Growth dynamics for Asia in the trend of deglobalization
100  Making another century of impact
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2017: A ray of hope amidst uncertainty

Both the global economy and global trade look likely to outperform expectations in 2017.

The US economy is looking up, although where President Trump will find the funds for his ambitious agenda is still unclear. The stimulative impact of his tax cuts and infrastructure spending may combine with new trade restrictions to drive up inflation.

The latest trade data show China's imports and exports have rebounded strongly and the trade surplus remains high, proof of the economy's resilience. But the significant trade imbalance with US is a big potential source of conflict. China could mitigate this by offering the US greater market access and helping fund a part of the US's infrastructure projects.

In spite of uncertainties in the Sino-US relationship, the general economic outlook for ASEAN countries is positive this year. That is mainly because global demand will pick up, boosting export sectors, and domestic drivers of growth are likely to be more positive too. However, the prospect of protectionism in the US is a real threat.

The pick-up in commodities prices is already having a positive, visible effect on the Australian economy. However, there are some uncertainties: Australia's growth is tied to the Chinese economy, which is currently in a transition. And there is a risk of growing protectionism from the United States. But chances are that either these potential problems don't occur, or that they won't be big enough to derail the 2017 outlook for smaller developed economies such as Australia's.
The future looks brighter than it did a year ago – yet it is also much more uncertain. On the bright side, the world economy is in much better shape than it was, and this is likely to spill over into world trade. The US economy is also looking much stronger than it has been in a long time, and the surprise election of Donald Trump has had a positive effect on markets there. His stated intention of improving infrastructure in the US has also been received positively. On the other hand, his protectionist remarks have created worries among many countries (not just Mexico and China).

So what are the likely policy changes in the US? How will they affect Asia’s economies which are critically dependent on China’s growth?
United States
The election of a new US president, particularly one of a different political party than the predecessor, comes with the expectation of a shift in policies. While the formulation and timing remain uncertain, the following broad policy changes are likely to be debated this year and possibly enacted given that the president’s party controls both houses of Congress.

• Corporate and personal income tax reform—While the top rates for both types of taxes will likely be lowered, the details will determine what the final impact on individual tax bills will be. The details will also ultimately determine how stimulative to the economy (and how costly to the Treasury) the actual plan will be.

• A federal infrastructure spending program—No specific details of the spending program have yet been announced, but a spending program would spur economic growth over what it otherwise would have been.

• Review of existing trade deals and a move toward bilateral enforcement—The United States currently has free-trade agreements (FTAs) with 20 countries. In 2016, the United States had a trade deficit of USD 502 billion, comprised of a USD 750 billion deficit in goods trade partially offset by a USD 248 billion surplus in services trade. Any action by the United States to withdraw from or fail to abide by the terms of an existing FTA could invite countermeasures, putting at risk some portion of the USD 2.2 trillion in goods and services that the United States exports annually. 1

• Increased immigration enforcement and stronger border controls—Policies that former President Barack Obama put in place regarding enforcement under executive directives or executive orders are in the process of being rescinded. It is not certain what other actions will be taken to increase enforcement, but President Trump remains committed to building a wall on the US-Mexican border.

• Repeal and replacement of Obamacare—Popular provisions of the 2010 Affordable Care Act (Obamacare), such as the ability to keep young adults on a parent’s health insurance plan until the age of 26 and guarantee of coverage for preexisting conditions, will most likely remain in the American Healthcare Act (ACA)

• Regulatory reform across agencies—One of the first actions in this area will likely involve substantial changes to the 2010 Dodd-Frank Wall Street Reform.

Following the election, the major US stock indices reached new heights on expectations of at least some of these actions actually being taken. But with the economy nearing full-employment, there is also an increasing awareness that some of these actions, particularly the stimulating impact of tax cuts and infrastructure spending, along with new trade restrictions may be inflationary.

We estimate that the Federal Open Market Committee (FOMC) will raise rates three times this year (25bps each). However, should inflation start accelerating at a rate that alarms the FOMC, rates might increase faster and possibly in larger increments than would otherwise be the case. This would negate some of the stimulus impact of lower taxes and increased government spending.

One of the biggest unknowns is how the new administration and the Congress will choose to pay for the tax cuts and infrastructure spending. Federal deficits will be significantly larger if Congress passes large tax cut and infrastructure spending bills without taking steps to curtail spending. Even without these changes, the budget deficit was on track to rise because of projected rises in social security and Medicare spending, reflecting an aging population.

Although the new administration may cut other entitlement programs such as medical care for the poor (Medicaid), changing the long-run path of the budget without reforming social security and Medicare will be difficult.
China
After a troubled year deflating housing bubbles, stabilizing the currency and keeping a tight rein on the stock market, the latest trade data surprised policymakers. It showed that, not only does the trade surplus remain high, but also both exports and imports have rebounded strongly.

This strong performance on the trade front comes against the backdrop of (1) regional governments in Asia supporting trade liberalization and integration; and (2) leading indicators of global trade (such as container movements and port volumes in emerging Asian economies and China) have shown signs of recovery since last summer. China's trade surplus is also bolstered by the continuing depreciation of the RMB exchange rate against the dollar.

However, this large trade surplus has made trade imbalances between China and the US the single biggest sticking point (USD 250 billion in 2016, accounting for more than half of the total trade deficit of the US that year) in the Sino-US relationship. It is highly unlikely that there will be a full-blown trade war between the two largest economies in the world. Yet there is a high risk of developing trade “friction” as top leaders in both countries become more assertive. Already, several leading domestic think-tanks in China have highlighted “external risks” (a euphemistic reference to the evolving and complicated Sino-US relation) as the top challenge of this year.

Trade imbalances between China and the US

![China/US trade balances chart](source: Wind)
But China is not alone. A number of countries (Mexico, Japan, Germany and China) have also been singled out by the US president. Mexico has taken the brunt of US criticism so far resulting in the peso plunging by 16% since the US elections.

China is no Mexico however -- for several reasons:

- First of all, it is easier for the US to put pressure on countries that are smaller than them and which tend to benefit more from freer trade.
- Second, it is a well-known fact that China’s large trade surplus with the US also reflects a complicated global supply chain which benefits many US companies (Apple is a primary example) far more than China itself.
- Third, it is almost certain that China would retaliate should the US actually start a trade war (for example, by adopting a sweeping increase in tariffs against Chinese imports). In addition, it is difficult for the US to accuse China of currency manipulation, because China has been trying extremely hard to push the RMB exchange rate higher for over a year, even at the cost of halting the RMB’s internationalization and hurting domestic trading companies which rely on trade finance facilities.

If the chief objective of the Trump administration is to “bring back jobs to America” and substantially narrow the bilateral trade deficit with China, the mechanism cannot be a simplistic repeat of the 1985 Plaza Accord which resulted in a rapidly appreciating Japanese yen. A much stronger RMB would have a devastating effect on the Chinese economy. Although China’s economy is quite resilient, it is still far from being balanced, with a number of looming challenges such as deleveraging and maintaining financial sector stability.

Favorable liquidity is like anesthesia given to a patient who is undergoing surgery. In other words, structural reform cannot proceed smoothly without cheap money, and certain non-performing assets can only be turned around through reflation or inflation and economic growth. But as China is stabilizing the RMB exchange rate by allowing its reserves (USD 2.99 trillion by January 2017, down 7.2% from a year ago) to run down and tightening capital controls, liquidity conditions are worsening.

In theory, the current economic conditions in China call for a more accommodative monetary policy (meaning lower interest rates and cheaper RMB), but in practice this is less feasible due to domestic and international constraints. A stable exchange rate is seen by policymakers as a precondition of market confidence. This means more regulation at home.
For example, the latest development in the continuing saga of deflating bubbles is that the Government has announced a series of policies limiting real estate financing in 16 cities (including Beijing, Shanghai, Guangzhou, Xiamen, Nanjing and Fuzhou) where property markets are seen to be overheating. The rationale is that the bulk of such trust products originated from bank loans but have been subsequently repackaged. Regulators clearly view such “regulatory arbitrages” as reckless risk taking behavior which will undermine China’s financial stability. The policy responses from the People’s Bank of China (PBOC) are basically of the “credit tightening without resorting to outright interest rate hikes” type. That said, the bottom line is that it would be fundamentally against China’s economic interests for the RMB exchange rate to be set at an artificially over-valued level and therefore China will probably not succumb to pressure from the US.

On the other hand, there are several measures that China could initiate to achieve a substantial reduction in the trade imbalance between China and the US. This could be achieved by greater US exports to China or less Chinese exports to the US or both. From China’s perspective, the US has long blocked exports of its high-tech products to China. From the US’s perspective, China has not opened up its domestic market adequately to American companies (for example, in health care, financial services and entertainment) and has not lived up to its pre-WTO promises. Under the Trump administration, we are unlikely to see an increase in exports of US high-tech to China if the latter does not significantly improve market access. Moreover, the US could argue that China should at least be reciprocal in terms of giving US Internet companies more access to the domestic market.

So what are China’s bargaining chips? The Regional Comprehensive Economic Partnership (RCEP) is being championed by China, and it may gain acceptance by some emerging Asian economies. However, it has little appeal to the US. Can China help the US with President Trump’s much-trumpeted infrastructure spending program? The answer is a resounding yes. China could easily help fund part of such an infrastructure program. It also makes economic and geopolitical sense for China to engage US companies in some of its Belt and Road related infrastructure projects as a trust-building effort. At present these projects are being undertaken in the typical Chinese way of “learning by doing and doing by learning”.

Sharing resources, technology and know-how for building infrastructure might well prove to be a “win-win” situation for both parties. However, collaboration between China and the US on infrastructure spending (in both the US and emerging economies) cannot be expected to yield dividends in the short run. So, for a Trump Administration looking for quick wins, China’s market access is indeed the most important bargaining chip. With China firmly in the category of “trade surplus countries”, meaning that trade frictions will not vanish, and these will in turn exacerbate capital outflows, the best policy response for China to mitigate such “imbalances” is a meaningful market access which could also reignite reform momentum within the country.
Prospects for ASEAN economies are improving this year as global demand picks up, boosting exports. Domestically, 2017 should see a partial reversal of the past two years which had seen the full contractionary effect of falling commodity prices – hurting rural incomes and purchasing power, and forcing ASEAN governments to rein in government expenditure as commodity-related revenues fell. But that cycle has since turned. For example, crude palm oil and rubber prices, which are key in Indonesia, Malaysia and southern Thailand, have risen sharply.

And it isn’t just the business cycle that is lifting. Recent years saw reforms adopted. Even better still, the initial disruptions accompanying those policy changes have already settled, leaving the way clear for better structural policies to be supporting ASEAN growth in 2017.

For example, recent years saw ASEAN governments courageously push reforms whose short term effects harmed growth but whose long term benefits are now beginning to be more visible. Indonesia slashed fuel subsidies in early 2015 which depressed consumer confidence for some time. Malaysia introduced its goods and services tax in 2015 as well, with similar dents to consumer confidence while also cutting back on poorly targeted fuel and other subsidies. Several countries including Malaysia and Singapore introduced measures to rein in consumer debt which had been growing too fast while also putting controls on the runaway housing sector. The worst effects of all these have been absorbed by now.

Governments in almost every ASEAN country are now ramping up infrastructure spending – even in Singapore where infrastructure is already good. Thailand’s mega transportation projects will also become operational this year. All this will boost growth directly – but the indirect effects of elevating business confidence and so “crowding in” private investment could be even stronger. As a result it is highly likely that in most countries, inflation will return, and deflation fears will ebb.

On the international front, global growth will be higher this year compared to 2016 and this will have a positive effect on trade, thereby also helping boost growth in ASEAN economies.

