Special Report

Shop Talk – China, GBA and the ASEAN connection

Highlights

- Wage growth in China is picking up again, according to our ninth annual survey of more than 200 manufacturers in the Pearl River Delta (PRD) region. Cost challenges – wages and beyond – are here to stay, but the improving demand outlook offers relief. Renminbi volatility and US-China trade friction top the list of concerns.

- Our survey shows strong momentum for the PRD’s transformation into the Greater Bay Area (GBA). 71% of our respondents plan to increase capital spending this year, while almost three-quarters have a long-term target for industrial upgrading.

- The PRD, already China’s manufacturing powerhouse and high-tech industry leader, is growing into a hotbed of financial innovation and a bridgehead for the ‘Belt and Road’ programme through GBA-related development. Almost half of our respondents see new business opportunities arising from the GBA in the next three to five years.

- The shift in low-value-added industrial production away from China should continue to benefit ASEAN. Longer-term, ASEAN may need to offer higher-value-added manufacturing to continue to attract such investment. Plans for more infrastructure investment should help; the Eastern Economic Corridor in Thailand is a prime example.

If you are in scope for MiFID II and want to opt out of our Research services, please contact us.
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The focus of our annual PRD survey has continued to evolve and expand in the past nine years

Overview

Through the PRD lens

Our annual survey of PRD manufacturers started nine years ago as a quest to assess the vulnerability of the Pearl River Delta (PRD) region – China’s manufacturing powerhouse – to a worsening labour shortage and rising wages. Since then, our survey has provided unique insights into China’s manufacturing landscape and its transformation. With over 200 responses this year, the survey takes the PRD’s economic pulse and sheds light on the health of China’s economy. Given the impending announcement of the Greater Bay Area (GBA) development plan, we asked clients in this year’s survey about their capex plans, targets for industrial upgrading, and opportunities and challenges arising from the GBA. The survey would not be complete without looking at the growing China-ASEAN connection, or understanding what drives southbound factory relocations and direct investment.

More robust labour market; stronger capex and economy

Wages are expected to rise 7.7% on average in 2018, up from a 6.3% increase in 2017 and a 5.9% trough in 2016. This is the first improvement in wage expectations after three straight years of decline (Figure 1). In addition to a recovering economy, higher wage expectations this year can be explained by rising inflation and a persistent labour shortage. All of these responses indicate economic resilience. Furthermore, respondents are reporting less polarised workforce utilisation rates this year as the gap between ‘winners’ and ‘losers’ narrows in good times. Rising costs – through higher wages, pollution curbs and tight funding – are generally more manageable when demand improves.

Our clients are net positive on the economic outlook across regions globally. This echoes our theme of globally synchronised growth improvement, although we are also concerned about rising risks from monetary policy normalisation by major central banks and geopolitical uncertainty. Renminbi volatility and US-China trade friction top the list of respondents’ concerns for 2018. However, 71% still plan to increase capital spending this year. This bodes well for manufacturing fixed asset investment (FAI), and also for China’s drive for productivity growth and technology upgrading. Over half of our respondents are already involved in robotics, artificial intelligence, big data and cloud computing, or internet-related investment (Figure 2). We provide a deeper analysis of the survey results from an industry perspective in the appendix.

Figure 1: Wage expectations are rebounding
Surveyed wage increase, expectation vs actual

Figure 2: What are your plans for industrial upgrading in 2018? (% of respondents)

Source: Standard Chartered Research

Source: Standard Chartered Research
GBA transformation to bring new opportunities

The transformation of PRD manufacturers appears to be well underway. Almost three-quarters of our respondents (73%) have a long-term target for industrial upgrading, with a majority less than three years away. A persistent labour shortage has helped put such changes into motion over the years. Similar to previous years, almost half chose investing in automation as their primary response for countering rising local wages.

What makes 2018 different, however, is the expected announcement of the Greater Bay Area (GBA) plan, which is set to kick the region’s development into high gear. The clear division of economic functions between GBA cities should support a complementary relationship, although synergies can be realised only with a common vision and strong policy coordination, in our view. Our respondents are optimistic: almost half (49%) see new business opportunities arising from the GBA in the next three to five years.

The GBA is designed to mirror – and compete with – other successful bay areas globally, such as those in San Francisco, New York and Tokyo. The combination of (1) China’s ascent as an economic power, (2) the Belt and Road push, and (3) an inherently strong manufacturing base should give the GBA plenty of catch-up momentum. We think the GBA is unique because of its connection with Hong Kong and Macau. This is also why the integration of systems and the facilitation of cross-border flows (of people, goods, capital and information) are at the heart of the GBA’s development. The GBA is set to be a hotbed of China’s financial opening up and innovation, and a bridgehead for the influence of the Belt and Road initiative to extend across Asia, in our view. This supports our long-standing case that the PRD will drive growing China-ASEAN links for decades to come.

ASEAN, like China, needs to move up the value chain

While the trend of moving production out of China has gathered momentum in the past few years, this option is less favoured this year as a way to counter rising PRD wages. Yet for respondents who selected this option, ASEAN remains the overwhelming choice, led by Vietnam and Cambodia. A majority of respondents cite better labour supply as the main reason for relocating to ASEAN; their top three concerns include underdeveloped transport infrastructure, underdeveloped legal systems, and poor labour quality and productivity.

We think fast-rising wages will eventually erode ASEAN’s competitiveness, and therefore believe ASEAN needs to upgrade its manufacturing model to expand its breadth of foreign direct investment (FDI). Meanwhile, the shift in low-value-added industries out of China is likely to continue, with ASEAN providing a competitive and young labour force. As the ASEAN region becomes richer, growing domestic demand could attract FDI from companies who want to relocate closer to their sales markets. The need to source alternative production sites amid trade uncertainty between the US and China may also benefit countries such as Vietnam.

We take a closer look at Thailand, where the government is embarking on an aggressive infrastructure plan that may re-ignite investment sentiment after a moderate slowdown in previous years. The Eastern Economic Corridor (EEC) project is one of Thailand’s four economic action plans under its 20-year strategy. We think the EEC will boost Thailand’s long-term growth prospects through infrastructure investment, technological developments and enhanced regional integration, serving as a springboard location for ASEAN, China and India.
Infographics

Figure 3: Guangdong (a GBA proxy) makes up a fifth of China’s high-tech industry by enterprise number and output

China high-tech industry statistics by province, 2016

Source: Wind, Standard Chartered Research

Figure 4: Guangdong province is China’s largest exporter of high-tech products

China high-tech industry statistics by province, 2016

Source: Wind, Standard Chartered Research
Figure 5: Guangdong accounts for almost one-third of China’s new high-tech product sales

China high-tech industry statistics by province, 2016

Source: Wind, Standard Chartered Research

Figure 6: Guangdong accounts for 52% of all China high-tech patents

China high-tech industry statistics by province, 2016

Source: Wind, Standard Chartered Research
PRD survey – 2018

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PRD survey – 2018

The PRD is being upgraded

We conducted our ninth annual client survey of China’s PRD manufacturers in March-April 2018, receiving over 200 responses. The surveyed companies are largely headquartered in Hong Kong, Taiwan or mainland China, with manufacturing operations in the PRD. Our survey clients are among the more successful firms in the region, having survived years of labour shortages and wage inflation, likely emerging stronger from the last economic slowdown in 2016. Their strong profiles may have contributed to the positive survey results (which confirm a much-improved macro story compared to a year earlier), but they are also likely to be leaders in the PRD’s long march towards industrial upgrading. This upgrade process, backed by a strong policy push, is expected to drive costs higher initially, and eventually result in the creation of a metropolitan cluster of cities named the Greater Bay Area (GBA).

There are four parts to our survey findings; we list the key takeaways below.

Labour and wages (page 9): Respondents expect average wage growth of 7.7% in 2018, after a recovery to 6.3% in 2017 from a trough of 5.9% in 2016. This is the first improvement in wage expectations in four years, building on last year’s strong economic recovery and also reflecting rising inflation. We believe that less-diverse workforce utilisation rates among respondents are a sign of improving labour demand, likely because ‘winners’ become less distinguishable from ‘losers’ in good times. The labour shortage looks like it may persist even if the demand story faces deleveraging and automation headwinds. Respondents also see rising cost pressure from minimum wage hikes, pollution curbs, and tight funding.

Non-cost challenges (page 13): Our clients see both margins and orders improving from 2017. They also share a positive outlook on the global economy, especially China and the rest of Asia. A much improved Chinese yuan (CNY) outlook over the past year has done little to ease our respondents’ concerns about worsening CNY volatility. This adds conviction to our view that China’s authorities would prefer to keep the CNY largely stable versus the basket. A close second to CNY volatility on the list of concerns in 2018 is a potential US-China trade war, with 70% of respondents seeing a medium or high impact from this event.

Factory relocation (page 16): For a second straight year, more firms are looking to move capacity overseas rather than inland. The persistent fall in the latter choice may reflect narrowing gaps in cost and other advantages between China’s coastal and inland cities. Vietnam and Cambodia are once again top overseas destinations, with ‘better labour supply’ a top-cited reason. A material wage gap with China, fewer infrastructure bottlenecks, and strong economic fundamentals should help drive more ASEAN-bound investment over time.

