products as the GST is about to be introduced this April. Another direct effect of a declining oil price in Malaysia is the sliding Ringgit. The Ringgit's devaluation happened right after the Opec's decision to maintain their output to defend its market share.

In tabling the budget for 2015, Malaysia estimated an average crude price for oil to be between US$100 and US$105, but the recent oil price forecast by the EIA is over 30% lower than what the Malaysian government calculated. Oil and gas revenue accounts for over 30% of the country's total revenue, and a further decline of global oil prices implies that the government will miss its revenues targets. Petronas, the state-owned oil company, has already warned that its royalty payments could fall nearly 40% below expected levels if the price remains low, or about RM25bil lower than the projected payment of RM68bil. It is estimated that an RM25bil drop in contributions to government coffers is larger than the recent scrapping of fuel subsidies amounting to RM18bil.

With this in mind, the fiscal deficit target of three per cent for 2015 appears to be out of reach. According to the *The Edge* last December, despite saving money from fuel subsidies, Malaysia's fiscal deficit could widen to 3.8% this year. Furthermore, if the worst-case scenario of an oil price drop to US$60 in 2015 comes true, *The Edge* says that GDP growth would only reach between three and four per cent. Even though Malaysia has reduced its dependency on oil revenue over the last years, this again shows how reliant the country is on Petronas and its fortunes.

Lower revenue could reduce development expenditures by the government, which affects consumer spending and delays infrastructure projects, thus slowing down the overall economic growth. Saving money from expensive fuel subsidies, however, will partially adjust the loss in government revenues and therefore will have a positive impact on the government's finances.

Conclusion

The falling oil price is proof of Malaysia's vulnerable dependency on oil income. With the US becoming the largest oil producing country in the world, the oil market will prospectively change. The Malaysian government must react to this development and continuously reduce the share of oil income towards its total revenues.

Some Opec and non-Opec oil producers have already adjusted their upcoming budgets. If the crude oil price continues to fall or sustains at a lower level, oil-dependent countries will have to make tough policy decisions. By relying too much on Petronas's fortunes in the past, Malaysia may be forced to resort to austerity programmes.

Penang transportation by the numbers

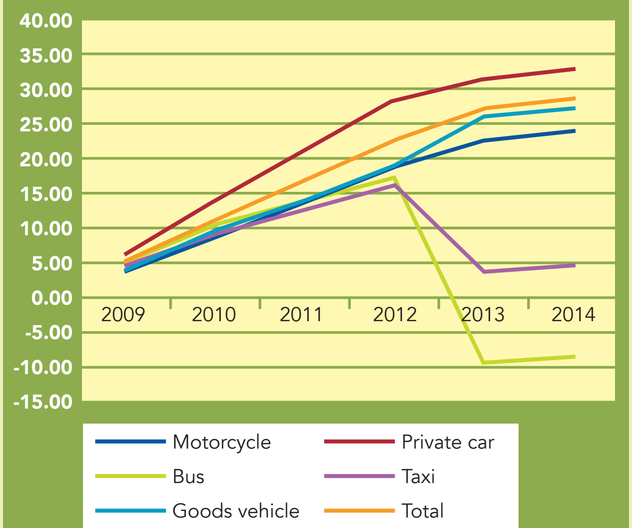
We examine the transport situation in Penang and provide the statistics on the trends and modes of transportation available in the state.

Table 1: Number of vehicle re-registration in Penang, 2008-March 2014

	2008	2009	2010	2011	2012	2013	Jan-Mar 2014
Motorcycle	1,033,025	1,076,409	1,124,476	1,172,311	1,226,223	1,264,046	1,278,908
Private car	780,519	830,678	890,652	945,444	1,000,131	1,024,197	1,037,770
Bus	5,232	5,511	5,781	5,960	6,131	4,739	4,794
Taxi	3,387	3,545	3,701	3,841	3,931	3,512	3,546
Rental car	479	500	529	517	499	1,620	1,640
Goods vehicle	57,462	59,744	62,952	65,603	68,381	72,391	73,050
Others	17,648	18,271	19,140	20,071	20,920	38,210	38,408
Total	1,897,752	1,994,658	2,107,231	2,213,747	2,326,216	2,408,715	2,438,116

Source: Jabatan Pengangkutan Jalan Malaysia (JPJ).

Figure 1: Change of selected vehicle re-registration, 2009-March 2014 (%)



Source: JPJ.