The US economy is now recovering strongly and is likely to accelerate further as growing business optimism fuels a comeback in capital spending, the missing ingredient in US growth so far. If the Trump administration and the US Congress follow through on tax cuts, higher infrastructure and defense spending and deregulation without sparking off a trade war through protectionism, the US economy will see a even stronger growth.
This US recovery is unfolding in conjunction with a firmer recovery in the Eurozone and Japan, helping to reinforce these latter recoveries as well. The Eurozone and Japan are also aided by oil prices remaining in a sweet spot and by weaker currencies. Add in the possible rebounds in large emerging economies such as India, Brazil and Russia and well above half of the global economy will be enjoying a better year in 2017 than they had in 2016. Provided we do not see a rise in protectionism, there will be a spillover from global output expansion into trade, and ASEAN countries will benefit directly.

That isn’t, by the way, a mere hope. The data is already showing these uptrends, with visible signs of global trade picking up:

- Leading indicators for world trade – such as container and air cargo volumes, trade in electronic components and export orders – are already signaling a rise.
- Rising capital spending will boost trade with ASEAN economies as capital equipment manufacturing relies more on imported intermediate components.

But, there are significant uncertainties which could completely reverse the positive trend in trade.

- The Trump administration appears to be serious in wanting to shake up the way it approaches its allies and other interlocutors. What worries ASEAN leaders is a rise in protectionism against them. But, for now, most ASEAN economies do not see themselves at risk in the same way that China and Mexico might be as they are less prominent in terms of bilateral trade deficits or weak currencies.
- Given the uncertainty over what the Trump administration will do in terms of relations with allies or attitudes towards rivals such as Iran, it might be tempting for some of America’s interlocutors to push the envelope in some areas so as to test the new administration’s resolve. This could create unpleasant shocks to global business confidence.

As a result of trade tensions and rising uncertainty, financial conditions could become unstable, precipitating several shocks to markets.

There are several reasons to expect continued and perhaps more frequent financial shocks.

- First, the US central bank will almost certainly have to step up the pace of monetary tightening – as US bond yields rise and the US dollar appreciates further, financial conditions in emerging markets which raised borrowing substantially in 2008-2015 will tighten, hurting corporate cash flows. Capital will tend to flow out of emerging markets, causing disruptions in asset prices and further depressing local currencies.
- Second, global inflationary pressures are rising and this could also feed through to expectations of faster monetary policy normalisation even beyond the US.
- Third, while the Chinese economy is stabilising, it will experience ups and downs in the near future. Investor speculation about the trajectory of its economy and currency could create further volatility especially in the currency markets.
Speculation of Chinese yuan devaluation or its actual weakness will certainly create downward pressures on ASEAN currencies such as the Indonesian rupiah, Philippine peso, and Thai baht. But these currencies have become more resilient over time due to improving fundamentals such as strong external accounts, growing credibility of their central banks and much better overall policies.

But ASEAN economies have improved their resilience to such shocks.

- The key elements of resilience – economic diversification, strong financial buffers, room for policy response – have improved in most cases.
- Compared to the sharp swings in equity, bond and currency valuations during the taper tantrum of mid-2013, volatility in ASEAN financial markets has been more restrained in 2016. The Indonesia rupiah for instance has been a relatively good performer despite the series of shocks which caused other emerging market currencies to take severe hits.
- Greater integration with likeminded countries. Given the US pullout of TPP, ASEAN nations will explore other options, including pushing a bit more aggressively for RCEP to be concluded and for it to be more comprehensive in scope than some other nations, like India for example, might wish for. Since they are likely to fail in that, and since RCEP is not likely to have much economic punch, the other option is to consider more bilateral deals with each other and other major partners such as Europe. But that too has a limited effect given Europe’s pre-occupation with Brexit and its own troubles. Bilateral deals with a bullying Trump administration may not work either. The greater likelihood is that likeminded economies in ASEAN such as Malaysia and Singapore cut more bilateral deals between each other.
Australia
Until now the TPP has been the main game for Australian trade policy, with the RCEP seen merely as "TPP-lite". But if the TPP is soon seen as dead in the water, then Australia's obvious Plan B is to consider joining the RCEP. So far, however, Australia hasn’t given up. The response of the Australian Prime Minister to the withdrawal of the US from the TPP was that "Certainly there is the potential for China to join the TPP ... There is also the opportunity for the TPP to proceed without the United States". Australia has also been pushing for Indonesia to join a revamped TPP process as well. Yet, provided it doesn’t rapidly slide into a tariff war, this new round of diplomatic manoeuvring over trade isn’t really a risk to Australia’s 2017 outlook.

Why not? The world and Australian economies faced some major shocks over the past decade, including a range of economic upheavals and political storms. That perspective is important, because it is a reminder that the risks to the 2017 outlook may well not be triggered or – even if they are – that they will not be as bad as some of the tempests of the past decade. Sure, it is relatively easy to conjure up scenarios in which the dry underbrush of the moment is set alight.

Yet the most likely set of outcomes around the globe in 2017 is actually happier news than is generally recognised:

• President Trump has inherited an economy with a degree of momentum. Moreover, if the new President prioritizes infrastructure spending, trade will get a boost.

• And China's economy has also gathered speed in response to a range of stimulus measures.

• Even more importantly, across the last nine months – a period in which global politics has been compelling theatre – there have been growing signs of economic improvement.

The IMF sees faster global growth this year than last year. In fact its latest forecasts, issued in January (http://www.imf.org/external/pubs/ft/weo/2017/update/01/index.htm), upgraded its global growth forecasts for 2017. In addition, a range of leading indicators already pointed to developing momentum for global trade.

These cross-currents may already be seen in the Australian economic landscape. The earlier phase of slowdown in China's economy combined with a pickup in global supply of resources saw industrial commodity prices fall sharply from their 2011 peaks. This in turn led to a sharp squeeze on Australian national income growth. Subtract inflation and population growth, and what one got was real living standards in Australia dropping between late 2011 and mid-2016.

But that "income recession" is already fast disappearing. Better commodity prices have seen national income growth rebound sharply, and there appears to be more good news on the income front for Australia in the pipeline. Australia's trade balance moved out of its customary red ink firmly into the black in late 2016, and it seems set to stay there through 2017.

And with incomes finally growing for the first time in a while, that should underpin solid growth outcomes.

That said, the boost to Australian growth from lower interest and exchange rates is starting to lose steam – housing construction is nearing its peak, and retail's run is moderating.

On balance, that mix should keep the home fires of growth in 2017 burning by enough to leave unemployment relatively steady, and by enough to see Australia move past the Netherlands to record the world's longest ever spell without a recession.
China 2017: resilience in the face of uncertainty
2017 presents both challenges and opportunities for China as the economy moves from an investment and export oriented model to a consumption and services oriented one. Such a transformation inevitably results in a slower growth rate and this could create a certain financial "fragility" in the short term. The good news, however, is that domestic demand has held up even in the face of a slowing economy, which is in itself a consequence of the continued and successful transformation of the Chinese economy into an urbanized, consumer oriented one.

The challenges facing China this year come from politics: the possibility of a rising tide of protectionism sweeping over the world, trade friction with the US, and possible black swan events such as the imminent French elections, are some examples. The reality is that while China's domestic demand is growing, it's trade sector still accounts for about 40% of GDP and 2017's current account surplus is likely to be around 2-3% of GDP. Concerns over protectionism and trade friction with the US might quite possibly constrain China's capacity and/or desire to allow a depreciation of the RMB. There are clear signs already - Chinese leaders have been playing down the chances of an RMB depreciation since last December and at the same time carefully deflating housing and financial bubbles. This has put a greater burden on fiscal stimulus, the only remaining tool they have for promoting growth in the economy. Hence the emergence of a certain financial fragility in the Chinese economy. In fairness, the roots of this financial fragility lie in the large fiscal stimulus of RMB 4 trillion in late 2008 and the continued debt build-up that followed which was the result of a policy bias towards a high economic growth rate. So the real challenge this year is not so much protectionism or trade friction with the US but whether or not policymakers will tolerate a slower growth.
• **Trade friction between China and the US** - Our baseline scenario is that there will not be a full-blown trade war between the two largest economies in the world but the risk of a certain significant trade “friction” cannot be ruled out. The Trump administration seems to be quite serious about reducing its trade deficit which it says is a result of “unfair trade”. Indeed, China’s trade surplus with the US (over USD 250 billion in 2016) has dwarfed bilateral trade imbalances between the US and other major trading partners. The fact that the US Treasury will probably not follow through on President Trump’s campaign pledge of dubbing China a “currency manipulator” suggests that the Trump administration is likely to push China in other areas such as market access.

• **Financial risk** - China’s progress on deleveraging has been slow in recent years. By 2016, debt/GDP ratio had ballooned to roughly 270%, potentially undermining the soundness of the financial system. One indicator of the stress on the financial system was late last year’s mini crisis in the bond market. The best way of mitigating financial sector risk is to reduce leverage, (mainly state-owned enterprises (SOEs) and local government debt) but that also means a slower economic growth rate.

A strong labor market reduces the need to “reflate” the economy
Given the robust labor market, there is no need for China to stick to the overtly ambitious target growth rate. Of course there will be concerns over unemployment and social dislocation but the reality is that China’s labor market is tight and rural surplus labour has reached the Lewis turning point and labour no longer transfers to cities in large numbers. Moreover, China’s population is aging and hence the labour force to population ratio in trending downwards. In addition, a vibrant new economy is generating many jobs although not much GDP in a traditional sense. Why? Service sector in China is under-developed but improving services such as better experience of travel may not generate much GDP even though many jobs will be created.
Take the RMB’s "weakness" in stride
One major challenge faced by China is the acceleration of capital outflows which is exacerbated by depreciation expectations. China’s foreign exchange reserves have come down from USD 3.23 trillion in January 2016 to USD 2.9 trillion in January 2017. Declines of foreign reserves is the result of corporate external debt repayments, their desire to acquire relatively under-valued overseas assets and a diversification of consumer preferences. The Government, understandably, wants to stabilize both the RMB exchange rate and foreign reserves. However, given that China is the world’s largest trading nation in the world and at the very center of global supply chains, certain draconian means of capital controls may result in adverse effects on financing and even normal procurement for firms operate in China. In addition, these measures, although temporary, could deter foreign direct investment (FDI) because companies are concerned about the risk of profit/dividend repatriation.

Though muddling through has proven to be the optimal strategy in the past thirty years, where the RMB exchange rate is concerned, we feel the current situation may call for something bolder. This is because, political factors aside, several challenges await China in 2017, the toughest one being a sooner-than-expected monetary tightening by the Fed which could make the dollar even stronger. Tax cuts in the US will, in all likelihood mean that the dollar will become even stronger, prompt the Fed to react in a more forceful way in view of a full-recovery of the US economy. Therefore, it would be wise for policymakers to accept sporadic overshooting of the RMB exchange rate instead of running down reserves.

Dynamics of future growth
Let us look beyond 2017. What does the future hold for China? There are several prospects for growth. Here are four possible trends:

1. The rising tide of urbanization
Since the government in 2014 unveiled its new urbanization program which aims to transform rural workers into urban dwellers by offering them urban dwellings, more than a dozen new city clusters have emerged across the country. These city clusters are part of the so-called "one-hour economic circles", linked by high-speed rail and extensive underground subway systems, and have substantially strengthened the transportation and trade links between villages, towns and cities. Migrant workers, a large population group who have long been neglected, should also be integrated into the urbanization program as they are already urbanized and have great potential as future consumers.
2. **Servicing China's aging population**

China's population aged rapidly with 15% of its population aged over 60 in 2013. This proportion is projected to grow to 18.5% or 280 million by 2025. With changes in the demographic structure, there will be a growing demand for pension, medical services, healthcare insurance, asset management and tourism in China.