Industrial upgrading (page 19): Manufacturers strongly preferred investing in automation or producing high-value-added goods as their main responses to the labour shortage. Most of the companies seem to be walking the walk – 71% of respondents plan to increase capital spending this year. Almost three-quarters have a long-term target for industrial upgrading, with most one to three years from completion. A majority are already involved in artificial intelligence (52%), robotics (54%), big data (59%), and internet-related (67%) investment. From these responses, it seems as if the PRD’s transformation into the GBA is well underway.
Labour and wages

Wage growth is likely to rebound further in 2018

Our respondents expect to raise wages by 7.7% on average in 2018, up from an actual 6.3% increase in 2017. 2017 wage growth undershot initial expectations of 7.2%, although by not as much as in 2016, which was likely the trough of the cycle (Figure 8). 2017 marked the first pick-up in wage growth in four years, which likely reflected a stronger economy, but may also have been a catch-up move after manufacturers held off wage hikes in 2016 due to tough business conditions.

Wage expectations have improved for the first time in 2018 after three straight years of declines. Almost half of the respondents (46%) expect wage hikes of 10% or more this year, up from 32% in 2017, as respondents shift up the brackets (Figure 7). On a same-company basis, 29% of respondents plan to raise wages at a greater pace than they did last year, versus 14% expecting to raise wages by less (Figure 10). In addition to a still-solid growth outlook, higher wage expectations this year can be explained by rising inflation – real wage growth may rebound more modestly to 5.0% in 2018 from 4.7% in 2017, based on CPI inflation forecasts of 2.7% in 2018 and 1.6% in 2017.

Figure 7: Wages to rise 7.7% in 2018 vs 6.3% in 2017
Actual and expected wage increase, % of respondents

Figure 8: Wage expectations rebounding
Surveyed wage increase, expectation vs actual

Figure 9: Is the labour shortage better or worse than before?
% of respondents

Figure 10: Wage growth, 2017 actual vs 2018 expectations
% of respondents; blue shading indicates faster expected wage growth this year versus 2017

Source: Standard Chartered Research
Labour shortage persists as economy recovers

Wages are also rising because of a persistent labour shortage. As previous economic downturns have done little to change perceived tightness in worker supply, no material change in labour tightness is expected in an economic recovery either. 24% of our respondents said the labour shortage has worsened in the past 12 months, slightly lower than 26% a year ago, but still two times more than those reporting less difficult labour conditions (Figure 9). Going forward, we continue to expect supply, rather than demand, to be a predominant driver of China’s labour shortage. Demand for labour, while better than a year ago, is likely to be capped by increased deleveraging and automation, while longer-term supply challenges due to an ageing population continue to loom.

Workforce utilisation is becoming less polarised

One key observation from our 2016 and 2017 surveys was that economic hardship helped the ‘winners’ stand apart from the ‘losers’, reflected in more polarised workforce utilisation rates in those years. As China undergoes its economic transformation, we should see more nimble manufacturers getting leaner in challenging times, or more competitive manufacturers gaining market share at the expense of others. This polarisation is less evident when the economy improves; it is therefore not surprising that the percentage of respondents operating at 80-90% of their workforce rebounded to 59% in 2018 from 47% in 2017 and 53% in 2016 (Figure 11). Those previously operating at 100% likely moved down the brackets as they increased hiring in anticipation of more orders, while those previously at 70% utilisation are now back to operating at more efficient levels, having weathered the slowdown.

Wage growth versus productivity growth

Wage increases can be justified and, more importantly, absorbed by productivity growth. It is therefore encouraging that even with last year’s rebound in wage growth, more clients said their per-worker output rose even more than their wages compared with a year ago – a good way to gauge labour productivity in the absence of more reliable official data, in our view. Those that said productivity growth exceeded wage growth jumped to over 70% of total respondents, the highest on record, from just under 60% in 2017 (Figure 12). All this bodes well for the industrial upgrade story and for the inflation outlook, which appears to have picked up in 2018 because of rising food prices and last year’s low base rather than higher wages.
Provinces have been catching up on minimum wage hikes since the economy improved

Catching up on minimum wage hikes

Since 2016, China’s provinces have been allowed to hike minimum wages only once every two to three years (from at least once every two years). This is part of the 13th Five Year Plan (FYP, 2016-20), which called only for “rationally determined minimum wage rates”. This contrasts with targeted minimum wage increases of “at least 13% a year on average” in the government’s 12th FYP (2011-15), during which the actual average increase was 13.1%. All this proved to be a relief for manufacturers in 2016, when only nine provinces hiked minimum wages by an average of 10.7% amid slowing growth. However, the economic recovery in 2017 allowed provinces to catch up on their minimum wage hike obligations – 20 provinces raised minimum wages in 2017, albeit by an even lower average of 9.7% (Figure 14).

So far this year, eight more provinces have hiked minimum wages, by an average of 10.0%. Of these provinces, six did not hike wages in 2017 (five of these did not hike in 2016 either). Based on this, we think six more provinces are likely to hike this year, having not done so in prior year(s). One such province is Guangdong, adding to our view that wage pressure in the PRD is set to grow further (Figure 13).

There was only a small uptick in respondents – to 49% from 47% last year – expecting at least some impact on their wage decisions this year because of minimum wage hikes. Unlike in a challenging year such as 2016, when
manufacturers were more sensitive and vulnerable to wage hikes, they should be less averse to statutory minimum wage hikes this year amid an improving economy (Figure 15). The risk is that 22% of respondents (versus 17% last year) who did not expect minimum wage hikes to happen this year may be caught off guard.

**Non-wage costs are also rising**

Wages account for 20.9% of our respondents’ total cost base on average (Figure 16), down from 21.5% in 2017. A further breakdown shows a convergence in respondents towards the 20-30% bracket. All this reflects a general expansion in the cost base, other than rebounding wages, with a significant driver being the nationwide push to reduce pollution. Over 70% of respondents expect an increase in costs due to tighter regulation of pollution in 2018, which will likely account for 9.4% of total costs on average (Figure 17). Almost 30% of total respondents spend more than 10% of their total costs on tackling pollution.

At the 19th Party Congress, President Xi Jinping said that China would enforce stricter standards for the discharge of pollutants and hold polluters accountable. The government also committed to improve its systems to provide credibility assessments based on environmental protection performance – to ensure the mandatory release of environmental information, and to help decide and impose consequences for environmental violations. The statement following the subsequent Central Economic Work Conference (CEWC) held last December called pollution one of China’s three key “battles” in the next three years, along with preventing and resolving major risks, and reducing poverty.

In terms of managing risk on a national level, 23% of respondents reported that it is more difficult to borrow money now than in 2017, while just under 12% said borrowing money has become easier (Figure 18). While this is an improvement from 29% and 5%, respectively, in last year’s survey, it means credit conditions remain tight on balance amid deleveraging efforts. We expect M2 growth, which has slowed evidently in recent years, to stabilise in high single digits partly due to more expected reserve requirement rate (RRR) cuts to offset a shrinking central bank balance sheet. We expect a neutral monetary stance with a tightening bias (see China – RRR cuts and PBoC balance-sheet reduction, 28 May 2018).
Non-cost challenges
Better margins expected

34% of respondents expect margins to improve in 2018, versus 27% expecting deterioration (Figure 19). On average, respondents see margins rising 0.7% this year, versus expecting declines of 0.1% and 6.1% in the 2017 and 2016 surveys, respectively. For now, there appear to be enough tailwinds to offset expectations of higher wages and other costs. This echoes an improvement in industrial profits in 2017, which correlated closely with an acceleration in PPI inflation. While both PPI inflation and industrial profits have eased since Q4-2017 partly due to a higher base, still-elevated commodity prices should provide support in 2018.

Outlook for orders and the economy holding up well

On the demand side, respondents expect orders to improve by 2.6% on average in the next six months, versus an increase of 1.6% a year ago and a decline of 7.6% over the same period in 2016 (Figure 20). Only 22% of respondents see weaker orders in the next six months, while 42% expect an improvement. Both are similar to responses seen in 2017, a year of strong external demand recovery, which we think is positive. We think the results are especially positive given the survey was conducted at a time of burgeoning US-China trade tensions.
Respondents are positive on the economic outlook across regions, as shown in Figure 21. This echoes our theme of globally synchronised growth improvement, although we have also warned about rising risks from monetary policy normalisation among major central banks and looming geopolitical uncertainty. Among all countries/regions, most respondents have a positive outlook on China (43%), followed by rest of Asia (40%), Europe (38%), ASEAN (37%) and the US (36%). Europe, however, also has the highest proportion of negative responses (17%), hinting at deep-rooted structural concerns, which are likely justified given the euro area’s recent growth slowdown and the political turmoil in Italy. This likely gave Asia an even stronger lead at the top spot on a net basis. Latam ranked last, but still with a net positive of 7%.