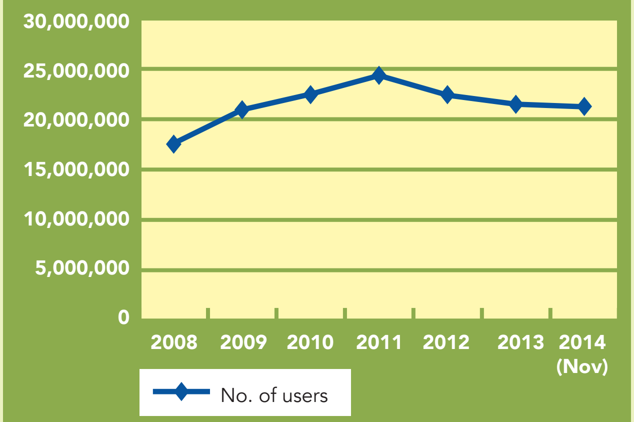
Vehicle re-registration across all types has undergone steady growth albeit with a slowdown occurring in 2012-2013. We witnessed a deceleration of 1.5% for motorcycles and 3.4% for private cars for year-to-year rates in 2013 – probably a direct reflection of rising fuel prices from RM1.75 (May 2009) to RM2.30 (November 2014) for RON 95.

The introduction of taxi booking mobile app "My Teksi" in April 2014 has increased taxi bookings by a staggering 500%[1]. On the other hand, plans to increase taxi fares by 70%-80% support the idea that the trend will not continue[2]. These conflicting factors leave the future of taxi usage in Penang uncertain.

In the case of buses, there has been perhaps a shift of preference towards private vehicle usage as can be seen from the increase in private car and motorcycle re-registration (Table 1) and declining Rapid Penang users (Figure 2).

[1] www.nst.com.my/node/33273
[2] www.thestar.com.my/News/Nation/2014/02/03/Penang-island-taxi-fares-to-be-increased/

Figure 2: Total number of Rapid Penang users



Source: Rapid Penang.

Despite falling growth rates, increase in the number of private vehicles has led to a rise in the vehicle-to-population ratio. With a population of about 1.6 million in Penang, the ratio has increased from 1.17 in 2008 to 1.39 in 2014.

Rapid Penang has not been on a favourable trend; the increase in traffic congestion has not encouraged Penangites and/or tourists to use Rapid Penang bus services. Peaking in 2011, the decline in usage conflicts with efforts to increase route and bus availability. The most frequent bus by a large margin is the 101, which plies along Penang's busiest roads such as Jalan Penang, Jalan Burmah, Jalan Tanjung Tokong, Bagan Jermal and Jalan Macalister, to name a few.

Table 2: Top 10 most frequent bus routes

No.	Service	Average monthly passengers	Average daily passengers	% share of total users
1	101*	220,084	7,336	11.78
2	301*	132,388	4,413	7.08
3	302*	129,508	4,317	6.93
4	303*	93,314	3,110	4.99
5	401(EX)*	90,611	3,020	4.85
6	203*	85,446	2,848	4.57
7	201*	82,697	2,757	4.43
8	202*	80,985	2,700	4.33
9	801^	76,059	2,535	4.07
10	702^	64,654	2,155	3.46

* = Island ^ = Mainland

Source: Rapid Penang.

Note:

101 – Jetty, Komtar, Jalan Burmah, Pulau Tikus, Island Plaza, Tanjung Tokong, Tanjung Bungah, Batu Ferringhi, Teluk Bahang

301 – Jetty, Komtar, Kampung Kolam, Sungai Pinang Flat, Jelutong, Sungai Dua, Kompleks BJ, Desa Relau, Relau

302 – Jetty, Komtar, Jelutong, Taman Tun Sardon, Kompleks BJ, Sunshine/Giant, Sungai Ara, Bayan Lepas, Batu Maung

303 – Jetty, Kampung Kolam, Komtar, Jalan Macallum, Jelutong, Sungai Dua (USM), Terminal Sungai Nibong, Kompleks BJ, Sunshine/Giant

401(E) – Jetty, Komtar, Queensbay Mall, Kompleks BJ, Airport, Teluk Kumbar, KKTM Genting, Balik Pulau, Terminal Balik Pulau

203 – Jetty, Lebuh Chulia, Komtar, Datuk Keramat (Hospital), Masjid Negeri, Jalan Thean Teik, Semarak Api, Farlim, Pekan Air Itam,