3. **Technological/Internet innovation**

Every major technological breakthrough serves as a catalyst for industrial revolution. From big data and cloud computing to artificial intelligence and virtual reality, emerging technologies are disrupting business in unprecedented ways. But technology is an industry game changer only when it acts as a tool that enables companies to cut expenses and increase productivity. We remain cautiously bullish on every new technology and the changes it brings about.

4. **Industrial automation and artificial intelligence**

The fourth industrial revolution is expected to see more human jobs replaced by robots. The Chinese government is keen to promote automation in its vast but inefficient manufacturing industry as a way to cope with increased competition and rising labor costs. China has seen its working age population shrinks and fewer young people willing to work on assembly lines as their parents did. In a global context, China needs to shift from a labor-intensive goods exporter to a high value manufacturing powerhouse. As the cost of industrial robots continues to fall, we expect to witness a mass adoption of automation in China's manufacturing.

**Conclusion**

Notwithstanding various challenges such as exchange rate management and possible external shocks, China still has many policy options. It would be wise to lower the GDP growth target and to focus on the quality of growth rather than on numbers. Indeed, the group on overall economic reform seems to be well aware of this. Recently, in the run up to the annual NPC and CPPCC Sessions (1st week of March), they announced that the key goals for 2017 are – addressing over capacities, mitigating financial risks, and upgrading the manufacturing sector.
The key goals for 2017 are – addressing over capacities, mitigating financial risks, and upgrading the manufacturing sector.
Unleashing the value of the Industrial Internet of Things

In order to be successful and generate further growth, companies will use the Industrial Internet of Things to improve efficiency by optimizing the supply chain, boost revenues by enhancing customer experience and upgrade the risk management by improving product safety. However, a transformation from interpretation to prediction in the usage of data is crucial.
Value of IoT in the Industrial sector

In today's business world, all companies are facing a challenge that can be turned into a great opportunity: the transformation from a reactionary towards a visionary approach. Retrospective analysis and delayed responses are no longer suitable for today's rapidly changing business environment. As with the increased use of sensors and improved quality of data, Internet of Things (IoT) allows companies to act with foresight, preventing significant losses and creating value.

According to Gartner, the number of IoT equipment installed worldwide reached 6.4 billion in 2016, representing a 30% year-on-year growth, and it is expected to reach 20.8 billion in 2020. The global endpoint spending on IoT was about USD 1.414 trillion in 2016, composed of USD 546 billion from consumer applications, USD 201 billion from cross-industry business applications, and USD 667 billion from vertical industry applications. By 2020, the total expenditure on IoT is expected to reach USD 3.011 trillion, and the afore-mentioned market segments are expected to grow to USD 1.534 trillion, USD 566 billion and USD 911 billion, respectively. This represents compound annual growth rates (CAGR) of 29%, 30% and 8%, respectively.

IoT projects are currently mostly used in the industrial sector. IoT Analytics believe that the manufacturing industry accounts for around 25% of IoT applications while Harbor Research and CISCO estimated its percentage at 27% and Gartner calculated a 15% share. Although estimates by research firms vary, the manufacturing industry takes the lead in IoT. The figure below shows Gartner’s forecast of the overall IoT market and Industrial IoT applications. (Figure 1)

In China, the ecosystem for IoT has become increasingly mature as demand for industrial IoT applications continues to increase. According to CIC estimates, the scale of Industrial IoT in China reached RMB115.7 billion in 2014, accounting for 18% of the overall industry of IoT, while it today reaches approximately RMB150 billion, a growth rate of 29%. By 2020, Industrial IoT is expected to account for 25% of the overall IoT with an industrial scale exceeding RMB450 billion.

The source of value and how it works

Given the great potential of Industrial IoT, we need to reflect on the ultimate origin of its value. IoT creates an overall new type of value, which is particularly different from the one derived from products and services: self-managed information and insights. More precisely, IoT can turn almost anything into a source of relevant information.

As early as 2015, Deloitte for the first time published the concept of the new value source derived from IoT, the so called “information value loop” (Figure 2). The core question of every company when defining a strategy is: how do we create value and how can this value be captured? The IoT is changing the way of how companies create value: traditionally, value creation was considered to be driven by the concept of the so-called “value chain” – a linear series of steps, that transforms inputs into outputs. The IoT technology allows to capture the information generated by these products and services – information that creates value in a fundamentally different way, put together and explained in the “information value loop”.

Figure 1. Global Endpoint Spending on IoT and Industrial IoT

![Figure 1. Global Endpoint Spending on IoT and Industrial IoT](chart)

Source: Gartner, Deloitte Research
The information value loop begins with the creation and interaction of information in a new environment. Sensing technology enables every action to produce information, leading to a stage of "creation". The network, typically provided and managed by the communication service providers, connects the "creation" and "interaction" stages. This connection releases information and activates the rest of the closed loop – leading to an all-new form of opportunity for cooperation.

It should be noted that the information value loop is a closed loop, which means behavior—the state or behavior of objects in the real world—generates information. This information is then used to predict future behavior. The information which makes the closed loop complete and creates value, will go through the various stages of the closed loop, whereas each stage is driven by a specific "technology." A "sensor" that creates information monitors every action. The information achieves interaction via a "network", and then "standards" of technology, law, regulation, or the society bring them together across time and space. "Augmented intelligence" is a generic term referring to analytical tools that support information analysis. The information value loop is ultimately accomplished by "augmented behavior ", i.e. technologies that help to be compliant concerning prescribed actions, leading to improved behavior.
IoT can significantly reduce the cost of computing and data storage, overturning previous definitions and frameworks for business value. We can think about the business value and opportunities generated by IoT via the following indicators (Figure 3).

**Figure 3 Dimensions for measuring the business value of IoT**

<table>
<thead>
<tr>
<th>Financial indicators</th>
<th>A company needs to maintain a balance of revenues, expenditures and assets to ensure its operation, while the management of most companies focuses on how to reduce costs, improve asset efficiency and relief the debt burden – and not on exploring ways to develop new sources of revenue through new and innovative programs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational indicator</td>
<td>Changes in financial indicators reveal three core business processes of a company: customer lifecycle, product lifecycle and equipment lifecycle. At present, most companies invest mainly in the equipment lifecycle (such as optimizing equipment operation and boosting usage). For the customer lifecycle and product lifecycle, intelligently connected equipment can not only provide new analysis and performance, but also effectively manage the way companies develop customers and products. Moreover it can provide information about the customer lifecycle, the product as well as the related revenue and profit in detail.</td>
</tr>
<tr>
<td>Business performance improvement</td>
<td>Most of the current IoT solutions are used in specific circumstances, such as inventory reduction or mechanical breakdowns. Only a small part of these companies use the data from IoT to improve the overall production process and product design. If companies seek to make the most of IoT solutions, a long-term perspective is required, ensuring long-term performance improvement rather than focusing on a single transaction (such as a single transaction with customers or suppliers). Only then can companies compare past and future performance, and achieve sustainable value-added improvements.</td>
</tr>
</tbody>
</table>

Source: Deloitte University, Deloitte Research

The analysis from the above three dimensions clearly demonstrates that the business value of IoT will increase efficiency, promote business growth and enhance risk management, explained in more detail in Figure 4 below.

**Figure 4 Business avatar of the value of IoT**

| Efficiency improvement | • Increase asset usage and reduce downtime  
| | • Improve business agility and response to changes  
| | • Streamline supply chain or reduce supply chain costs  
| | • Ensure stability and accuracy of planning  
| | • Improve legal compliance  |
| Business growth | • Explore sources for core business growth  
| | • Increase sources of income in after-sales market  
| | • Deepen understanding and insight about customers  
| | • Strengthen the customer integration and channels  
| | • Innovate new products and services  
| | • Create new business models  |
| Business performance improvement | • Ensure product safety  
| | • Improve asset security  
| | • Improve operational security  
| | • Effectively manage warranty and recall  
| | • Enhance cyber security  |

Source: Deloitte Research
Embodying the value of Industrial IoT applications in China

While China’s manufacturers recognize the importance of industrial IoT, they have not established clear-cut IoT strategies. The Deloitte Survey on the Industrial IoT Applications in the Chinese Manufacturing Industry shows that 89% of the companies surveyed believe Industrial IoT is critical to business success in the next five years. While 72% have started Industrial IoT applications in one form or another, only 46% have established clear-cut Industrial IoT strategies and plans. (Figure 5)

Figure 5 Awareness and applications of Industrial IoT in the surveyed companies

- Industrial IoT is critical to the business success: 89% agree, 4% disagree, 6% no idea
- Have started to apply Industrial IoT to some extent: 72% agree, 24% disagree, 4% no idea
- Have a clear Industrial IoT strategy: 46% agree, 44% disagree, 10% no idea

Source: 2016 Deloitte’s Survey on the Industrial IoT Applications in Chinese Manufacturing Industry, Deloitte Research

Figure 6 Companies surveyed use sensors to collect data

- Use sensors to collect product data: 45% use, 31% plan, 13% no plan
- Use sensors to collect equipment data: 53% use, 26% plan, 11% no plan

Source: 2016 Deloitte’s Survey on the Industrial IoT Applications in Chinese Manufacturing Industry, Deloitte Research
Manufacturers are still in the beginning phase of data applications – the shift from interpretation to prediction takes time.

Most companies surveyed have begun to use sensors to collect data from products and devices or are intending to do so. More precisely, in terms of product data, 45% of the companies surveyed have already begun to collect data and 31% intend to start the collection. In terms of equipment data, 53% of the companies have started to collect data while 26% have made plans for collection. (Figure 6)

However, these companies remain in the perception stage of data application, and have not reached the action phase yet (Figure 7).

In-depth Industrial IoT applications require companies to change the way they use data—a transformation from interpretation to prediction. After using the data collected from a variety of sensors to interpret patterns of historical performance and the root causes, companies need to adopt a forward-looking perspective: how can the collected data be used to improve intermediate process and product sales? What sort of products and services may bring in new sources of revenue in the future? And what kind of IoT applications may open up new markets?

---

**Figure 7 How companies use the data collected (percentage represents the proportion of firms choosing this option)**

<table>
<thead>
<tr>
<th>Data visualization</th>
<th>65%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root causes analysis</td>
<td>57%</td>
</tr>
<tr>
<td>Generate management reports and KPI dashboard</td>
<td>51%</td>
</tr>
<tr>
<td>Develop forecasting models and optimization models</td>
<td>37%</td>
</tr>
<tr>
<td>Data mining to discover new insights</td>
<td>26%</td>
</tr>
<tr>
<td>Others</td>
<td>2%</td>
</tr>
</tbody>
</table>

Key drivers - optimizing supply chain for efficiency improvement, enhancing customer experience for revenue growth and improving product safety for better risk management.

Our findings show that the Industrial IoT applications of Chinese manufacturers are mainly driven by efficiency improvement although revenue growth and risk management promotion have started to attract increased attention.

- Efficiency Improvement

In terms of efficiency improvement, optimizing supply chains through Industrial IoT applications has received the most attention, with 116 out of the 156 companies surveyed (74%) desiring to improve the efficiency of their supply chains and reduce costs through Industrial IoT applications. Some 110 companies (70%) desire to use technologies such as predictive maintenance to improve operational efficiency and reduce downtime, while others hope to improve business agility and legal compliance (Figure 8).

Real-time data of supply chains can help pinpoint problems even before they occur. As a result, a company may reduce inventory and even capital requirements. Industrial IoT can help manufacturers better understand this information. By connecting factories to suppliers, all parties involved in the supply chain can track the interactions among them, the material flow, and the manufacturing cycle. Systems that support Industrial IoT enable location tracking, remote inventory monitoring and access to reports of parts and products moving in the supply chain. They can also collect and provide delivery information to enterprise resource planning (ERP), product lifecycle management (PLM) and other systems.