Renminbi volatility tops the list of concerns
Respondents are most concerned about a further rise in Renminbi volatility, as shown in Figure 22. The CNY had strengthened both against the USD and the basket for over a year at the time our survey was conducted. Over this period, CNY volatility eased materially from elevated levels in 2016. Yet manufacturers still appear to be affected by prior Renminbi shocks. Strong directional CNY trends can indeed hurt manufacturers, depending on whether they are exporters or importers. 32% of our respondents benefit from a stronger CNY (possibly importers seeing a boost to their purchasing power), while 56% report a negative impact (exporters becoming less competitive), as shown in Figure 23. This supports our view that the authorities would prefer to keep the CNY largely stable, especially against the basket, while allowing the USD-CNY fixing to become more market-oriented by showing more sensitivity to moves in the USD. A much weaker CNY would risk triggering a resumption of capital outflows after having stabilised only recently – likely an undesirable outcome for the authorities.

Our core view of an eventual resumption in USD weakness and our assessment of China’s official priorities point to likely CNY appreciation in 2018 despite rising trade tensions. If the authorities have shifted to a more flexible regime, as we argue above, CNY gains against the USD may be faster than expected when USD weakness resumes. 46% of respondents expect the CNY to appreciate against the USD in 2018, versus 35% expecting the CNY to depreciate (Figure 24).
Interestingly, despite widespread concern about Renminbi volatility, only 38% of respondents plan to increase hedging to better manage their Renminbi exposure in 2018 (Figure 25). In particular, 29% prefer to wait and see, citing an uncertain Renminbi outlook as the main reason, even though hedging is supposed to help manufacturers reduce such uncertainty.

**US-China trade friction and other geopolitical risks**

A potential US-China trade war ranks a close second to Renminbi volatility on the list of our clients’ concerns for 2018 – rightly so, in our view. 70% expect a high or medium negative impact from this event (Figure 27), up from 60% a year ago. The responses this year may have been exacerbated by the initial escalation in US-China trade friction at the time of the survey. At the time of writing this report, tensions have eased modestly following the positive outcome of the recent round of US-China trade negotiations in Washington, where China appears to be prepared to (1) increase imports from the US (agricultural products, natural gas and microchips); (2) lower import tariffs on US cars; (3) open up the services sector; and (4) cease the practice of forcing foreign firms to transfer technology, according to the joint statement.

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**Figure 25: Do you plan to manage your Renminbi exposure more actively in 2018?**

<table>
<thead>
<tr>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, we plan to hedge more because of stronger directional view</td>
</tr>
<tr>
<td>Yes, we plan to hedge more because of increased two-way uncertainty</td>
</tr>
<tr>
<td>No, we are in wait-and-see mode as the RMB outlook remains uncertain</td>
</tr>
<tr>
<td>No, we already have natural hedges</td>
</tr>
<tr>
<td>No, hedging options are too expensive/limited</td>
</tr>
<tr>
<td>No, we do not hedge our RMB exposures</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

**Figure 26: The authorities are likely to keep the CNY basket relatively stable**

Source: Standard Chartered Research

**Figure 27: How vulnerable is your business to the following geopolitical risk scenarios?**

<table>
<thead>
<tr>
<th>% of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>US-China trade war</td>
</tr>
<tr>
<td>Surge in oil prices</td>
</tr>
<tr>
<td>Geopolitical tensions on Korean peninsula</td>
</tr>
<tr>
<td>Escalation of South China Sea conflict</td>
</tr>
<tr>
<td>Hard and messy Brexit</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

**Figure 28: Do you have a mitigation or contingency plan for the following geopolitical risk(s)?**

<table>
<thead>
<tr>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, by reorienting sales markets towards other countries</td>
</tr>
<tr>
<td>Yes, by diversifying suppliers/logistics arrangements</td>
</tr>
<tr>
<td>Yes, by diversifying our production base to other countries</td>
</tr>
<tr>
<td>Yes, by reducing market exposure/doing more hedging</td>
</tr>
<tr>
<td>Yes, via M&amp;A to achieve better horizontal or vertical integration</td>
</tr>
<tr>
<td>No, but we will probably need one soon</td>
</tr>
<tr>
<td>No, we don’t see the need to</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research
Overall, we see low risk of a full-blown trade war (see China – Potential trade war, or a storm in a teacup?, 12 February 2018). Details of the latest negotiation outcome have yet to be worked out, however, and there could still be twists and turns ahead. A further risk is that the US could ban more China companies from accessing US technology or penalise them. Longer-term, a smaller trade imbalance with the US could shrink China’s trade surplus – a risk that needs to be monitored. This, along with a structural rise in the services trade deficit, could lead to a lower current account surplus in the next couple of years, in our view. This could mean a less effective and reliable anchor for inflows, which would increase the variability of the CNY exchange rate over time (see China – How far are we from a current account deficit?, 16 April 2018). We analysed the contagion impact of a US-China trade war on the rest of the world in our Special Report, 25 April 2018, ‘Trade tensions – Unintended consequences’.

Beyond global trade, our respondents also feel vulnerable to an oil price shock (53% expect a high or medium negative impact), either through high costs or indirectly through potentially weaker global demand and higher interest rates as inflation rises. In contrast, respondents believe they are least exposed to rising tensions on the Korean peninsula (28% report no impact). On average, 80% of respondents say they are exposed to some degree of geopolitical shock, prompting 67% to put in place some form of mitigation or contingency plan for such risks (Figure 28).

Among the most popular actions are (1) reorienting sales to other countries, (2) diversifying suppliers and logistics arrangements, and (3) diversifying the production base to other countries. All these involve expanding their reach and/or operations overseas – a rising trend among PRD manufacturers ever since the labour shortage and rising domestic wages became prominent issues. We believe the growing focus on geopolitical risks in recent years, especially given an increasingly protectionist US, will add momentum to the trend of China-based manufacturers expanding their trade and investment ties with other emerging markets, especially ASEAN.

**Factory relocation**

**Moving inland continues to fall out of favour**

For a second straight year, more respondents said they would choose to move factories overseas (10%) rather than relocate inland (8%) to counter rising local wages (Figure 29). The inland relocation option has consistently become less popular, falling in every annual survey since 2013. This possibly reflects more rapid wage increases in inland cities as they catch up with wages in coastal cities. The nationwide push for
industrial upgrading and pollution curbs, among other challenges, has also reduced the distinction between coastal and inland cities, at least for less competitive manufacturers or those looking for cheaper operational alternatives.

Continued improvement in the domestic economy could support those still considering moving inland, judging by preferred destinations. Chongqing and Sichuan are top choices, followed by nearby mid-western provinces such as Henan, Hubei, Hunan and Guangxi (Figure 31). The north-eastern provinces of Liaoning, Jilin and Heilongjiang have also made a small comeback; they were more exposed to the economic slowdown and fell out of favour in last year’s survey. The fall in votes for outer Guangdong this year, which topped the list for many surveys previously, could signal that PRD manufacturers are willing to venture away from existing suppliers and operations. However, better labour supply remains by far the top deciding factor for respondents looking to relocate production (Figure 30).

**Vietnam and Cambodia remain preferred destinations**

The share of respondents opting to move factory production decreased to a five-year low of 10% from 17% earlier. This was surprising, especially given the added incentive to diversify production and markets amid rising geopolitical uncertainty. We believe the decline could be relative, with more respondents picking automation or product upgrading (over relocation) as top choices to tackle high costs. Respondents still see overseas destinations offering an overwhelming advantage in terms of labour cost and supply (Figure 30).

Among those opting to move capacity overseas, Vietnam and Cambodia are the most favoured destinations, as in prior years (Figure 32). Together with Myanmar, Thailand and Bangladesh, they round out the top five spots. These choices may indicate that those considering relocating from China are mostly low-end producers in sectors such as textiles and garments, consumer discretionary, and electronics packaging and assembly. In terms of concerns about relocating factories overseas, underdeveloped transport and infrastructure again top the list this year, followed by underdeveloped legal systems, and uncertain political and social outlooks (Figure 33). All this underscores both the opportunities and challenges presented by the Belt and Road programme. The programme would help to address infrastructure bottlenecks in the ASEAN region, which could boost China-ASEAN trade and investment; manufacturers would need to manage local risks, however.
Cost savings continue to drive relocation for now

As factory relocations tend to be multi-year projects involving long planning times and heavy investment, it is not surprising that a majority (68%) of respondents saying they would move remain in the ‘consideration’ stage, and another 15% have only just started moving production (Figure 34). A mere 10% have already relocated and started operations, with another 8% more than half way through their move. Furthermore, the actual proportion of PRD manufacturers who already have operations overseas could be much higher, given how long factories have been facing labour and other challenges; they may not have chosen moving production here as their primary response because they are past that stage and are currently focused on industrial upgrading.

In any case, the message this year is consistent with previous years’ findings: great potential remains for ASEAN-bound investment from China, which should materialise in the coming years or decades. The short-term driver of this trend is the cost advantage (labour and more) offered by the ASEAN region. Expected average cost savings from moving capacity overseas and inland amount to c.16% and 17%, respectively. Moving overseas, however, clearly has the most respondents in the 30%+ wage savings bracket. These are higher than the 12% average savings from automation and streamlining, 14% from investing more on capital, and 13% from moving products up the value chain (Figure 35).
Industrial upgrading

Automation continues to shape the PRD

The PRD remains on track to transform into a high-end manufacturing base, in addition to its other long-term goals. While relocation of production capacity may be a key long-term solution to PRD manufacturers’ macro challenges, their most prominent responses remain greater investment in automation and streamlining (46%) and in capital equipment (19%), as shown in Figure 29. However, those who chose ‘producing things higher up the value chain’ made the largest jump, to 18% from 10% last year. We think all this shows that chasing cheaper labour is not the only way to control costs and may be an infeasible strategy to survive should manufacturers stay in the PRD. Perceived challenges such as labour shortage and wage pressure can be positive for an economy if they force the right behavioural changes at the micro level, in our view; this means having manufacturers invest more in improving their cost structure, productivity and competitiveness.