201 – Jetty, Lebuh Chulia, Komtar, Datuk Keramat (Hospital), Masjid Negeri, Padang Tembak, Pekan Ayer Itam, Paya Terubong, Tingkat Paya Terubong

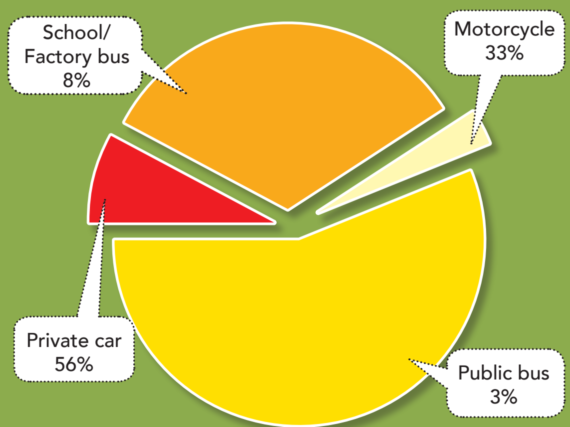
202 – Jetty, Lebuh Chulia, Komtar, Datuk Keramat (Hospital), Masjid Negeri, Padang Tembak, Farlim, Paya Terubong, Tingkat Paya Terubong

801 – Penang Sentral, Chai Leng Park, Megamall Prai, Bukit Minyak, Simpang Empat, Permatang Tinggi, Sungai Bakap, Jawi, Nibong Tebal, Transkerian

702 – Penang Sentral, Jalan Bagan Luar, Jalan Telaga Air, Permatang Pauh, UiTM, Politeknik, Bandar Perda, Jaya Jusco, Permatang Rawa, BM Plaza

Modes of transport during the morning peak period

Figure 3: Mode of transport for the morning peak period (% share)



* Out of estimated 250,000 trips made

Source: Penang state government (Penang Transportation Masterplan Study).

Public transport usage at 11% represents the smallest cut of the modal share for morning peak hour (7am-9am) transportation. This is despite efforts by many parties – including both local and federal governments – in encouraging its pick-up. Several factors, from a lack of options apart from Rapid Penang to inconsistency in bus frequency, lack of capacity particularly during weekends and holidays (potentially a logistics issue) and general inaccessibility (unsheltered bus stops, bus stops lacking signage, limited handicap access), have led to a slow pick-up of public transportation.

Transport by means of private vehicles (individually owned cars or motorcycles) remains the most popular mode at a whopping 89% of total usage. This in turn has placed excessive pressure on our road networks and has led to an average speed during peak hours of 30.75km/h in George Town and 32km/h in the Butterworth region in 2011[3]. Our over-reliance on private transportation must be stemmed as compounded annual population growth rate is expected to be at 3.04% till 2020. Both the island and the mainland will not be able to sustain such levels if there are no viable alternatives.

Table 3: Total airport passengers for the top four busiest airports in Malaysia

	2008	2009	2010	2011	2012	2013	2014 (Sept)
Kuala Lumpur International Airport (KUL)							
International	17,836,667	19,401,672	23,402,427	25,915,723	27,612,088	32,605,356	25,410,714
Domestic	9,408,602	9,996,811	10,316,135	11,397,672	11,901,458	14,538,183	10,414,342
Kota Kinabalu International Airport (BKI)							
International	979,015	1,058,564	1,224,471	1,257,551	1,306,618	1,693,536	1,261,824
Domestic	3,578,024	3,707,316	3,891,356	4,514,564	4,537,990	5,236,156	3,803,115
Penang International Airport (PEN)							
International	1,468,491	1,285,009	2,000,568	2,189,077	2,323,926	2,424,643	1,872,901
Domestic	1,936,576	1,851,497	2,142,853	2,372,921	2,438,330	3,061,113	2,491,259
Kuching International Airport (KCH)							
International	255,192	385,298	363,680	381,847	421,006	400,935	245,622
Domestic	2,910,599	3,135,104	3,284,868	3,865,928	3,738,858	4,442,206	3,295,531

*Arrival and departure combined

Source: Malaysia Airports Holdings Berhad.