Figure 8 Key areas of efficiency improvement in the companies surveyed after the implementation of Industrial IoT applications (figures represent the number of firms choosing this option)

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply chain optimization</td>
<td>116</td>
</tr>
<tr>
<td>Capital operation efficiency improvement</td>
<td>110</td>
</tr>
<tr>
<td>Business agility</td>
<td>92</td>
</tr>
<tr>
<td>Compliance</td>
<td>28</td>
</tr>
</tbody>
</table>

Out of the 156 companies surveyed, 113 (72%) desire to improve their customer experience and generate revenue through Industrial IoT applications, while 107 companies (69%) hope to develop new products and services with the data generated by Industrial IoT and 95 companies (61%) want to use the IoT data to help them achieve innovation in their business models (Figure 9).

**Figure 9 How companies intend to increase revenue (figures represent the number of firms choosing this option)**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer experience improvement</td>
<td>113</td>
</tr>
<tr>
<td>New products and services</td>
<td>107</td>
</tr>
<tr>
<td>New business models</td>
<td>95</td>
</tr>
<tr>
<td>New markets</td>
<td>91</td>
</tr>
<tr>
<td>Improvement in core business</td>
<td>73</td>
</tr>
<tr>
<td>Better pricing</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: 2016 Deloitte’s Survey on the Industrial IoT Applications in Chinese Manufacturing Industry, Deloitte Research
• **Enhance risk management**

Regarding the optimization of the risk management, key areas the companies surveyed focus on are product safety (77%), asset security (65%), operational security (65%), and effective management of warranty and recall (61%) (Figure 10).

In terms of product safety, companies have improved quality control by maintaining the traceability of digital thread of products from raw materials to end products. Companies also use artificial intelligence algorithms and optimization programs to reduce rework and waste.

**Figure 10 Risk management improvement enabled by the Industrial IoT is mainly reflected in four areas. (The number represents the number of companies choosing this option.)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure product safety and quality</td>
<td>120</td>
</tr>
<tr>
<td>Improve assets security</td>
<td>101</td>
</tr>
<tr>
<td>Improve operational safety</td>
<td>100</td>
</tr>
<tr>
<td>Effectively manage warranty and recall</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: 2016 Deloitte’s Survey on the Industrial IoT Applications in Chinese Manufacturing Industry, Deloitte Research
The focus of future Industrial IoT applications will shift from equipment and assets to products and customers. Industrial companies equipped with IoT may generate business growth mainly in two ways: new products and services and closer customer relationships. To develop more attractive products or to enhance existing customer relationships, a significant amount of data concerning products and customers is needed.

At present, there is much less information on products and customers available compared with the data on assets and equipment. Driven by the demand for efficiency promotion as well as business growth, companies will shift their attention from equipment and assets to products and customers.

When asked in which areas more detailed and constructive data is needed, 69% of the companies chose the product data while 61% selected the customer data, surpassing the operational data (53%), sales data (53%) and asset and equipment data (42%). (Figure 11)

Key challenges - lack of interoperability standards, data ownership and security as well as under-qualified operators (Figure 12).

**Figure 11 Areas need more detailed and constructive data**

<table>
<thead>
<tr>
<th>Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>69%</td>
</tr>
<tr>
<td>Customer</td>
<td>61%</td>
</tr>
<tr>
<td>Operation</td>
<td>53%</td>
</tr>
<tr>
<td>Sale</td>
<td>53%</td>
</tr>
<tr>
<td>Asset and equipment</td>
<td>42%</td>
</tr>
<tr>
<td>Service</td>
<td>38%</td>
</tr>
<tr>
<td>Competitor</td>
<td>27%</td>
</tr>
</tbody>
</table>

Figure 12 Biggest issues for companies in applying Industrial IoT technologies (percentage represents the number of firms choosing this option)

- The lack of interoperability and standards
  - 52%
- Ownership and security of data
  - 46%
- Underqualified operators
  - 42%
- Data quality
  - 38%
- The lack of capability to carry out data analysis and provide new insights
  - 36%
- Coordination inside the company
  - 26%
- Cyber security
  - 24%
- Inadequate budget
  - 17%

Source: 2016 Deloitte’s Survey on the Industrial IoT Applications in Chinese Manufacturing Industry, Deloitte Research

- **The lack of interoperability standards**
  For 52% of the companies surveyed, the lack of interoperability standards is one of the major challenges in applying Industrial IoT technologies. Related studies show that due to the lack of interoperability 40% of the potential value of Industrial IoT cannot be realized⁴.

- **Ownership and security of data**
  A total of 46% of the companies surveyed believe ownership and security of data are major challenges in applying Industrial IoT applications. The market has yet to agree on who owns the data, manufacturers or users of the equipment with which the data is collected. Most equipment suppliers tend to provide customers with an effective access to raw data, encouraging users to participate in manufacturing improvements. Regardless of the role they play—the data owner or the data guardian—equipment suppliers can reap their own profit from data generated by the Industrial IoT only after they share the data with and provide valuable services to their customers.

Security is another obstacle for Industrial IoT. The sustained surge in the number of connected devices has provided industrial systems with unprecedented opportunities for growth and performance improvements. Nevertheless, this growth also poses new risks for industrial companies, especially considering the exponential risk of data breach. The security issue of Industrial IoT covers all aspects – from industrial processes and applications to safety and reliability.
requirements – and can therefore not be addressed in isolation.

- **Lack of relevant technical personnel**
  Lack of qualified technical personnel is another major challenge for 42% of the companies surveyed. Considering factors such as the big variety of Industrial IoT applications and circumstances, new data sources, changes in system architecture data as well as multi-structured data, today’s manufacturing companies do not have adequate analytical capabilities and required talents. Although many manufacturers do have sufficient experience in data analysis, their experience, however, mainly concentrates on the descriptive analysis based on the structural data sets instead of the predictive and pattern analysis using collected real-time big data in conjunction with a variety of unstructured data.

Although many universities are trying to develop appropriate talents in the field of data sciences, the number is still limited. Competition for high-end talents will become more intense. Thus, companies should recognize that building partnerships with educational institutions is becoming increasingly important.

**Unleashing the business value of Industrial IoT**
Industrial IoT will become a new source of revenue and improve efficiency and security, creating new value for businesses. To realize such value, companies need to take the following strategies into consideration:

**Aim high, start small, create value and accelerate upgrades**
Building an industrial IoT framework largely depends on a clear-cut strategy, which defines scopes and targets of IoT applications. A company without a clear-cut strategy always leans on a single-issue technology to solve diverse business problems while a company with a clear-cut strategy focuses on the comprehensive application of multiple technologies to change the overall way it operates and does business.

Industrial IoT has significant potential but applying it requires changes and adjustments in business culture, infrastructure, technical capability and human resource. Thus, if companies attempt to solve problems in a comprehensive manner, their growth might be stalled.

Consequently, companies should aim high but start small to create value and upgrade fast. Only when a series of small tasks is completed, big changes can happen. Companies should first launch specific pilot projects that will support the long-term goals, and find the necessary technologies for future promotion and fast upgrades only during this process.
Focus on the product and customer lifecycles
The value of industrial IoT does not only derive from management of products and equipment but also from management of products and customer lifecycles.

In order to extend these two lifecycles, identifying ways to convert a one-time transaction into a sustainable income source is crucial. One way to achieve this is for example the Manufacturing-as-a-Service (MaaS), which is based on Pay per Use. But many other ways that ensure closer customer relationships and sustainable value creation and fee charges can be considered.

Develop the ability to apply big data
The implication of big data is not to collect more data as such, but to be able to accomplish in-depth analysis to solve problems or to identify predictive policy decisions.

When companies build big data applications, they should start by designing a top-level framework based on business strategies and IT strategies. This framework should include the following elements: a) targets and strategies for big data applications, providing the roadmap for building applications and platforms; b) circumstances where big data analysis and modeling are used, providing clear configuration of big data applications based on value chain and customer lifecycle; c) big data analysis and modeling, which provides direction for problem solving through identifying challenges and applying multiple algorithms and d) a big data technology platform, which provides the necessity to track development trends of technologies and utilize all kinds of application systems in the company.

Improve security
Many companies decided to establish information security frameworks and mechanisms to minimize the risks. Information security mechanisms include information security targets (incidences, breaches, minimal value of production end time), security measures (physical measure, network, host, data, personnel, emergency preparedness and document management measures) and security management systems (for data centers, networks and sensitive devices and so on).

In addition to traditional information security risks, cyber risk has become an increasingly sensitive issue of IoT. Companies can manage cyber risk by applying the following measures:

• Define interoperability standards: following a universal standard can help ensure secured and effective communication and collaboration amongst devices.

• Use special devices and components instead of retrofitting the old systems: since old systems are not designed to cope with IoT security problems, companies should use new security technologies instead, specifically designed for IoT or components targeting cyber security problems.

• Clarify areas of responsibilities for participants of the ecosystem: everyone in the IoT ecosystem should understand where their responsibilities begin and end, evaluating the potential risk at every juncture. Knowing the origin of a certain risk factor can help develop more secured solutions.
• Develop data baseline: data baseline can help companies distinguish suspicious situations from normal ones, enabling companies to react when data goes out of the normal range.

• Enhance data governance: management systems on data collection, usage and storage can help avoid damage and prevent negative influence from spreading.

• Establish flexible coupling systems: if coupling systems are loose and flexible, the breakdown of a single system will not result in losses on a large scale.

Ensure proper positioning and cooperation in the ecosystem.

The overall system of Industrial IoT cannot be established by one single manufacturer. Rather, such system needs to be developed within a complete ecosystem.

GE Digital is now working with Dell, EMC, Microsoft, SAP, Nokia and dozens of other companies to develop an Industrial IoT platform, which allows these companies to develop new industrial applications and offer value-added applications to customers. And this is only one case among many others. Companies like Honeywell, Schneider, Cisco, IBM and Accenture are also in close cooperation, building an industrial IoT platform.

Of course, not every company can become an ecosystem builder and promoter like GE, especially if there are already too many IoT platforms on the market. The industry as a whole is expected to go through numerous integrations of IoT platforms while many existing ones will be eliminated. Whether companies should position themselves as builders of ecosystems, providers of modular products or establishers of channels will depend on how their businesses are designed and how profound their knowledge of their end users is.

Technological advances have unlocked the potential of IoT solutions in industrial applications. Such solutions improve operation efficiency, increase sources of revenue and inspire innovation. IoT has proved to be able to help companies create more and sustainable value and to convert one-time transactions in the past to long-term customer relationships. Although connectivity and security problems remain an issue, we still expect IoT to sweep through many important segments in the industrial sector.
IoT has proved to be able to help companies create more and sustainable value and to convert one-time transactions in the past to long-term customer relationships.
Endnotes


2. 5 CIC, Report on the IoT Industry and Investment Prospects Forecast Based on the Data During the 13th Five-Year Plan


5. Zhang Lili, Jiudao Tech "The four major areas of Industrial IoT and big data analysis", https://kknews.cc/zh-sg/tech/ep93a4.html

Voice of Asia
A rich tapestry of insights

The Asian century is shaping, cultivating, and driving a dynamic future for business and society. Powered by almost 60 percent of the world’s population, the region has become a hub of diversity and innovation.

Our *Voice of Asia* series brings to life the challenges and opportunities facing the region today and tomorrow. The potential has never been greater to create a cohesive narrative that reflects the interdependence of the region and provides a glimpse of what’s possible across Asia, shaping a more positive outlook overall. In this edition, we focus on key unifying themes—from growth to trade, culture to commerce—that underpin Asia’s current and future prosperity.

This is our voice, the *Voice of Asia*. 
Things you need to know about Asia in 2017

It’s easy to be gloomy. Global growth has disappointed for some time, and in recent years Asia has started to be part of that problem. The last decade has served up a seemingly never-ending succession of shocks, both political and economic.