Automation can boost productivity and absorb higher wages, and it also reflects the increasing complexity of goods produced. Moving up the manufacturing value chain allows China to produce goods with greater accuracy and complexity while maintaining high-volume output at affordable costs. All this helps sustain margins and fuel wage increases over time, which could allow the PRD to achieve its aspiration to upgrade its services sector and household consumption.

China has been seeing significant growth in robot installations in recent years. Robot density (robots in operation for every 10,000 employees) rose to 68 in 2016 from 25 in 2013, according to the International Federation of Robotics, ranking China 23rd globally. China has made robotics the focal point of its ‘Made in China 2025’ initiative, which sets a national goal of producing 100,000 industrial robots a year (in 2017, 27,000 units were produced by China’s robot suppliers and 60,000 by foreign robot suppliers) and achieving a robot density of 150 by 2020. Based on our survey results, we think the PRD is likely to continue to stay on its innovation path.

Thinking big on industrial upgrading

Over half of our respondents (54%) are already involved in robotics, of which 85% are either accelerating their robotics investment plans or maintaining the momentum in 2018 (Figure 36). Another 24% say they are actively considering investing in robotics. Respondents are also participating in other key areas of industrial upgrading: 77% in ‘importing high-end capital equipment’, 67% in ‘internet, mobile

Figure 37: What are the biggest hurdles for your industrial upgrading in 2018? (% of respondents)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>0%</th>
<th>5%</th>
<th>10%</th>
<th>15%</th>
<th>20%</th>
<th>25%</th>
<th>30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain economic / business outlook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too costly to implement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rising funding cost / difficult to access funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of expertise / talent to pursue innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haven’t decided / need more strategic thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 38: Do you have a long-term target for industrial upgrade? (% of respondents)

<table>
<thead>
<tr>
<th>Target</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, we are close to or at target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, we are 1-3 years away</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, we are 3-5 years away</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, we are more than 5 years away</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, this will be a year-by-year decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, we have no such plan / target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research
internet and Internet of Things (IoT), 59% in ‘big data and cloud computing’, and 52% in ‘artificial intelligence’. Upgrading capital equipment and internet-related investment appear to be the most common areas of investment, judging by the low ‘not our focus’ response rates (8% and 9%, respectively).

Uncertain economic and business outlooks are the biggest hurdle for industrial upgrading in 2018, according to 26% of respondents (Figure 37). Too costly to implement (24%) is a close second, followed by funding-related constraints (17%) and a lack of expertise to pursue innovation (15%). Similar to the relocation question, a material portion of respondents are still in the consideration stage, with 19% saying they have not decided on industrial upgrading or need further strategic planning.

Looking beyond 2018, almost three-quarters of respondents (73%) have a long-term target for industrial upgrading (Figure 38); 10% are actually at or close to such targets; 40% are one to three years away; and a combined 23% are three years or more away. Only 18% said this would be a year-to-year decision, meaning these manufacturers are unlikely to be discouraged from upgrading even in the event of short-term hindrances, economic or otherwise. The remaining 9% would likely eventually begin formulating a plan or target, given that industrial upgrading plays a large part in the PRD’s transformation into China’s GBA.

Survey results underpin a positive outlook for FAI

Manufacturers are willing to increase capital spending

Upgrading plans mean little if manufacturers are not willing to spend, in our view. In this regard, 71% of respondents plan to increase actual capital spending this year, largely to boost productivity, with all but one of the rest (29%) expecting similar capex to 2017 levels (Figure 39). This is in line with YTD nationwide FAI performance. Real manufacturing FAI growth, which accounts for one-third of China’s total FAI, picked up to 3.9% y/y in April from 1.1% in Q1-2018 (Figure 40).

We expect manufacturing investment to improve further, backed by a strong recovery in industrial profits (over 23% y/y in 2017) and rising capacity utilisation. This should help offset a weaker start to the year for infrastructure investment, although it is still likely to be supported by more transportation and utility projects and coordinated regional development for much of 2018. Residential investment, however, could see more downside risk in H2-2018 because of deleveraging headwinds and tighter regulations. A continued decline in housing sales (down 4.4% y/y in April) is likely to restrict funding available to developers for investment.
China’s ‘Greater Bay Area’ is the future

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China’s Greater Bay Area is the future
Seven things you need to know about the GBA

Our survey results confirm that the key drivers of the PRD’s transformation remain a persistent labour shortage, rising wages and other costs, and a search for higher productivity and margins. Now we look at the pull factor – a grand plan for the region to move up the value chain and become more services-oriented, through promoting the integration of PRD cities and creation of a competitive city cluster. This grand plan is called the ‘Guangdong-Hong Kong-Macau Greater Bay Area’ (or the GBA). A detailed implementation plan is to be announced soon, which should kick the GBA’s development into high gear. We discuss below seven key areas worth knowing about the GBA ahead of the announcement.

1. What is the Greater Bay Area?
The Greater Bay Area, or GBA, spans Hong Kong, Macau and nine cities in the Guangdong province – Guangzhou, Shenzhen, Zhuhai, Foshan, Zhongshan, Dongguan, Huizhou, Jiangmen and Zhaoqing. The plan is to create a city cluster through collaboration and integration. The cities’ clear division of economic functions makes a strong case for a complementary relationship (Figure 41). Shenzhen is fast becoming China’s hub of technology innovation, the nation’s Silicon Valley for hardware makers. Guangzhou, already a provincial leader in areas such as culture, education and healthcare, is well positioned as a modern services centre. Both cities are likely to benefit from Hong Kong’s international reach and financial prowess. Their combined influence is expected to radiate to the rest of the GBA, which is being prepared to move up the manufacturing value chain, allowing innovative design to be commercialised and monetised.
2. Why is the GBA important?

The GBA is part of China’s ‘national development strategy’ and has strong policy backing, which we believe makes it as important as the Belt and Road initiative. The GBA was first mentioned in the main text of the action plan for the Belt and Road in 2015 before being incorporated in the 13th FYP in 2016. The GBA was also mentioned in Premier Li Keqiang’s annual work report at the start of the National People’s Congress in March 2017, officially elevating it to ‘national development strategy’ status. The ‘Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Bay Area’ was subsequently signed by China’s National Development and Reform Commission (NDRC) and the governments of Guangdong, Hong Kong and Macau in July 2017.

The framework agreement establishes key cooperation areas. These include (1) promoting infrastructure connectivity; (2) enhancing market integration; (3) building a global technology and innovation hub; (4) building a system of modern industries through coordinated development; (5) jointly building a quality living circle to provide an ideal place for living, working and travelling; (6) cultivating new strengths in international cooperation; and (7) supporting the establishment of major cooperation platforms. These goals show that the blueprint to develop the GBA into one of China’s most robust and dynamic regions is aligned with the country’s highest long-term economic priorities. We think the development of the GBA is important because it allows the PRD region to grow stronger and stay relevant, and it could spearhead and shape China’s economic transformation for decades to come.

Almost half of the survey respondents (49%) see new business opportunities arising from the GBA in the next three to five years (Figure 42). This is higher than those expecting new business opportunities from the Trans-Pacific Partnership (TPP, 44%) and the Regional Comprehensive Economic Partnership (RCEP, 39%), even though such multilateral trade pacts should matter more for export-oriented respondents. We think this reflects the conviction of manufacturers in the region in the direction of the GBA, despite limited details being available for now. Respondents see even more new opportunities from Belt and Road (63%) and RMB internationalisation (58%), but these are also much more expansive initiatives than the GBA and with more results to show at present.

![Figure 42: Do you see new business opportunities from these initiatives in the next 3-5 years? (% of responses)](image)

![Figure 43: Second-largest base for Top 500 companies Number of China’s Top 500 companies in the GBA](image)
3. How does China’s GBA stack up against other bay areas?

The GBA is designed to mirror and compete with other successful bay areas globally, such as those in San Francisco, New York and Tokyo (see Figure 44 for a comparison). In terms of population and geographical size, the GBA already exceeds these areas by a wide margin; this, along with a likely lift from a positive economic outlook for China and the Belt and Road push, should give the GBA plenty of headroom for growth long-term. The GBA’s strengths as a manufacturing powerhouse and a key node in the global supply chain give it an inherent advantage in passenger and cargo throughput, and a strong economic base for technology and innovation development.

The GBA is already larger than the San Francisco bay area in GDP terms, and based on its current growth rate, it could surpass the Tokyo and New York areas in about five years. However, the GBA has plenty of catching up to do on per-capita GDP and the tertiary sector – which suggests there is considerable scope for wealth and services demand to grow over time.