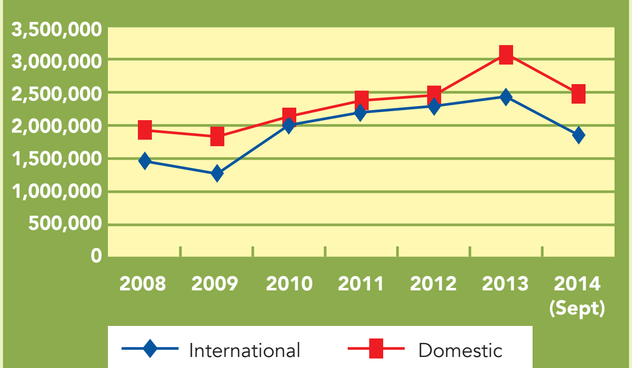
[3] http://eps.mbpj.gov.my/urbantransport/paper2.pdf

Table 4: Most frequent domestic and international flights

Destination	Weekly flights
KL	149
Subang	89
Singapore	75
Medan	68
Langkawi	36
Bangkok	25
Hong Kong	21
Johor Bahru	18
Seoul	11
Taipei	10

Source: Penang International Airport.

Figure 4: Number of international and domestic passengers in Penang International Airport



Note: Arrival and departure combined

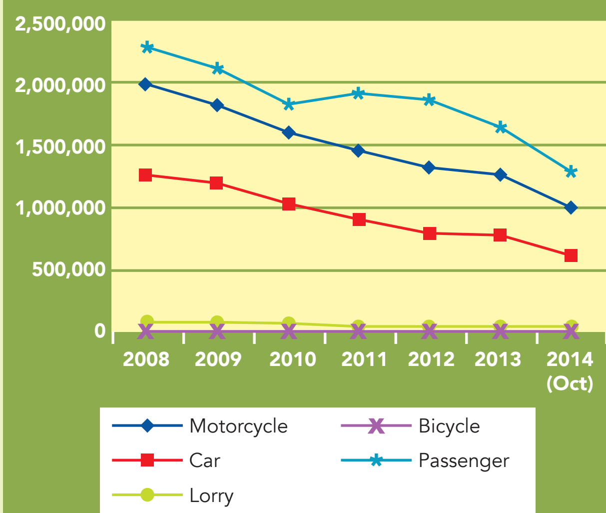
Source: Malaysia Airports Holding Berhad.

Taking to the air

Penang International Airport has seen an increase in flights from both international (65.1%) and domestic (58.1%) origins from 2008 to 2013, the exception being an 8.56% decline in 2009 – likely attributed to the 2008 economic crisis lowering travellers' sentiment to fly and coinciding with plans by the government to expand the airport.

Remaining as the third busiest airport behind Kuala Lumpur International Airport and Kota Kinabalu International Airport, Penang International Airport remains the hub for many airlines such as AirAsia, Firefly, Cathay Pacific, China Southern Airlines, Malaysian Airlines, Wings Air, Thai Airways International, etc. The carriers fly to various international destinations within the Asian region, with Singapore at the top with 75 flights per week followed by Indonesia (Medan) at 68 flights per week. Malaysia Airlines is still the busiest operating airline with 286 flights per week travelling to 11 destinations.

Figure 5: Total ferry users by type



Source: Penang Port Commission.

Taking to the sea

Ferry usage for all vehicles has seen a steady decline even from before the dates in the presented data. A possible cause could be the widening and improvement of Penang Bridge, thus reducing congestion and leading to relatively quicker travel times.

At RM7.70 (for cars) for the ferry compared to RM5.60 (the discounted price for Penang users) for the bridge, the latter remains the more economical choice. Lastly, the retiring of aged ferries and the lack of replenishment reduces the overall numbers of available ferries, hence lowering operational capacity.

Other causes could be the introduction of the Bridge Express Shuttle Transit (BEST) on March 1, 2011 for workers travelling between the island and the mainland. With an increasing mainland population and more workers travelling from both sides for work, improved ferry services could help lessen the load on the two bridges.

Invest-in-Penang Berhad (671697-P)
PSDC Building,
1, Jalan Sultan Azlan Shah,
Bayan Lepas, 11900,
Penang, Malaysia
Tel :604-646 8833
Fax :604-646 8811
Email : enquiry@investpenang.gov.my

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Website: www.investpenang.gov.my

Penang Institute (423660-A)
10, Jalan Brown,
10350 Penang,
Malaysia.
Tel : 604-228 3306
Fax : 604-226 7042
Email : enquiry@penanginstitute.org

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