So we’ve got some positive news for you: much of the news in 2017 is more likely to be good than bad, with Asia set to be central to better-than-expected global growth this year.
But not all the news is good, so here are our key “need to know” insights for Asia this year:

• **First, global growth will surprise on the upside, with Asia—led by India—to be a substantial winner from that.** Leading indicators of global growth are on the rise as the big shocks of recent years settle into the rearview mirror, with that good news already bubbling up into a lift in export orders in Asia.

• **Second, while growth may be a pleasant surprise, financial stresses are a major risk factor.** Global interest rates are finally beginning their long climb back to normal, with the US Fed leading the way. That will generate a lot of volatility in markets, but our analysis suggests Asia is better placed than most to handle that stress.

• **Third, the best news within overall global growth will shift back in favour of emerging economies.** Even better, this won’t be “lazy” commodity-driven growth. Reforms have boosted the underlying competitiveness of many emerging economies, setting the stage for more broad-based.

**Insight No. 1: Global growth will accelerate faster than expected, with Asia a big winner**

Many forecasters, including the International Monetary Fund (IMF) and the World Bank, are warning that global growth will moderate, with risks tilted to the downside.

In our opinion, this is overly pessimistic. We see evidence that global growth will accelerate, not decelerate. Leading indicators show this and the underlying drivers of the global economy, such as labor and credit markets, already turning more positive.

And why wouldn’t they? Consider:

• The G3 economies (the United States, Europe, and Japan) are all maintaining or increasing their rates of recovery.

• India continues to surprise by maintaining growth above 7 percent in the face of global headwinds.

• China is stabilizing thanks to aggressive policy action to offset that nation’s headwinds.
Much of the news in 2017 is more likely to be good than bad, with Asia set to be central to better-than-expected global growth this year.

- Large emerging economies such as Indonesia are poised to accelerate, while others such as Russia and Brazil are set to recover.
- The net benefit of low oil prices is likely to be more evident in 2017. Positives such as higher consumer spending and the expansion of energy-intensive activities will begin to dominate over negatives such as collapsing oil-related capital spending.

Those are powerful positives.

**World trade is rebounding: the early evidence**

As chart 1 shows, world trade volumes have been in the doldrums for many years.

However, as chart 2 highlights, there are very early signs that US import demand is picking up.

And the leading indicators of world trade show that a gathering rebound is under way:

- First, new export orders have been rising steadily—a message that can be clearly seen in purchasing manager surveys around the world (chart 3). This burgeoning export recovery is supported by a rise in new export orders received by all sectors of the global economy, as chart 4 reveals. Moreover, export orders received by Taiwan, a bellwether for world trade, are looking healthy, while factory orders in Germany, another major global exporter, are also on the up.

- Second, trade in electronics components is another key lead indicator of world trade. With new US orders for computer and electronic parts rising (see chart 5), this too points to growth in Asia’s manufactured exports.

- Third, container throughput, yet another leading indicator, is also recovering (chart 6).

- Finally, air freight, which also provides a gauge of future trade activity, is showing signs of life too. In fact, the growth of global air freight has accelerated to its strongest rate since early 2015.
Chart 1. World trade volume growth 3MMA
World import volume growth poor

Chart 2. US import volumes
US import volumes: incipient recovery

Chart 3. Global manufacturing new exports index
New export orders up...

Chart 4. Global all industry new business index
...reflecting a general recovery in orders

Chart 5. US New orders: computer & electronic products
Electronics trade perking up a tad

Chart 6. Container volume growth SA container volumes recovering

Source: Calculated using data from CPB world trade monitor

Source: Calculated using data from CEIC database

Source: Calculated using data from CEIC database

Source: Calculated using data from CEIC database and RWI-Leibniz-Institut für Wirtschaftsforschung (RWI) and the Institute of Shipping Economics and Logistics (ISL)
Trade rebound underpinned by momentum in G3, India, and China
And there’s more good news where that came from:

- **The United States is recovering its role as an engine of global growth**, with both manufacturing and services more robust. The US economy is growing at its fastest rate in more than a year, and the IMF is forecasting that growth to rise further in 2017.

- **The Eurozone is weathering its challenges**: the Eurozone has shaken off the shock of the Brexit vote and continuing political and financial uncertainty.

- **India’s services exports are likely to benefit from the recovery in US growth momentum** as the United States continues to be the biggest market for Indian services.

- **China’s stimulus is set to continue**: China has been on a firmer footing of late as it returns to debt-fuelled growth facilitated by cheap credit. It is concerning that the underlying structural weaknesses and risks that gave rise to the crisis of confidence in China a year ago remain unresolved. However, we also believe that public sector largesse can keep China’s economy on a decent growth trajectory through 2017.

Other large emerging economies are bouncing back
But wait, there’s more. The Organization for Economic Co-operation and Development (OECD) lead indicators for Russia and Brazil suggest above trend growth likely over the next 12 months:

- **Russia’s manufacturing purchasing managers’ index** is close to a two-year high. Production is growing at its most robust pace in two years, and rising new orders portend continued growth.

- **Brazil’s current indicators remain dismal, but forward-looking ones are improving**: the central bank is cutting rates, while lower oil prices, greater confidence in policy reforms, and an improving world economy are helping the Brazilian economy to bottom out.

The world economy is normalizing after successive shocks
This set of good news in many ways has a single source—a lack of new crises.

The world economy is finally coming out of a dark period of successive major shocks. They began with the global financial crisis of 2008–09, but that was then followed by the Eurozone sovereign debt crisis from 2011, the sharp slowdown in Chinese economic growth and the subsequent collapse in commodity prices from 2014, and the ragged performance of large economies following that.
The election of Donald Trump as President of the United States raises some important questions for the global economy in 2017, including in relation to trade. Many of those questions are being asked elsewhere as well, as nationalist and protectionist sentiment proliferates across many developed economies.

However, the outcome may be far less dire than is being feared. As President Trump has toned down some of his initial campaign rhetoric; more important, there are limits to his influence when swimming against a rising tide of prosperity and globalization, both of which will continue to provide an important stimulus for trade into the future.

What we are likely to overwhelmingly see through 2017 is the natural healing process that occurs in economies as the worst effects of these shocks wear off. This is forming a base for a more resilient recovery around the world.

The world economy is finally coming out of a dark period of successive major shocks.
The missing ingredient has been capital spending
An acceleration in capital spending in the United States would be big news. Pressed by the need to improve profitability, and as the recovering US economy provides more confidence that domestic risks and external risks such as Brexit and a Chinese slowdown can be contained, capital spending—the missing ingredient in a US recovery—could well revive.

The multiplier effect could be significant in Asia, including in India via increased trade in services. Large US financial institutions are the major consumers of Indian information technology services, and any genuine revival in the United States will lead to better opportunities for service providers.

Of course, this is no sure thing. American firms still face excess capacity and a rising US dollar, which hurts US exports. If business investment does take off, it will be because businesses are confident of a boost to demand and an uptick in inflation—both of which could be spurred by the sort of fiscal stimulus that President Trump has suggested he might champion.

Asian exporters the big winners from global recovery
The sub-index for new export orders in purchasing manager indices across Asia are already on the rebound. That’s an encouraging sign, indicating that global demand is slowly but surely gaining strength.

We see the relative winners among Asian economies as those with competitive manufacturing sectors:

- **Export-oriented newly industrialized economies will be the biggest winners:** Taiwan should benefit given its strong linkages to US technology products—but the strength of its recovery will also depend on how much of a turnaround there is in Chinese demand for Taiwan-made intermediate products. Singapore will be a major beneficiary too, given how trade-dependent that economy is. South Korea will benefit too, particularly if there is a rebound in global capital spending—but the rebound will be constrained by sector-specific challenges in its shipbuilding, shipping and phone sectors.

- **Export-oriented ASEAN economies stand to gain as well:** Malaysia has a competitive currency and a strong base of export-oriented manufacturing, and trade is a big share of the Malaysian economy—one of the world’s highest such ratios. Thailand, too, will be a winner, as will Vietnam, although the Philippines and Indonesia are less competitive in export-oriented manufacturing.
• **Outsourcing will continue to gain:** we also see outsourcing, which has been a major engine of growth for India and the Philippines, strengthening despite the US election-related rhetoric around this topic. India’s outsourcing industry remains dominant in the region, and has morphed into a broader ecosystem integrating voice support along with sales support and software development. Given the advances in the technological domain and the need to maintain profitability, the outsourcing industry is likely to continue showing impressive growth for both India and the Philippines.

• **China** is an obvious beneficiary from increased demand in the G3, but it is facing more protectionist barriers and some Trump-related question marks; India’s manufacturers remain less geared to a pickup in G3 demand but nonetheless will be positively affected by a recovery in key export markets. Further, India’s manufacturers have considerable potential to sell into newer markets and are already targeting African and Latin American countries.

**Insight No 2: The Fed to raise rates faster than expected, but Asia can handle it**

It is clear that the US Federal Reserve is shifting away from its extreme reluctance to normalize interest rates, raising the question of whether the gradient of the rate hike trajectory will be steeper than expected. Some officials are now talking about the risks of not tightening early enough, while the data is pointing to renewed vigor in the US economy:

• There is now a risk that the United States could actually grow too fast and cause some asset markets to “become too ebullient”.

• Also, inflation is showing signs of picking up and is heading toward the 2 percent target.

• The surge in Purchasing Managers’ Index activity indicators; the continued, albeit modest, firming of the labor market; and the signs that capital spending—the missing ingredient in the US recovery—may be reviving, suggest the economy is in robust shape. If so, that makes continued ultra-low rates inappropriate.

• And if capital spending really accelerates, as we believe it will, the multiplier effects on the economy will be sizable.
What would higher interest rates mean for Asian markets?
If the US Federal Reserve does lob grenades at global growth in 2017, are the nations of Asia well prepared?

There are several important factors that will determine Asian economies’ resilience in the wake of a Fed rate hike.

Exposure to abrupt withdrawals of external capital: risky assets such as emerging Asian stock markets and bonds will be re-priced if US interest rates rise and investors become more rigorous in assessing risks.

There are three ways to measure the degree of risk:

1. Countries with current account deficits are better off if the deficit is mostly funded by direct investment rather than volatile portfolio capital. Given that, Indonesia remains vulnerable.

2. Another measure is the share of a country’s easily sold securities owned by foreigners. That’s an indicator on which Indonesia and Malaysia seem modestly vulnerable.

3. A final yardstick is the extent to which short-term debt is covered by foreign reserves. At first glance Hong Kong and Singapore look vulnerable on this score, but that’s only because their large banking sectors exaggerate this ratio. Only Malaysia is moderately at risk here.

Susceptibility to rising interest rates: after a long period of very low interest rates, debt levels have expanded among families and businesses in Asia. Rising rates could hurt those who are over-leveraged. We need to look beyond just debt levels to assess the degree of risk here. If banks are well capitalized and there are few distortions in the economy such as asset bubbles, then the risk is lessened.

Apart from China and Hong Kong, we see little risk of this. The Indian economy has undergone some major changes over the last three years due to active policy action around managing this risk. However, financial markets still remain susceptible to a rise in US policy rates. The recent Fed hike is likely to mean capital moving toward the US markets as investors realign their portfolios. This has historically meant a weakening of currency and volatility in portfolio flows into India.

The bottom line: resilience in the region has improved as countries have strengthened their economic fundamentals to reduce their susceptibility to global financial volatility. However, with the global economy more interconnected than ever before, no economy is completely insulated, and some are more vulnerable than others.