Domestically, there are also growing talks about building a rival Shanghai-centric Hangzhou Greater Bay Area on the eastern coast – a natural extension of the long-standing comparison between the PRD and the Yangtze River Delta. The Hangzhou Bay Area is comparable to the GBA in many ways (Figure 44); the GBA’s unique advantage, however, is its connection with Hong Kong and Macau. In addition to their respective advantages in financial and leisure services, Hong Kong and Macau offer established international connectedness and a different system from the mainland, which make them ideal testing grounds for further reforms. The GBA’s main challenge – not faced by other bay areas – is the integration of different systems and the facilitation of cross-border flows (of people, goods, capital, and information).

While not strictly a bay area, the Xiongan New Area further up north is also often mentioned alongside the GBA. In April 2017, China announced a plan to build an international metropolis involving three counties of the Hebei province. The Xiongan New Area is set to integrate with Beijing and Tianjin to form another city cluster, aiming to curb urban sprawl and tackle other developmental challenges. Being close to the political centre and large companies gives Xiongan a natural advantage – Beijing is home to 104 of the Top 500 companies in China, versus 50 for the second-placed GBA (Figure 43). However, Xiongan, being a new district that needs to be built from scratch, lacks its own industrial base, and the Beijing-Tianjin-Hebei cluster is no match for the GBA in terms of innovation and private-sector involvement.

Figure 44: Comparison between major bay areas of the world, 2016

<table>
<thead>
<tr>
<th></th>
<th>Guangdong-Hong Kong-Macau (GBA)</th>
<th>Shanghai-Hangzhou*</th>
<th>Tokyo</th>
<th>New York</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (10,000 sq km)</td>
<td>5.61</td>
<td>4.64</td>
<td>3.68</td>
<td>2.15</td>
<td>1.79</td>
</tr>
<tr>
<td>Population (mn)</td>
<td>68.0</td>
<td>55.0</td>
<td>44.0**</td>
<td>20.2</td>
<td>7.68</td>
</tr>
<tr>
<td>Nominal GDP (USD tn)</td>
<td>1.4</td>
<td>0.91</td>
<td>1.7**</td>
<td>1.7</td>
<td>0.78</td>
</tr>
<tr>
<td>GDP per capita (USD)</td>
<td>20,600</td>
<td>16,500</td>
<td>38,600**</td>
<td>82,000</td>
<td>102,000</td>
</tr>
<tr>
<td>Annual air passenger traffic (mn)</td>
<td>186</td>
<td>147</td>
<td>117</td>
<td>130</td>
<td>76</td>
</tr>
<tr>
<td>Container throughput (mn TEUs)</td>
<td>68.0</td>
<td>60.0</td>
<td>7.7</td>
<td>6.3</td>
<td>2.4</td>
</tr>
<tr>
<td>GDP share of tertiary industry</td>
<td>62.2</td>
<td>59.7</td>
<td>82.3</td>
<td>89.4</td>
<td>82.8</td>
</tr>
</tbody>
</table>

* Includes Shanghai, Hangzhou, Ningbo, Jiaxing, Huzhou, Shaoxing, Zhoushan; ** 2015 data; Source: Legislative council of HKSAR, CEIC, Standard Chartered Research
4. How can the GBA spearhead innovation?
China has the aspiration to grow into a global technology and innovation hub, and we think the GBA project is a significant step towards achieving this. Using Guangdong as a proxy, the province ranks first on all six key indicators related to the development of the high-tech industry, as shown in the infographic on pages 5 and 6. Already home to almost 20,000 high-tech enterprises (19% of China total), Guangdong province accounts for around one-third of China’s high-tech new product sales and over 50% of patents nationwide in 2016 (Figure 45).

Guangdong’s technology credentials are reinforced by various city rankings by innovation ability, on which Shenzhen and Guangzhou commonly rank second and fourth, respectively (Figures 46 and 47). If anything, the fact that Guangdong tops Beijing on high-tech industry statistics, as mentioned above, is testimony to the southern region’s ability to translate creativity into real activity and generate commercial value. This goes back to the PRD’s manufacturing roots (allowing for the industrialisation and monetisation of R&D) and its connection to another key innovation centre in Hong Kong (facilitating international collaboration and accessing funding). This is how we see Shenzhen and Guangzhou’s success being enhanced via a clustering effect, which should radiate to the rest of the GBA cities over time – a change we think is already underway (Figure 48).
5. **How is infrastructure connectivity coming along?**

Infrastructure connectivity is at the heart of the GBA for three main reasons. First, integration between the nine mainland cities and two special administrative regions requires seamless cross-border flow of people and goods to create a metropolitan cluster. Second, the east and west side of the delta needs to be better linked to extend the supply chain and grow the industry ecosystem. Third, the social aspiration of building a ‘one-hour living circle’ in the GBA ideal for living and working starts with making travelling quicker and easier.

The good news is that essential infrastructure projects are already well underway (Figure 49). In particular, both the Guangdong-Shenzhen-Hong Kong Express Rail Link and the Hong Kong-Zhuhai-Macau (HZM) Bridge are expected to be completed this year. The Express Rail Link lowers the Guangdong-Hong Kong commute to 48 minutes (from two hours currently), while crossing the HZM Bridge would take as little as 30 minutes (versus one hour by sea and three hours by land).

All this likely complements already-aggressive policy to attract talent and improve labour mobility within the region. Shenzhen, for example, has been providing mainland graduates from universities in Hong Kong a one-off rental and living allowance; this has prompted more young talent to apply for Shenzhen residency. In 2016 alone, Shenzhen drew a total of 10,509 overseas graduates, and over the years it has attracted over 70,000 overseas graduates to work in the city, according to media reports. The prospects of improved labour mobility and liveability in the region could present new opportunities for Hong Kong service providers (e.g., healthcare, education) and fuel property demand outside the top-tier cities (e.g. Zhuhai and Zhongshan).

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**Figure 49: New bridges and railway behind the ‘one-hour living circle’ aspiration**

Source: Standard Chartered Research
The HZM bridge is just one of three new bridges that connect the two sides of the PRD (the other two are between the second Humen Bridge and the Shenzhen–Zhongshan Link). The idea is to address uneven economic development among PRD cities, by giving those in the west easier access to ports, airports, talents, spending power and company headquarters on the east side. For instance, the total exports of Shenzhen and Dongguan are almost three times the combined exports of western cities such as Zhuhai, Foshan, Zhongshan, Jiangmen and Zhaoqing.

Beyond bridges and railways, new infrastructure is also being built at the Hong Kong and Shenzhen border, including the Liantang/Heung Yuen Wai control point, which aims to relieve other heavily used border points, and the Hong Kong-Shenzhen Innovation and Technology Park, a cooperative venture between the two cities. The new park headlines Hong Kong’s biggest innovation push to date, especially in the areas of biotechnology, artificial intelligence, smart cities and fintech. It also offers great proximity for international companies to tap the supply chain, manufacturing capabilities and talent pool across the border.

6. How can the GBA help China’s opening up?

Much has been said about the promising rise of the Belt and Road and how it will help China build its external links. However, it is important to note that not all parts of China would benefit equally from such opening up. Over the years, our PRD survey has established a strong case for the region to continue to lead growth in the China-ASEAN connection for decades to come. This is echoed by strong commitment from China’s authorities. For example, a State Council policy paper in 2016 on deepening PRD cooperation mentioned the strategic importance of the GBA’s geographical location – placing it squarely on the 21st Century Maritime Silk Road – to allow the city cluster’s economic influence to radiate out to the Southeast Asia and South Asia regions. As such, we see the GBA as a bridgehead for Belt and Road.

The GBA is also set to be the hotbed of China’s financial opening up and innovation. Hong Kong, a well-established international financial centre and the largest offshore Renminbi centre, is likely to lead the expected revitalisation of Renminbi internationalisation. The Standard Chartered Renminbi Globalisation Index (RGI), our propriety measure of Renminbi internationalisation, has shown clear signs of stabilisation since mid-2017 after contracting for almost two years (Figure 50). A stronger CNY has helped better anchor sentiment, but the rise in northbound investment flows into China has been a bigger driver (Figure 51).

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**Figure 50: Revitalising Renminbi internationalisation**

The Standard Chartered Renminbi Globalisation Index

Source: Standard Chartered Research

**Figure 51: Rising bond and equity flows into China**

Foreign holdings of onshore assets

Source: CEIC, Standard Chartered Research
liberalisation has become China’s preferred way to promote Renminbi internationalisation in recent years, as greater investor inflows ease capital outflow pressure.

Hong Kong companies have been among the first to re-denominate into Renminbi invoicing, making them most likely to return from the sidelines, especially when they see more genuine CNY usage as the GBA develops. The Hong Kong government is also striving to enhance the city’s advantageous position by providing tax incentives to foreign companies that set up their regional treasury centres in the city. Hong Kong is also the home to the Stock Connect and Bond Connect schemes, positioning it best to capture likely exponential growth in northbound investment fuelled by China’s inclusion in global investment benchmarks and the continued diversification of reserves among global major central banks.

On the other side of the border, Guangdong province is an ideal counterpart to collaborate with Hong Kong in running experiments in financial liberalisation, as it has its own well-established free trade zone (FTZ), made up of three economic zones in Qianhai, Hengqin and Nansha, each located in a different city serving a different niche (Figure 49).

7. What challenges will the GBA face?
Topping the list of challenges for the GBA is the need for freer cross-border flow of people, goods, services, capital and information. This is a rather unique problem for the GBA, as bay area regions elsewhere do not need to integrate multiple systems. Much progress has already been made in the past 10-15 years in establishing the ‘two systems under one country’ principle due to China’s conscious policy push – partly to support Hong Kong and Macau, but chiefly to facilitate the opening of the mainland economy and financial markets.

For example, the Closer Economic Partnership Arrangement (CEPA), first launched in 2003, eliminated tariffs and lowered non-tariff barriers in both goods and services trade between China and Hong Kong over the years. The Individual Visit Scheme, also launched in 2003, allows travellers from mainland China to visit Hong Kong and Macau on an individual basis. The surge in mainland visitors since then shaped and revitalised Hong Kong’s retail and Macau’s gaming sectors.

Yet, hurdles remain. The availability and ease of obtaining visas for mainland Chinese to visit Hong Kong remains a contentious issue, for example, as some Hong Kong residents have chafed under the social strain of the influx of mainland visitors over the past years. Making border control less cumbersome, while preserving the ‘one country, two systems’ principle, remains a tough balancing act, in our view. Furthermore, there are concerns about the negative impact of integration due to the GBA: would people living in the GBA be willing to share the many urban woes, such as overcrowding, pollution and congestion? What about its impact on jobs and housing as the cities’ economic profiles change?

All these legal, social and practical issues will need time to resolve, in our view. In the meantime, the absence of truly free cross-border flows risks capping the GBA’s potential; the cities within are probably not ready to commit to full spatial integration and functional specialisation any time soon. All this calls for constant dialogue and coordination among the authorities to reduce the repercussions.
The China-ASEAN connection

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The China-ASEAN connection

ASEAN – Needs to offer higher value-added manufacturing

Factory relocation takes a backseat this year

Every year when we conduct our PRD survey, we ask our clients about their main strategy to counter ever-rising labour costs in China. Investing in more automation turns out to be their number one option each year. Since last year, we added an option of producing higher value-added products in our survey. This year, this option gathered more of a following. The option of moving further inland saw a progressive decline to only 8% of total respondents.

While moving out of China has gathered momentum in the past few years, this option took a hit this year. Only 10% of respondents selected the option of moving out of China, compared to 17% in our 2017 survey (Figure 52). Of this 10%, almost all respondents selected an ASEAN destination as their choice. While one swallow does not a summer make, this is a reminder that ASEAN would do well to build its production capacity to try to also attract higher value-added manufacturing to expand its breadth of FDI.

Mekong remains the top choice for PRD manufacturers

Vietnam remains a top destination for survey respondents looking to move out of China as labour becomes a constraint. Cambodia was the top choice in 2017, but placed second this year. Myanmar was the third-most favoured destination (Figure 53).

Vietnam was also the top choice of a few Taiwanese and South Korean clients who wanted to move to ASEAN (Figure 54). South Korean investment has topped Vietnam’s FDI sources in the past three years on average (Figure 55), followed by Japan and Singapore, per Vietnam’s FDI data on a registered capital basis. Manufacturing remains the sector of choice, attracting c.50% of all FDI on average over 2015-17, followed by the utilities sector. About 11% of FDI went to the real estate sector over this period, reflecting strong foreign interest in Vietnam’s booming property sector (Figure 56).

In our survey, a relatively broad-based section of companies chose to move to Vietnam, including those involved in electronics packaging assembly, consumer discretionary production and industrial manufacturing.
Labour supply remains a key reason to move to ASEAN

Labour availability and cost appear to be key factors affecting relocation choices. A majority of respondents cited better labour supply as their main reason to relocate to ASEAN (Figure 57). Interestingly, clients’ interest to shift to Indonesia remains low, even though labour there is typically ample and relatively cost-competitive, especially if labour cost is a key factor. Compared to previous years, factors such as tax incentives and non-wage business cost savings featured less this year.

Investors’ top three concerns in moving production capacity to ASEAN include under-developed transport infrastructure, an underdeveloped legal system, and poor labour quality and productivity. Interestingly, from our past experience visiting foreign companies who have relocated to destinations such as Vietnam, infrastructure is typically not a concern. Instead, fast-rising wage costs are a more common worry. By comparison, our survey respondents do not appear to be overly concerned about wage inflation, perhaps due to initial cost savings expected from the move.
According to our survey, a majority of respondents expect cost savings of up to 20% on relocating to ASEAN (Figure 58). Similar savings were cited in last year’s survey. A group of clients – largely Taiwan companies – expect savings of more than 30%.

**Factory relocation is an ongoing process**

A majority of clients who choose to move out of China to address the labour issue are still considering their decision. Only a minority has already moved and started operations (Figure 59). We think the shift in low value-added industries moving out of China will continue in the years to come. ASEAN still provides a pool of competitive and young labour force. As the region gets richer, growing domestic demand could also serve to attract FDI by companies who want to relocate to be closer to their sales markets. The need to source alternative production sites amid trade uncertainty between the US and China may also benefit countries such as Vietnam.

**Global interest in ASEAN remains strong**

While our latest PRD survey suggests that China-based manufacturers’ relocation to ASEAN countries appears to be less favoured, the region continues to attract strong global FDI interest. The region attracts not just low-cost manufacturers, but also...
investment looking to tap its growing domestic wealth. If we use ASEAN-5 as a guide (Malaysia, Philippines, Thailand, Indonesia and Vietnam), the region’s GDP per-capita growth has consistently outstripped global growth (Figure 60).

Typically, Singapore, Indonesia, Vietnam and Malaysia attract the bulk of FDI. In recent years, smaller countries are playing catch-up and attracting an increasing amount of FDI, but from a very low base. The Philippines stand out, reflecting its recent strong economic growth trajectory – it has been growing at above 6% annually since 2012. Meanwhile, Thailand appears to have received less FDI in recent years, likely on weaker growth due to political uncertainty and adverse weather. However, the Thai government is embarking on an aggressive infrastructure plan that may reignite investment sentiment (see section ‘Thailand – Eastern Economic Corridor’ on the next page).
Thailand – Eastern Economic Corridor

Thailand’s flagship Special Economic Zone

Thailand’s four economic action plans under its 20-year strategy include the Eastern Economic Corridor (EEC) project (Figure 63). In this section, we provide an overview of the flagship Special Economic Zone (SEZ). The EEC Act was published in the Royal Gazette in May 2018 providing clarity to potential investors. We think the EEC project will boost Thailand’s long-term growth prospects. Besides infrastructure investment projects and technological developments focused on specific sectors, the EEC project would enhance regional integration, as it serves as a springboard location for ASEAN, China and India.

Bidding for infrastructure investment projects in the EEC is expected to be completed this year. Among these projects, we focus on the high-speed rail project linking three international airports – Don Mueang, Suvarnabhumi and U-Tapao. Private companies are scheduled to submit their bidding prices in June. The project’s winning bidders are likely to be announced by Q3-2018.

**Figure 63: Thailand’s four economic action plans under the 20-year strategy**

<table>
<thead>
<tr>
<th>Regional economic partnership</th>
<th>Transportation Investment Action Plan</th>
</tr>
</thead>
</table>
| • Heart of the growing Southeast Asian mainland: Cambodia, Laos, Myanmar, Vietnam (CLMV).  
  • Thailand has the breadth and depth of products and services that can readily be distributed into these countries. | • 20 infrastructure investment projects already under construction for domestic and regional connectivity.  
  • The military government appears determined to sign off on all projects before leaving office ahead of next year’s planned general elections. |

<table>
<thead>
<tr>
<th>Eastern Economic Corridor</th>
<th>Thailand 4.0</th>
</tr>
</thead>
</table>
| • Flagship SEZ to accelerate future growth in the region.  
  • The project targets massive infrastructure spending to support technologically advanced industries. | • To promote technological development, innovative/value-based industry focused on specific sectors.  
  • Sectors include next-generation automobiles, smart electronics, affluent medical and wellness tourism. |

Source: NESDB, Standard Chartered Research
EEC to boost long-term growth

The EEC project is one of four economic action plans (Figure 64), and represents investment of more that 10% of Thailand’s GDP, at THB 1.5tn. It plans a high-tech industry cluster spanning more than 30,000 rai (4,800 hectares) in the three eastern seaboard provinces of Chon Buri, Rayong and Chachoengsao in the next five years (Figure 65). It will involve massive infrastructure projects (mainly through the public-private partnership scheme and government borrowing) and private and foreign investment in targeted industries. The EEC Act was published in the Royal Gazette in May 2018, providing clarity to potential investors (Figure 66). The military government has expressed confidence that investors will be drawn to the project. We think the project will boost Thailand’s long-term growth prospects through infrastructure investment, technological developments and enhanced regional integration, serving as a springboard location for ASEAN, China and India.

Figure 65: Thailand’s Eastern Economic Corridor (EEC)

EEC spans more than 30,000 rai (4,800 hectares) in Thailand’s three eastern seaboard provinces

Source: Local media reports, Standard Chartered Research
EEC to start with infrastructure investment

On infrastructure investment projects in the EEC, the military government aims to draft terms of reference for five joint public-private investment projects worth THB 610bn by Q2-2018 (Figure 67). The period for seeking private-sector partners for these five projects will be shortened to 8-10 months from the usual 40-month timeframe. Bidding for the projects is expected to be completed this year. The 2018 EEC Act also allows foreign investors to own up to a 51% stake, compared with the normal investment law capping their share at 49%.