So although we think that much of Asia will be able to handle the impact of rising US interest rates, it will remain crucial for Asian economies to further improve their resilience.
Insight No.3: A more competitive Asia roars back with higher-quality growth
Over the past few years, a bunch of factors led to emerging economies underperforming. That list includes political convulsions, unpredictable weather, a weak global economy, falling commodity prices and the short-term ill effects of reforms such as subsidy cuts and tax reforms.

However, with some of this bad news now dissipating, the large emerging economies are poised to lead global growth into the next decade—all the more so because the quality of their growth is improving. A number of factors are driving this:

• Lazy commodity-driven growth is being reversed: low commodity prices have weighed on the trade and revenue positions of several emerging economies—a problem for Indonesia in particular. However, we believe that the damage from the commodity boom reversal has been done and commodity-related activity is beginning to see a recovery that could well extend into 2017. Second and more importantly, instead of reverting back to commodity dependence, nations are reinventing reform efforts to diversify their respective economies.

• Strong policy action: we are seeing stronger policy responses across the region as well, helping to boost economic growth. Government policies and spending are boosting private-sector confidence and are helping to generate a recovery in investment spending. That will create new capacity and further improve competitiveness.

• Accelerated reforms: these efforts are being complemented by necessary reforms to address the deep-seated structural weaknesses that have held back economic competitiveness and growth across Asia in recent years.

That’s a good news story. Yes, Asia’s growth has faced challenges, but a variety of responses look set to make a helpful contribution to the region’s growth in 2017.

Taking stock of relative competitiveness
Global institutions frequently compare countries across a range of indicators in order to gauge their relative competitiveness and performance over time.

Across most competitiveness indices (see table 1), we see a recurring trend among Asian economies:

• Singapore leads its peers almost across the board.
• Malaysia and China fall in the middle.
• They are trailed by India, Indonesia, the Philippines, and Vietnam.

However, an assessment of competitiveness over time suggests these trailing economies are on a rising curve thanks to the factors mentioned above. We can see this partly by comparing their ranking in the World Economic Forum’s Global Competitiveness Index, which gauges competitiveness by assessing a wide range of key aspects that matter for competitiveness. That index measures competitiveness based on criteria ranging from institutions and the macroeconomic environment to innovation and business sophistication.

As the years of “lazy” commodity-driven growth recede, governments are being forced to undertake reforms that improve long-term fundamentals—and the payoff looks to be just around the corner.
Table 1: Regional competitiveness comparisons

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Source: Collated from various sources

Table 2: Global competitiveness index rankings (total of 138 countries)

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Source: World Economic Forum Global competitiveness Index rankings 2016-17
India makes the largest gains:
India was one of the region’s only two countries that showed an improvement in the World Economic Forum’s competitiveness index in 2016. It rose 16 positions, moving up to rank 39th out of 138 countries. The improved performance was underscored by progress across all sub-components of the competitiveness index, notably so in market efficiency, business sophistication, and innovation. The cumulative reform efforts of the Modi administration are clearly easing the constraints to doing business in India. The last year in particular has seen some key legislations pass, the implementation of which will likely have a noticeable effect on competitiveness in the coming years. In May 2016, the government passed the “Insolvency and Bankruptcy Code 2016,” which will enable insolvency to be settled on a timely basis, create a record of serial defaulters, and allow faster turnaround for businesses in India. Another key reform has been the passage of the “Goods and Services Tax Bill August 2016,” aimed at converting India into a unified market with four indirect tax rates across all states. This is expected to be the biggest game changer in India’s tax regime in recent times and is likely to result in increased competitiveness for Indian producers.

New Zealand has improved quickly, while Australia loses ground:
Australia’s ranking in the World Economic Forum competitiveness index slipped back in 2016–17 to tie its previous worst position of 22nd out of 138 countries. Key drivers of the result were innovation, where Australia continues to slip behind developed economy peers on the World Economic Forum measure, and a relatively high corporate tax rate. In contrast, New Zealand has rocketed up the rankings in recent years, reaching 13th place in 2016–17. That compares to the country’s 25th ranking just five years ago. Although New Zealand also ranks behind other developed economies in terms of innovation, the country was ranked first in 2016–17 for financial market development, time taken to start a business, efficacy of corporate boards, and the strength of investor protection.

Indonesia is improving but remains an economy of contrasts:
Indonesia fell five positions in 2016, ranking 41st overall. The macroeconomic environment, financial market development, and innovation have improved markedly, but Indonesia is still languishing in health and basic education, as well as labor market efficiency and technological readiness. However, prospects are better than ever. The Jokowi government has already launched 13 economic policy packages to improve Indonesia’s business environment. When coupled with both the government’s plans to continue improvements in health and education and the increased technology uptake across firms, the new policies will be amplified and translate to higher growth.
The Philippines fell in the rankings for the first time in a decade: with bureaucratic red tape, corruption, and infrastructure bottlenecks hampering competitiveness, the Philippines slipped 10 places in 2016 to rank 57th, the first time in a decade that the nation has fallen in these rankings. Other weaknesses identified included the country’s low goods market efficiency, poor technological readiness, and inadequate infrastructure. Still, with a robust macroeconomic environment and a competent economic team focused on improving these fundamentals, we are likely to see improvements in areas such as infrastructure and eased investment restrictions.

Vietnam displays short-term weakness: Vietnam fell four spots in 2016 to rank 60th, following a climb up the competitiveness ladder since 2012. Vietnam reported poorer performance in the criteria of macroeconomic environment and labor market efficiency, but the long-term outlook is positive. Better infrastructure and education limited the rank slippage. Also, Vietnam is growing into a manufacturing powerhouse, supported by surging foreign direct investment.

The bottom line: as the years of “lazy” commodity-driven growth recede, governments are being forced to undertake reforms that improve long-term fundamentals—and the payoff looks to be just around the corner. With competitiveness already improving, these reforms will produce a surge in Asian competitiveness in coming years that will further boost the region’s growth prospects.

Financial markets have gotten over their shock at China’s sudden move to weaken its yuan in mid-2015. The Chinese authorities have pursued a strategy of a steady but unpredictable pace of depreciation that currency markets have taken in their stride.

The Chinese economy is back on a relatively stable footing and probably hit its 6.5–7 percent target range for growth in 2016. The recent shocks of the stock market rout, the yuan’s sudden devaluation, and the subsequent flight of capital in 2015 now seem to be behind us. According to the official data, the economy has been growing at a steady annual rate of 6.7 percent (see chart 7).

But China has paid a price for this nascent stabilization. It has come on the back of aggressive fiscal and monetary stimulus directed by the central government, channeled through local governments and state-owned enterprises and bankrolled by large, government-linked financial institutions. Desiring a cyclical boost to put the economy on firmer ground, policymakers have turned back to debt-fuelled growth, facilitated by monetary easing measures by the People’s Bank of China.
As a result, China’s ratio of total debt to GDP has soared, jumping from around 200 percent in 2010 to just under 300 percent in 2015, with much of the new leverage extended to the corporate sector. In a monetary system with a weak credit culture, this is risky.

Consider the following:

- Much of China’s debt was extended to state enterprises which used it to fund more excess capacity. But as excess capacity built up, pricing power fell, and as a result, so did profit margins and cash flows. Unsurprisingly, there is growing evidence of financial stress.

- Distortions also have built up in the financial sphere. For example, the P2P sector has grown wildly, with P2P loans surging more than 150 percent in the past year—but with more than a third of them experiencing operational problems.

- The liabilities of well over 100,000 companies owned by local governments across the country grew at an average annual rate of 14 percent from 2012 to 2015, to reach USD 5.3 trillion.

- Moody’s has warned that small and medium-sized banks are increasingly relying unhealthily on wholesale funds, which reportedly now account for a third of their financing.
Reaching the limits of the current policy mix

Other challenges limit the effectiveness of China’s traditional mix of fiscal and monetary tools:

- The economic revival has been overly dependent on the buoyant property market, particularly in first-tier and popular second-tier cities where prices have skyrocketed unsustainably. The likes of Beijing and Shenzhen saw their prices lurch upward in 2016. This is being fueled by rampant credit growth that the government is now trying to rein in, fearing the potentially destabilizing consequences of a housing bubble.

- And there’s a growing problem: credit-based stimulus is increasingly less effective in boosting growth. This means that there has been little real economic growth to show for all the liquidity that has been unleashed; this liquidity has increasingly been funneled into speculative areas, creating distortionary bubbles.

- In addition, the necessary deceleration of fixed asset investment will weigh on growth prospects, given that investment constitutes about 50 percent of the economy. The extra leverage that policymakers have unleashed has simply added even more capacity to an economy already saddled with chronic industrial overcapacity, which will deter private investment.

- Capital flight from China has ebbed somewhat but continues in various forms, through alternative avenues, reflecting still-sharp concerns about downside credit and growth risks. Businesses and individuals are employing a variety of ways to move cash out of the country. One popular way is through over-invoicing by Chinese companies for imports from Hong Kong. Another way is via the purchase of life insurance products in Hong Kong. Mainland Chinese circumvent capital controls by paying for expensive insurance products and then cashing out of these policies soon after in Hong Kong.

The underlying weaknesses in the Chinese economy mean that capital outflows will likely continue; this may, in turn, put downward pressures on the yuan.

Fiscal policy will likely be stepped up to ensure that China does not fall off its growth trajectory; more government spending on infrastructure and social welfare will likely be announced in the near future.

However, given the headwinds facing private investment (which makes up almost a third of the economy), this alone may not be enough. Policymakers will likely recognize that stimulating domestic demand comes with a heavy price and feel the need for stronger exports to drive economic growth.
At some point, a currency depreciation may be considered necessary; the key question is the magnitude of that depreciation.

A larger-than-expected depreciation of, say, 10 percent—which cannot be ruled out—would have a disruptive impact on the region. It would certainly cause Asian currencies to depreciate across the board, with manufactured-goods exporters such as Korea, Taiwan, and Malaysia most affected. Such a policy response is perhaps warranted by China, given its challenges of reflating the economy and cutting spare capacity, and might trigger a competitive devaluation by Japan.

Such competitive devaluations could drive the dollar to a level detached from underlying fundamentals, resulting in delays of necessary rate hikes. Indeed, the US dollar is already experiencing considerable upward pressure and could appreciate further if fiscal and monetary policies evolve in line with market expectations. An elevated dollar would mean a cheaper yen (a good thing for Japanese exports), further downward pressure on the yuan, weaker US exports, higher inflationary pressures in Asia, and difficulties for Asian companies with large US dollar-denominated debts. Such a scenario would present problems for many Asian economies yet also provide some opportunities.

In the long run, most Asian economies will benefit from China’s successful rebalancing of its economy.

**Let’s finish where we started**

There has been plenty of doom and gloom. The political and economic shocks of the last decade have, no question, contributed to slower growth and undercut confidence.

But the doom and gloom is overdone. Much of the news in 2017 is more likely to be good than bad, and Asia is well placed to play an important role in driving better-than-expected global growth this year.

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   www.ft.com/content/d04a6c2d-d88d-30dd-8b82-84ce95abc38d
Much of the news in 2017 is more likely to be good than bad, with Asia set to be central to better-than-expected global growth this year.
Trade to Trump protectionists and boost global growth
Trade has been part of the engine driving the emergence of Asia on the world stage. But it has been laboring for the better part of a decade. And although trade's troubles are global, they've been biting deepest here in Asia, where trade flows stalled a few years back.

To date, most of those challenges have been economic. But the political challenges to trade are also mounting fast, with Trump's anti-free trade agenda joining the Brexit revolution and question marks mounting in Europe, where the European Union faces a gauntlet of elections.

So will trade flows continue to lose steam, and drag down Asia's 2017 prospects with it? The answer is no. In fact, Deloitte sees trade about to regain momentum for several reasons:

1. **Trade's troubles were mostly temporary anyway**, damaged by successive crises and shocks, the effects of which are finally wearing off.

2. More importantly, **a bunch of those troubles aren't really trade-related anyway.** The big fall in commodity prices in recent years—cheaper oil, gas, iron ore, and coal—undercut measures of the monetary value of trade. But commodity prices have since surged, and that artificial negative is disappearing fast.

3. **India's services export story is still intact** despite a marginal slowdown and political posturing from the United States.

4. **China's economy is lifting**—indeed, that's why commodity prices have surged. And **China's recovery suggests that trade's recovery will follow suit in 2017.**
And there are some trends that will favour trade into the future:

1. **Policies have swung toward openness in the mega-economies of the future.** Looking longer-term, Asia’s potential will increasingly swing toward economies such as Indonesia, Vietnam, and the Philippines. Although these economies have low trade multipliers, the sheer pace of growth in the years to come will see their rise as part of the global trade story.

2. **Just as the establishment of the European Union led to a large increase in trade within Europe, closer integration and connectivity within Asian economies will be a dominant influence on trade volumes over the coming decade.**

3. **Finally, services are the new black.** The global momentum in trade is swinging away from goods—where the populism of protectionists can do the most damage—toward services. Faster recovery in the United States and Europe can lead to greater services trade benefiting the Asian economy.

There are no guarantees, of course. However, President Trump’s influence on global trade volumes over the next few years may be smaller than many imagine, while the powerful forces within Asia and elsewhere point to trade strengthening over time.

**Trade matters—a lot**
Trade is the lifeblood of the global economy. It is a barometer of economic health, an enabler of economic development, a facilitator of technology transfer, and a mechanism for productivity improvements and income growth.

It is also a sprinter. 2017 marks exactly 200 years since David Ricardo proved that there are great gains to be had from trade, and that is exactly what has happened since. Global trade has grown half again as fast as the global economy over the past 50 years, doing better still—at twice the rate of economic growth—over the two decades from 1987 to 2007.¹

The rapid pace of growth in global trade has arguably been more important for Asia than any other region. The transformation in Asia since the Second World War has been remarkable, starting with Japan and followed in quick succession by the “tiger” economies of Singapore, Hong Kong, South Korea and Taiwan, then China, and now other Southeast Asian economies such as Malaysia, Thailand, Vietnam, and Indonesia.

The common thread through these phases of economic development in Asia has, in general, been a reorientation of each economy toward an outward, export-focused strategy. As chart 1 shows, Asia now accounts for around one-third of global trade.

The fact that global trade growth has outpaced global economic growth at a time when Asia has been going through a profound economic transformation has been hugely beneficial. It has allowed per capita income growth in Asia to accelerate faster than it otherwise would have, contributing to lifting millions of people into the middle class.

**Chart 1. Regional shares of global merchandise exports**

![Chart 1. Regional shares of global merchandise exports](chart1.png)

Source: World Trade Organisation
Why global trade has slumped . . .
Since the global financial crisis, however, global trade growth has slumped. The financial crisis in 2008 was a massive shock for the world economy and severed many of the traditional economic relationships and linkages; global trade volumes plummeted in 2008 and 2009 (as seen in chart 2).

While trade flows have resumed a positive trajectory, their growth has been strangely subdued. The latest data suggests that global trade growth will slow in 2016, with the World Trade Organisation estimating growth on the order of 1.7 percent, the slowest pace since the global financial crisis.

That’s not necessarily surprising. Indeed, it makes sense that trade growth has moderated alongside soft global economic growth.

More concerning still is the deceleration in global trade growth relative to global growth. After all, it was the sustained outperformance of trade growth compared to global growth over the previous half-century that so meaningfully supported development in Asia.

International Monetary Fund data covering the last five years shows that the global trade elasticity—the ratio of trade growth to economic growth—has been approximately equal to 1. Looking at just the last three years, the elasticity has been less than 1.

This is the first time in decades that global trade growth has been less than global economic growth for a sustained period, and that is having significant implications for the global economy.

Chart 2. Global trade

Source: World Bank; Deloitte calculations
Note: Global trade measured in terms of total imports, real terms.
. . . with Asia taking a major hit

Just as the rapid expansion of trade over time was of huge benefit to Asia, the relatively slow growth in global trade since the financial crisis has hit the region hard. Chart 3 below shows how the trade intensity of different regions (measured by trade as a share of an economy, or the trade-to-GDP ratio) has changed since the onset of the global financial crisis. As a measure of this change, the chart simply shows the trade to GDP ratio in 2015 compared to the ratio in 2007.

Part of the trade slowdown is structural

Over recent decades, emerging economies, particularly those in Asia, have contributed a rising share of global growth. Chart 4 shows that, in the early 1980s, emerging market economies contributed around one-third of global growth.

In the last five years, the contribution from emerging economies has increased to around three-quarters of global growth and is expected to remain at about that level over the medium term.

**Chart 3. Change in trade to GDP ratio, 2007-2015**

**Chart 4. Contribution to global economic growth, advanced and emerging economies**

Source: World Bank; Deloitte calculations

Note: Includes merchandise trade only. Does not include trade in services.

Source: International Monetary Fund; Deloitte calculations
Emerging economies have much lower trade elasticity than do the advanced economies. Chart 5 shows the persistently lower trade elasticity in emerging economies since the early 1980s. As the emerging economies’ share of global activity and trade has risen, the global elasticity of trade has fallen.

Economies, firms, and policymakers in Asia should be preparing for a structurally lower trade elasticity into the future.

Moreover, the 1990s also stand out in chart 5 as being very unusual. The fall of the Berlin Wall and the corresponding raising of the Iron Curtain, along with the fragmentation of the former Soviet Union, combined to increase international trade both with and within Eastern Europe over the subsequent years.

Similarly, the opening up of China to global trade, while officially beginning in the previous decade, took hold during the 1990s in terms of a big leap in trade between China and other countries (both within Asia and beyond). In addition, with advancements in technology, networking, and connectivity, the outsourcing industry centered in India started to flourish. India’s trade with the United States and Europe in particular expanded rapidly during this period. The fragmentation of global supply chains, driven by widespread falls in information and transport costs, also helped to contribute to a structural shift in trade volumes.

At the same time, trade liberalization lowered barriers to international trade. Within Asia, the ASEAN Free Trade Area agreement was signed in 1992. In Europe, the European Economic Area was established in 1994, providing the free movement of goods, services, and capital, as well as people, within the European Union. The North American Free Trade Agreement between Canada, Mexico, and the United States took effect from 1994, while the Uruguay Round of multilateral trade negotiations—which established the World Trade Organisation—were concluded in the same year.

The 1990s was also a period when a number of countries within Asia, and some outside Asia, sought to open up their economies, including putting in place incentives for exports. This widening of the “Asian model” of economic growth—which had previously become synonymous with the economic performance of the Asian tiger economies during the 1960s and ’70s—deeper into Southeast Asia helped to underpin rapid export growth in that region in particular.

Chart 5. Trade elasticity

![Chart showing trade elasticity over time](source: International Monetary Fund; Deloitte calculations)

Note: Trade elasticity calculated as the ratio of real import growth to real economic growth.
Trump is only the most prominent example of a new global wave of nationalistic sentiment that includes the Brexit vote in the United Kingdom and the election of politicians on populist, anti-globalization platforms in Europe, Australia, and elsewhere.

All of that suggests that global trade elasticity in the 1990s was unsustainably high.

And now there are strengthening political currents running against trade liberalization. American voters elected Donald Trump on promises to protect US manufacturers and their workers against import competition from emerging economies. And Trump is only the most prominent example of a new global wave of nationalistic sentiment that includes the Brexit vote in the United Kingdom and the election of politicians on populist, anti-globalization platforms in Europe, Australia, and elsewhere.

This sentiment is undercutting efforts to pursue more liberal trade policies around the world. Indeed, it threatens to reverse past gains. An example is Trump’s commitment (on “day one”) to withdraw US support for the Trans-Pacific Partnership (TPP)—a regional trade agreement covering 12 countries that account for around 40 percent of the global economy—despite it having already been signed by each of the proposed members (though it had been awaiting ratification in the United States).

Fortunately, it is possible that the remaining TPP signatories will proceed with a similar type of agreement that leaves out the United States, taking a broader scope and possibly including China.

**Chart 6. Output growth and trade elasticity, 1951-2014**

Source: World Trade Organisation; Deloitte calculations

Note: Global output growth is the average growth in production of goods in a five-year period. Elasticity of global trade is the ratio of the average growth of global export volumes of goods and of global production of goods in a five year period.
Indeed, many are encouraged by the potential to leverage the existing Regional Comprehensive Economic Partnership negotiations (RCEP)—which includes ASEAN, Australia, China, Japan, India, Republic of Korea, and New Zealand—into a broader TPP-style agreement.

Moreover, trade liberalization is only one aspect of what drives trade volumes. Other forces—including greater integration of economies, technological change, and improvements in logistics—are set to continue.

Trade has been an important contributor to Asia’s rising prosperity, but the gains of the past were artificially good, and the politics of the future are problematic. Yet the outlook is better than you think.

Here’s the good news: The rest of the slump is cyclical

Cyclical? That means it’s temporary, and indeed, the signs indicate an impending upswing. The clearest cyclical influence on trade in recent years has been the global financial crisis, which clearly had an effect on the volume of global trade activity. The impact on financial markets—including the availability of credit, borrowing costs, exchange rates, and commodity prices—added to weakness in trade.

However, most of those effects have been worked through. So why is there any lingering impact on global trade, more than eight years since the collapse of Lehman Brothers? Part of the answer to that question lies in chart 7.

That chart shows the breakdown of spending across the seven major advanced economies known as the Group of 7 (or G7). Growth since the global financial crisis has been driven by private and public consumption—the spending by households and governments. In contrast, investment—the spending on physical capital such as roads, factories, computers, office buildings, and shopping centers, all of which improves the economy’s productive capacity—remains weak. Indeed, data from the Organisation for Economic Co-operation and Development (OECD) shows that the level of investment spending across the G7 economies in 2016 was exactly the same as it was a decade ago.

That has important implications for future growth. Spending on investment—capital expenditure—is a bet on the future, and firms will invest only if they can expect an adequate return on that investment. In part, that expected rate of return is driven by an anticipation of future economic growth. Paradoxically, investment also helps to underpin stronger economic growth into the future, including by boosting productivity.

**Chart 7. Components of GDP, G7 economies**

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Source: Organisation for economic Co-operation and development; Deloitte calculations
In turn, that means low investment today will weigh on economic growth tomorrow.

So the failure of investment to recover more quickly in G7 economies also has important implications for trade. As chart 8 shows, changes in the composition of economic growth can generate changes in the trade intensity of an economy. The post-2007 change in the composition of the G7 economies toward consumer spending and away from investment has contributed to a shift in trade intensity. As a result, the elasticity of trade across G7 economies—and, importantly, their trading partners in Asia—has dropped.

Still, there is an upside to the cyclical story about trade. We think the pace of Asian trade growth will surprise in 2017.

Three reasons Asian trade will surprise on the upside in 2017
First: World trade volumes were temporarily damaged by successive crises and shocks, the effects of which are finally wearing off.
The global economy suffered an unusual sequence of shocks over the past decade. But the world economy and global businesses have adjusted to those shocks and are coming to terms with them.

With no new shocks in evidence and the damage of previous shocks wearing off, business confidence is recovering and demand is likely to normalize.

This recovery is already evident in the US economy, which is likely to grow by around 2.2 percent in 2017 despite some weakness in recent quarters, and, increasingly, in Europe.

Chart 8. Global average share of intermediate and final imports in domestic investment and consumption, 1995-2011

Source: Société Générale based on Veerendaal et al. (2015)
Notes: Data represents global average shares.
Our take is that the world economy is finally emerging from a dark period of successive major shocks, and what we are seeing is the natural healing process that occurs in economies as the worst effects of shocks wear off. This is forming a base for a more resilient recovery around the world and higher international trade volumes—so long as no new shocks materialise.