Among those projects, we focus on the high-speed rail project linking three international airports – Don Mueang, Suvarnabhumi, and U-Tapao (Figure 68). Experts predict it will generate an economic return of THB 700bn (5% of GDP) in the long term, with benefits from commercial development along the route and new jobs created. Private firms are scheduled to submit their bidding prices in June. China and Japan have reaffirmed their intention to join the auction, according to local media reports, in addition to several other local and foreign investors. The project’s winning bidders may be announced by Q3-2018.

**Figure 66: Details of the 2018 EEC Act**

| 1. The EEC spans three provinces – Chachoengsao, Chon Buri and Rayong. Other surrounding provinces will be issued in a future royal decree. |
| 2. The EEC has to set up a committee, chaired by the prime minister and including the deputy prime minister and vice-chairman. Moreover, the committee has to meet with ministries, Budget Bureau, NESDB, BoI, and high-ranking specialists. |
| 3. The EEC committee has the responsibility to develop the EEC, approving layouts for land plot utilisation, setting investment conditions for the private sector and defining the EEC’s special economic zones. |
| 4. The S-curve projects comprise 10 targeted industries (see Figure 69). |
| 5. EEC investors that are juristic persons and foreigners have rights for land plots in the SEZ without approvals following the Land Code of Conduct. |
| 6. Rental areas in EEC provinces are meant to develop and support the 10 targeted industries, allowing rental contracts of less than 50 years and renewals of up to 49 years. |

Source: The Royal Gazette, local media reports, Standard Chartered Research

**Figure 67: EEC’s five targeted projects**

<table>
<thead>
<tr>
<th>Project</th>
<th>THB bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Mueang-Suvarnabhumi-U-Tapao airports high-speed rail network</td>
<td>236</td>
</tr>
<tr>
<td>U-Tapao Airport and Eastern Airport City</td>
<td>200</td>
</tr>
<tr>
<td>Aircraft maintenance centre at U-Tapao airport</td>
<td>10</td>
</tr>
<tr>
<td>Third phase of Map Ta Phut port</td>
<td>11</td>
</tr>
<tr>
<td>Third phase of Laem Chabang deep-sea port</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>607</strong></td>
</tr>
</tbody>
</table>

Source: NESDB, Standard Chartered Research
Winning bidders for the high-speed rail project may be announced by Q3

Figure 68: High-speed airport link – Don Mueang, Suvarnabhumi, U-Tapao

Ever expanding

Authorities are planning to extend the Airport Rail Link, now connecting Phaya Thai and Suvarnabhumi airport, to cover Don Mueang and U-Tapao airports as well.

Original and proposed sections of the Airport Rail Link:

1. Phaya Thai - Suvarnabhumi (opened Aug 23, 2010)
2. Phaya Thai - Bang Sue (began construction in Sep 2016)
3. Bang Sue - Don Mueang (being considered by the State Railway of Thailand)
4. Suvarnabhumi - U-Tapao (being studied)

Source: Bangkok Post, Standard Chartered Research
Infrastructure investment to kick-start private investment

The EEC should strengthen Thailand’s leading industries such as automobiles, as the project places high importance on bringing next-generation automobile production – of the electric vehicle industry in particular – to Thailand (Figure 69). The government has offered a series of tax and non-tax incentives to attract local and foreign investors to the EEC (Figure 70). Benefits include corporate income tax exemption for up to 15 years and financial incentives for investment in R&D.

In anticipation of the EEC, applications for investment in the EEC in Q1-2018 totalled THB 160bn (c.78% of all applications), up from THB 12.34bn in Q1-2017, according to the Board of Investment (BoI). The BoI is aiming for THB 300bn of investment applications in the EEC (c.42% of all applications) this year, up from THB 290bn last year.

Figure 69: 10 targeted industries within the EEC

The EEC should strengthen Thailand’s leading industries, including automobiles

First S-curve industries

<table>
<thead>
<tr>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next-generation automobiles</td>
</tr>
<tr>
<td>Intelligent electronics</td>
</tr>
<tr>
<td>Advance agriculture and biotechnology</td>
</tr>
<tr>
<td>Food processing</td>
</tr>
<tr>
<td>Affluent wellness and medical tourism</td>
</tr>
</tbody>
</table>

New S-Curve industries

<table>
<thead>
<tr>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital technology</td>
</tr>
<tr>
<td>Robotics</td>
</tr>
<tr>
<td>Aviation and logistics</td>
</tr>
<tr>
<td>Comprehensive healthcare</td>
</tr>
<tr>
<td>Biofuel and biochemical</td>
</tr>
</tbody>
</table>

Source: EEC Office, Standard Chartered Research
The government has offered a series of tax and non-tax incentives to attract local and foreign investors.

**Figure 70: Tax and non-tax incentives**

- **Exemption from corporate income tax** for up to 15 years
- **Exemption of import duty** on machinery, raw or essential materials that are imported for use in production and R&D
- **Receive matching grants** for investment, R&D, innovation development and human resources development in targeted industries
- **Permission to own land for BOI promoted projects**
- **Rights to have the state land lease agreement for 50 years**, renewable on approval for a further 49 years
- **Lowest personal income tax rate (17%) in ASEAN.** For executives, specialists and researchers who are qualified by the Director-General of Revenue Department under the law related to the nation’s competitiveness enhancement in the promoted businesses or The Investment Promotion Act
- **One-stop service centre** to facilitate foreign investment, which provides useful information and issues permits for trading, export and import in one location
- **Five-year work visa** Offer an attractive five-year work visa to investors, specialists and scientists

Source: EEC Office, Standard Chartered Research
Appendix – Survey takeaways by industry

A deep drive from an industry perspective

More manufacturers focusing on automation

We dig deeper into what drives our clients’ preferences, analysing responses from an industry perspective (see the PRD survey – 2018’ section). A majority of our respondents are non-electronics manufacturers, predominantly involved in industrials manufacturing, with consumer discretionary and general trading the other more common industries. Respondents also include manufacturers involved in the agriculture, aviation and transport, consumer staples, F&B, energy and IT industries.

Figure 1: A vast majority of manufacturers prefer to invest in automation to tackle rising wage pressure

<table>
<thead>
<tr>
<th>Industry</th>
<th>Preferred response to labour shortage</th>
<th>Estimated wage rise (%)</th>
<th>Wages as a share of total costs (%)</th>
<th>Expected change in orders over next 6 months (%)</th>
<th>Expected change in margins in (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductor manufacturing equipment</td>
<td>Automation/ More capex</td>
<td>8.8 10.0 11.4 ↑</td>
<td>19.7 17.9 ↓</td>
<td>1.6 -2.3 ↓</td>
<td>1.9 2.3 ↑</td>
</tr>
<tr>
<td>Semiconductor fabrication</td>
<td>More capex/ Move higher up value chain</td>
<td>10.3 6.1 5.6 ↓</td>
<td>19.0 17.2 ↓</td>
<td>-1.3 -3.3 ↓</td>
<td>-7.1 -3.3 ↑</td>
</tr>
<tr>
<td>Electronics packaging assembly</td>
<td>Automation/ More capex</td>
<td>7.1 6.3 8.2 ↑</td>
<td>26.1 22.9 ↓</td>
<td>2.4 -3.9 ↓</td>
<td>1.2 -0.6 ↓</td>
</tr>
<tr>
<td>Component manufacturing</td>
<td>Automation/ Move out of China</td>
<td>7.1 7.1 8.6 ↑</td>
<td>21.6 20.4 ↓</td>
<td>3.0 1.8 ↓</td>
<td>-2.7 3.6 ↑</td>
</tr>
<tr>
<td>Non-electronics manufacturing</td>
<td>Automation/ Move out of China</td>
<td>6.6 6.0 7.3 ↑</td>
<td>19.7 20.9 ↑</td>
<td>2.6 4.7 ↑</td>
<td>1.5 0.8 ↓</td>
</tr>
<tr>
<td>All manufacturers</td>
<td></td>
<td>7.2 6.3 7.7 ↑</td>
<td>21.5 20.9 ↓</td>
<td>1.6 2.6 ↑</td>
<td>-0.1 0.7 ↑</td>
</tr>
</tbody>
</table>

Red is high, green is low and yellow is moderate; Arrows represent a comparison to the 2017 survey results; Source: Standard Chartered Research

Figure 2: What share of your total costs are wages?

% of respondents

Source: Standard Chartered Research
Wages still contribute a material, though declining, share of total costs

Wages as a share of total costs have declined for a second consecutive year. However, they still constitute a material proportion of manufacturers’ total costs. Our clients estimate that wages as a share of total costs is now at 20.9%, down from 21.5% in 2017 and 22.5% in 2016. Wages as a share of total costs has fallen across the board in the electronics industry, with electronics packaging assembly recording the largest decline to 22.9% this year from 26.1% in 2017. However, this may be due to the industry playing catch-up; manufacturers in electronics packaging assembly were the only ones who reported an increase in the share of wages last year, and still have the highest share of wages at 22.9%.

At the other end of the spectrum, firms involved in semiconductor fabrication reported the smallest drop in the share of wages (of total cost) to 17.2%, having fallen the most last year. Non-electronics manufacturers, on the other hand, noted that wages now make up 20.9% of their total costs, up from 19.7% in 2017, but in line with average electronics manufacturing.