Second: Merchandise trade values have been depressed by deflationary forces, which are now easing, while leading indicators suggest volumes are ready to lift as well.

It hasn’t just been trade volumes which have experienced subdued growth in recent years. Trade values (the combination of both volumes and prices) have also been depressed. That has been worsened by downward pressure on prices generally, including in relation to commodities and energy (see chart 9).

Softness in prices has been driven by a lack of demand in the global economy, evidenced by weak global growth and very subdued levels of investment. Two additional factors are also relevant when considering weak trade value growth:

• First, the strength of the US dollar has reduced the dollar price of internationally traded goods.

• Second, China’s exporting of industrial capacity to other countries in the region.

Each of these factors is expected to have a diminishing impact on prices. Commodity and energy prices appear to have bottomed, and indeed, the prices of some commodities, such as coking coal, have increased sharply in recent months. The US dollar may climb further against other major currencies, but only modestly. Manufacturing capacity is expected to continue to shift from China to lower-cost producers in the region, but, in time, wage rates will rise in lower-income Asian economies as well.
The value of world trade is therefore likely to trend upward in the near to medium term, as negative price effects from the tumbling commodity and fuel prices bottom out, while leading indicators for volume growth also suggest a bump in trade volumes is looming.

At the same time, trade volumes will rise again. New export orders are climbing around the world, though the expansion is somewhat patchy:

• Taiwan, is enjoying a firm recovery, with export orders rising sharply in recent months.
• If not for labor strikes in Korea, a global export powerhouse, new export orders would probably have been much stronger there too.
• The latest indicators of export demand and import orders in China also suggest improvement following a poor 2016. Indeed, weakness in China’s trade growth over the last 12 months has undermined trade growth in Asia more generally, but there are genuine signs of a turnaround.
• Electronics components demand, another leading indicator of trade volumes, is also rising. A slew of measures for demand in the tech sector—semiconductor sales, book-to-bill ratios for semiconductor equipment manufacturers, and US orders for electronic components—are all rising, some at the fastest rate since 2013, powered by booming consumer interest in new products such as wearable technology and larger-screened cellular devices.
• Sea cargo and air freight volumes are another leading indicator of trade that is rebounding. Container volumes have been climbing steadily since mid-2016 (see chart 11), while growth in air freight volumes is on the rise.

That’s good news. The value of world trade is therefore likely to trend upward in the near to medium term, as negative price effects from the tumbling commodity and fuel prices bottom out, while leading indicators for volume growth also suggest a bump in trade volumes is looming.

Third: China’s cyclical recovery will aid global trade, but structural changes will continue to exert a drag.

China has seen growth moderating from double-digit figures to relatively placid sub-8 percent growth in recent years. The softening trajectory of China’s economy can be attributed to a difficult but necessary transition from an investment-fueled, export-led, and manufacturing-based economy to one that is more reliant on services and consumer spending. Furthermore, the build-up of debt, particularly in the corporate sector, continues to weigh on business sentiment.

However, policymakers have shown a willingness to unleash large-scale stimulus measures in a bid to inject growth impetus into the economy, including massive monetary easing and concerted fiscal spending. As a result, economic growth has held up relatively well, even though private investment levels continue to trend downward steadily. This greater vigor in aggregate demand will in turn feed into regional trade and production networks (of which China is a key node), thereby boosting trade volumes across Asia.
But structural changes also mean the Asian trade environment is increasingly reliant on China. We use the concept of global value chains (GVCs) to analyze China’s influence on economic activity in the region, as it provides a good measure of trade’s actual impact on an economy. This value-added-to-trade approach measures value creation at different stages of the production process and identifies those who capture that value. This is a superior approach because it is now clear that it is intangible activities such as research and development or marketing that command higher value, while low-cost manufacturing adds the least value.
GVCs optimize the entire production process but are also a double-edged sword as imports are fed into exports of another country. As value chain concentration builds in China, the country’s dependence on foreign value added in Chinese exports has decreased: more value is being created within the country (see charts 13 and 14).

Asia is increasingly plugged into China-centric value chains. Related to that, we find that, across Asia, domestic value added in exports has fallen away over time. Table 1 shows the actual dependence of major Asian economies on China for trade value creation.

This table shows that, should there be a major contraction in Chinese trade, the main losers will be Taiwan, Korea, Japan, and the Philippines. In contrast, India has relatively modest dependence on China for trade value creation. These structural trends in intra-Asian trade are a potential vulnerability: they present a growing risk to Asian prosperity should further global (or Chinese) shocks occur.

Many see other structural challenges, most notably the rise of nationalistic politicians and the potential for more liberal trade policies to be unwound. The first few months of the Trump presidency are expected to reveal the extent to which these concerns are justified.

In general, however, there are offsetting factors at play. At the same time that dependency on China for Asian trade has expanded, manufacturing capacity has been shifting to other countries in the region. Given the broader transition under way in China—from investment-led growth to consumer- and services-led growth—this shift in capacity is important.

### Table 1: Country dependence on China for trade value creation

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Source: OECD database

Note: This data represents the value a country adds to Chinese exports as a proportion of value that country adds to its own exports. This helps illustrate a country’s dependence on China for its trade value creation. A higher number means greater dependence on China.
However, it is happening more slowly than many realize. Chart 15 shows that China has continued to increase its share of global clothing and textiles exports in recent years, despite evidence that manufacturers are already voting with their feet and shifting production sites away from higher-cost regions of China, such as the Pearl River Delta near Hong Kong.

One estimate suggests that the number of factories owned by Hong Kong companies in the Pearl River delta fell by around 33 percent between 2006 and 2013, while a recent survey shows that just over one-third of the manufacturers in the region plan to shift production capacity to cheaper locations within China or to other countries in Southeast Asia, Bangladesh, India, or Sri Lanka. Much of the manufacturing capacity moving away from higher-cost regions of China, however, is simply moving to lower-cost regions within the country, not least because of government incentives.

That said, the widening cost differential and growing sophistication likely means that these incentives are simply delaying the inevitable. Indeed, Deloitte’s 2016 Global Manufacturing Competitiveness Index noted that, by 2020, Malaysia, Indonesia, Thailand, India, and Vietnam are all expected to rank among the top 15 countries in terms of manufacturing competitiveness. These countries are already featuring in the minds of global executives seeking an alternative to China.

The timing and extent of a shift in manufacturing to emerging Asian countries outside China will depend not only on relative labor costs but on the degree to which China continues to seek to encourage relocation of factories within its borders (rather than within Asia) and the pace with which alternative countries establish the infrastructure and regulatory requirements needed to support an expansion of the manufacturing industry. Manufacturing labor costs in these five Southeast Asian economies (Malaysia, Indonesia, Thailand, India, and Vietnam) are already well below costs seen in China. For example, manufacturing labor costs in Indonesia are currently around one-fifth of the level in China, while costs in Vietnam and India are approximately half the level in China.

**Chart 15. Share of global clothing and textiles exports, China and other developing Asian economies**

Source: World Trade Organisation; Deloitte calculations

Notes: Data is measured as a share of the value of global exports measured in constant US$ terms. The following countries are included in ‘other developing Asian economies’: Bangladesh, Indonesia, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Laos, and Vietnam.
There are also longer-term competitive advantages that Southeast Asia has over China. For example, over the next 30 years, the working-age population in the ASEAN region is projected to expand by almost 85 million people. Over the same period, China’s working-age population is projected to shrink by more than double that amount (around 175 million people).

It therefore seems likely that other Asian economies are ready and able to fill at least part of the gap that China’s rebalancing toward consumption and services means for trade. This appears particularly true because the pace of relative decline in manufacturing in China is slower than it is broadly understood to be, while the longer-term labor force dynamics in Southeast Asia are favorable.

**Will services trade surprise as well?**

The structural strength in the demand for services is accepted wisdom in economics—over time, a rising share of global incomes are being spent on services. That has benefited countries, such as India in particular, that have prioritized services rather than manufacturing as a platform for economic development, while services trade is also far more likely to escape any effects of populist protectionism in the coming years.

Although the gains in services will be a story for the ages, it has long been evident in the trade data. Rapid growth in services has meant big strides in exports of services too. This has been possible in the last decade due to the information and communication technology revolution of mid-1990s and a boost to growth in technology, transportability, and tradability that have in turn changed the nature and tradability of services.

Furthermore, exports in services have kept pace with changing global dynamics and a shift toward more technology adoption in all areas of the global economy, including business and professional services. This has underpinned service exports in a number of major Asian economies. For example, India’s major service export is computer services, followed by business services and then technical and trade-related services. India’s IT exports have more than doubled over the last six years, and exports now account for more than two-thirds of total revenue for the Indian IT sector. As chart 16 below shows, ICT services exports also account for around two-thirds of total services exports from India, a far higher share than most other Asian economies. It is no surprise, then, that Indian service exports are more sophisticated than the average level seen across high-income countries.

**Chart 16. ICT services exports as a share of total services exports, selected economies, 2014**
These technological advancements have also had a broader impact on services exports, with rapid growth being facilitated by the fact that many of these services do not require face-to-face interaction and have the potential of being stored and traded digitally.

In fact, over the 12 years to 2013, global commercial services exports grew at an average annual rate of 10 percent, with India helping to lead the way with average growth of 20.1 percent, followed by China at 16.5 percent. As a result, India is now the world’s eighth-largest services exporter and the third-largest in Asia (see chart 17).

The most recent performance of the services sector has been more circumspect in light of the subdued growth in developed economies. There has been moderation in the rate of growth of some important services while others, such as computer services, have improved. This performance is expected to improve in the coming years as developed economies record more robust growth.

There are further reasons to be upbeat on services trade in the medium term. The rising share of services within trade flows overall means that there has been a growing focus on services within free trade agreement (FTA) negotiations. India again provides a clear example, with the country making significant progress on signing comprehensive bilateral trade agreements that cover services, including with South Korea, Japan, Malaysia and Singapore.

Further, India’s FTA with ASEAN came into effect in mid-2015, while the wider Regional Economic Comprehensive Partnership includes India, along with the 10 ASEAN countries and the remaining FTA partners: Australia, China, Japan, South Korea, and New Zealand.

Overall, the growing influence of services trade globally will have an increasingly positive effect on Asian trade into the future.
Longer-term tailwinds
So we can point to short-term positives. But there are longer-term tailwinds of importance as well. Two stand out:

- The rising Asian economic giants have been shifting their trade policies toward greater openness and global engagement. Their rising will underpin further trade gains through Asia and the world in the decades ahead.
- The global swing away from goods and toward services is increasingly evident in trade trends too. The gains from trade in services remain substantial.

What’s next?
Cyclical and structural factors have caused trade expansion to underperform global growth in recent years. That has created a degree of pessimism about the future of trade, and those fears have been further stoked by the election of an avowedly protectionist US president. But these fears have been overstated. Although some of the bad news on trade is here to stay, much of it has been due to factors that are now fading:

- World trade volumes were temporarily damaged by successive crises and shocks, the effects of which are finally wearing off. Trade values have been depressed by deflationary forces that are now easing, while leading indicators suggest volumes are ready to lift as well.
- A boost in the advanced economies is also likely to benefit trade in services.
- Finally, China’s recovery will aid global trade.

All this will help reinvigorate trade growth in 2017, which will be a clear positive for Asia.

And there are longer-term gains on the trade menu as well, with the rise of India and the rise of services likely to prove a dynamic duo for trade prospects in the years to come.

1. Deloitte calculations using data from the World Trade Organisation
Overall, the growing influence of services trade globally will have an increasingly positive effect on Asian trade into the future.
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