Semiconductor manufacturing equipment makers expect a wage increase of 11.4% y/y this year, the highest expected increase among all industries in three years. It was also the only industry which experienced a higher-than-expected wage increase last year, by 10% y/y, compared with an anticipated 8.8%. Component manufacturers also estimate strong wage growth of 8.6% y/y this year, while those in electronics packaging assembly expect 8.25 y/y; both are well above 7.1% and 6.3% wage growth seen, respectively, in 2017. Respondents in semiconductor fabrication, on the other hand, foresee tepid wage growth of 5.6% in 2018; wages rose only 6.1% y/y in 2017, much lower than expected 10.3% growth. A potential reason semiconductor fabricators expect smaller wage increases this year is that their labour force is more skilled and may already be at higher wage levels due to increases in previous years.

Average workforce utilisation among PRD manufacturers is at 87%, higher than in previous years. Manufacturers in electronics packaging assembly report among the lowest utilisation, at 82.8%, much lower than the lows of previous years. At the other end of the spectrum, non-electronics manufacturers still report the highest utilisation, at 88.5%, marginally lower than 90% in 2017, but higher than 87.2% in 2016.
Figure 5: Equipment manufacturing workers see biggest wage increases, again; expected wage increase for 2018

<table>
<thead>
<tr>
<th>Industry</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>All manufacturers</td>
<td>7.70%</td>
<td>7.30%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Non-electronics manufacturing</td>
<td>5.60%</td>
<td>5.60%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Electronics packaging assembly</td>
<td>5.60%</td>
<td>5.60%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Component manufacturing</td>
<td>5.60%</td>
<td>5.60%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Semiconductor manufacturing</td>
<td>5.60%</td>
<td>5.60%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Semiconductor fabrication</td>
<td>5.60%</td>
<td>5.60%</td>
<td>8.60%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 6: Actual wage increases in 2017 were once again lower than expected; wage increase, % y/y

<table>
<thead>
<tr>
<th>Industry</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>7.3%</td>
<td>6.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Semiconductor fabrication</td>
<td>7.5%</td>
<td>7.3%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Semiconductor manufacturing</td>
<td>7.3%</td>
<td>7.2%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Component manufacturing</td>
<td>7.2%</td>
<td>6.9%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Electronics packaging assembly</td>
<td>6.9%</td>
<td>6.7%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 7: Workforce utilisation level

% of respondents

<table>
<thead>
<tr>
<th>%</th>
<th>Non-electronics manufacturing</th>
<th>Semiconductor manufacturing equipment</th>
<th>Electronics packaging assembly</th>
<th>Semiconductor fabrication</th>
<th>Component manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>85.6%</td>
<td>83.8%</td>
<td>80%</td>
<td>75%</td>
<td>70%</td>
</tr>
<tr>
<td>90%</td>
<td>85.0%</td>
<td>84.5%</td>
<td>80%</td>
<td>75%</td>
<td>65%</td>
</tr>
<tr>
<td>80%</td>
<td>85.0%</td>
<td>84.5%</td>
<td>80%</td>
<td>75%</td>
<td>65%</td>
</tr>
<tr>
<td>70%</td>
<td>85.0%</td>
<td>84.5%</td>
<td>80%</td>
<td>75%</td>
<td>65%</td>
</tr>
<tr>
<td>60%</td>
<td>85.0%</td>
<td>84.5%</td>
<td>80%</td>
<td>75%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 8: Non-electronics manufacturers continue to report a fuller workforce, % of respondents

<table>
<thead>
<tr>
<th>Industry</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component manufacturing</td>
<td>88.5%</td>
<td>86.8%</td>
</tr>
<tr>
<td>Electronics packaging assembly</td>
<td>82.8%</td>
<td>81.6%</td>
</tr>
<tr>
<td>Semiconductor fabrication</td>
<td>85.6%</td>
<td>84.2%</td>
</tr>
<tr>
<td>Semiconductor manufacturing</td>
<td>83.8%</td>
<td>82.6%</td>
</tr>
<tr>
<td>Non-electronics manufacturing</td>
<td>85.6%</td>
<td>84.2%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 9: Semiconductors have seen the highest increase in worker output (Has per-worker output risen more than wages?, % of respondents)

<table>
<thead>
<tr>
<th>Industry</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, a lot</td>
<td>14.0%</td>
<td>12.5%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Yes, a bit</td>
<td>16.9%</td>
<td>15.6%</td>
<td>16.9%</td>
</tr>
<tr>
<td>No</td>
<td>18.6%</td>
<td>17.3%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Non-electronics</td>
<td>14.0%</td>
<td>12.5%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Semiconductor fabrication</td>
<td>16.9%</td>
<td>15.6%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Move capacity out of China</td>
<td>18.6%</td>
<td>17.3%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Invest more in automation/streamlining processes</td>
<td>12.5%</td>
<td>11.2%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Invest more in capital equipment</td>
<td>14.0%</td>
<td>12.5%</td>
<td>14.0%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

Figure 10: Moving out of China still provides the best cost savings, albeit less than before

What cost savings do you expect?, % of respondents

<table>
<thead>
<tr>
<th>Industry</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>14.0%</td>
<td>12.5%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Move capacity out of China</td>
<td>16.9%</td>
<td>15.6%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Move capacity inland</td>
<td>18.6%</td>
<td>17.3%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Invest more in automation/streamlining processes</td>
<td>12.5%</td>
<td>11.2%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Invest more in capital equipment</td>
<td>14.0%</td>
<td>12.5%</td>
<td>14.0%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research
More manufacturers prefer moving out of China than within China

More respondents continue to favour streamlining their processes/investing in automation as their response to tackle the rising labour shortage, with more than two in five respondents choosing that option. Around 9% choose to move outside China, slightly more than the 7% who prefer moving to other locations within China. Respondents involved in component manufacturing prefer to invest in capex less than others – only 25% prefer that option, versus over 40% among respondents in other industries. Manufacturers in electronics packaging assembly overwhelmingly prefer to relocate, with 25.6% wanting to move either within or outside China, followed by 15.9% of non-electronics manufacturers. Semiconductor fabrication companies do not want to relocate, preferring to invest more either in automation or capex. Vietnam and Cambodia remain the preferred locations among those wanting to move capacity outside China.

Figure 11: Automation is still the most popular choice; fabrication manufacturers also choose to invest in capex

How do you respond to labour shortages?, % of respondents

Source: Standard Chartered Research
### Wage growth, 2017 actual versus 2018 expectations

% of respondents; blue shading indicates faster expected wage growth vs 2017

#### Figure 12: Component manufacturing

<table>
<thead>
<tr>
<th>2017</th>
<th>2018 Down 10%</th>
<th>Down 5%</th>
<th>No change</th>
<th>Up 5%</th>
<th>Up by 10%</th>
<th>Up by 15%</th>
<th>Up by 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change</td>
<td></td>
<td></td>
<td>14%</td>
<td>36%</td>
<td>14%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Up 5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

#### Figure 13: Electronics packaging assembly

<table>
<thead>
<tr>
<th>2017</th>
<th>2018 Down 10%</th>
<th>Down 5%</th>
<th>No change</th>
<th>Up 5%</th>
<th>Up by 10%</th>
<th>Up by 15%</th>
<th>Up by 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down 5%</td>
<td></td>
<td></td>
<td>22%</td>
<td>19%</td>
<td>14%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>No change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 20%</td>
<td></td>
<td></td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

#### Figure 14: Semiconductor fabrication

<table>
<thead>
<tr>
<th>2017</th>
<th>2018 Down 10%</th>
<th>Down 5%</th>
<th>No change</th>
<th>Up 5%</th>
<th>Up by 10%</th>
<th>Up by 15%</th>
<th>Up by 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up 5%</td>
<td></td>
<td></td>
<td>22%</td>
<td>33%</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 10%</td>
<td></td>
<td></td>
<td>11%</td>
<td>11%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research

#### Figure 15: Non-electronics

<table>
<thead>
<tr>
<th>2017</th>
<th>2018 Down 10%</th>
<th>Down 5%</th>
<th>No change</th>
<th>Up 5%</th>
<th>Up by 10%</th>
<th>Up by 15%</th>
<th>Up by 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down 10%</td>
<td></td>
<td></td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
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<tr>
<td>No change</td>
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<td>1%</td>
<td>6%</td>
<td>5%</td>
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<td>1%</td>
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<tr>
<td>Up 10%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Up 15%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up 20%</td>
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<td>2%</td>
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</table>

Source: Standard Chartered Research

#### Figure 16: Semiconductor manufacturing equipment

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<th>2017</th>
<th>2018 Down 10%</th>
<th>Down 5%</th>
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<th>Up 5%</th>
<th>Up by 10%</th>
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<td>Up 5%</td>
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<td></td>
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<td>27%</td>
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<td>2%</td>
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<tr>
<td>Up 15%</td>
<td></td>
<td></td>
<td>13%</td>
<td></td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Up 20%</td>
<td></td>
<td></td>
<td>13%</td>
<td></td>
<td></td>
<td></td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: Standard Chartered Research
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Special Report: Shop Talk – China, GBA and the ASEAN connection
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