Global economy:
On a careful road towards recovery

APAC economies lead world growth trends, but IMF warns of need for policy changes

High-level building costs

Industry focus
Modern construction and the art of managing risk
Welcome to Insight #5

We present a review of the global economy, looking back over a tumultuous 2017 and forward to 2018.

This review includes another close look at current trends in the global economy and how these have an impact on you and your business, wherever you are based in the Asia-Pacific region.

Overall the global economy is experiencing an upswing. Europe, the United States and Japan all experienced better conditions during 2017. China out-performed expectations, and is expected to continue that trend during the year ahead.

The Middle East has had a slightly different experience, with economic prospects curtailed to an extent by flat oil prices and regional instability. Led by Saudi Arabia, several regional governments are responding with attempts to make significant changes to their economies. If they get that right, they will emerge with significantly diversified economies and better prospects for the long term.

Meanwhile, the Asia-Pacific economies are forging ahead, experiencing strong growth and often working together to achieve significant infrastructural development that might support further growth.

They are led by China, which is clearly making significant attempts to achieve regional and global leadership. An example of this is the hugely ambitious ‘Belt and Road’ initiative (BRI) which aims to recreate the Silk Road and involves massive road, rail and other transport infrastructural spending in collaboration with nations across Asia and the Middle East.

This edition of Insight brings you the latest on all of this.

We also take a close look at risk management in the construction industry, explaining how every stakeholder – clients, advisors and construction specialists – should take advantage of the latest methodology when they plan projects.

Construction projects are increasingly complex. Clients and contractors have to consider myriad issues at the planning and project management stages. New materials, new techniques, and new approaches to design are making for some of the most exciting projects ever envisaged. But there are always regulatory issues to consider, and the environment is becoming an increasing concern at every stage of the construction process.

We explain what project teams need to look out for, and how to plan effectively.
Global economy: On a careful road towards recovery

The global economy has continued on the path to recovery during 2017, led by Asia and assisted by stronger performances in the United States and Europe. Economic forecasters are urging policymakers to use the upturn – which began in mid-2016 – to implement key reforms that should bolster recovery and help sustain growth during the years ahead.

Many economies are caught in long-term, low-wage growth, with the impact of weak inflation and low interest rates. Although low inflation and interest rates are normally a good thing, the depressed figures have continued for so long that they are having a negative effect on the economy. The latest International Monetary Fund (IMF) World Economic Outlook says that stagnant wages and the availability of fewer middle-income jobs have a poor impact on the economy.

‘Those developments have stoked a considerable popular anti-globalisation backlash – one significant threat to the world economy – although technological developments and government policies together have played larger roles in increasing income inequality, and fears of faster automation are a current cause of anxiety,’ commented the report’s authors.

Despite that warning, the IMF does point out that this is a wide upswing, involving around 75 per cent of the world economy when measured by gross domestic product (GDP). Regions of concern include Latin America, North and sub-Saharan Africa, and parts of the Middle East.

GDP (US$ billions)

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<tr>
<th>Region</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>79,280.94</td>
<td>75,367.75</td>
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<tr>
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<td>Latin America and the Caribbean</td>
<td>5,464.75</td>
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<tr>
<td>Middle East and North Africa</td>
<td>2,915.49</td>
<td>2,814.37</td>
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</tbody>
</table>

Source: International Monetary Fund, World Economic Outlook Database (October 2017)
Global economy

There are anomalies, too, within those areas that are doing particularly well. The UK economy remains sluggish, possibly because of the impact of the Brexit vote and subsequent negotiations to leave the European Union. The IMF also points to the lack of policy progress in the US during 2017.

The IMF has revised growth forecasts upwards in Europe and China during 2018. It notes stronger growth in Turkey, Russia and Brazil.

There are specific uncertainties in the Middle East, partly fuelled by conflict in Syria and Yemen, but also by significant political tension in the Gulf. There, a group led by Saudi Arabia and the United Arab Emirates has cut ties with Qatar.

In November, numerous high-profile arrests were made by Saudi authorities in an anti-corruption drive led by Crown Prince Mohammed bin Salman. The upheaval coincides with a major attempt to reshape the Saudi economy, weaning the Kingdom away from its dependence on oil wealth. The Crown Prince is considered a moderniser who sees the link between economic access and social cohesion. His other key social initiative has been to remove the law that banned women from driving in Saudi Arabia.

The IMF used its report to highlight the general issue of youth unemployment, and its negative social and economic impacts. It described strategies for investment in young people – education, training and re-training – as ‘critically important to inclusive and sustainable growth’.

‘Investing in human capital should help to push labour’s income share upward, contrary to the broad trend of recent decades - but governments should also consider correcting distortions that may have reduced workers’ bargaining power excessively. In sum, policy should promote an environment conducive to sustainable real wage growth,’ says the IMF’s Maurice Obstfeld.

‘Numerous global problems require multilateral action. Priorities for mutually beneficial co-operation include strengthening the global trading system, further improving financial regulation, enhancing the global financial safety net, reducing international tax avoidance, fighting famine and infectious diseases, mitigating greenhouse gas emissions before they create more irreversible damage, and helping poorer countries, which are not themselves substantial emitters, adapt to climate change.

‘If the strength of the current upswing makes the moment ideal for domestic reforms, its breadth makes multilateral co-operation opportune. Policymakers should act while the window of opportunity is open.’

One challenge here, though, is concern about the current policy in the White House moving towards a more inward-looking economic policy. This, interestingly, runs counter to China’s BRI strategy.

The stance of the US notwithstanding, the IMF predicts continued growth during 2018. It is less firm, however, on whether governments will implement its recommendations to make that growth more long-lasting.
The economies of the Asia-Pacific region are leading the world in terms of growth, with unexpectedly good recoveries of ground, particularly in the leading markets of China, Japan and South Korea.

The International Monetary Fund (IMF) found that stronger consumer activity and investment were at the root of the region’s improved economic fortunes, with better-than-anticipated external demand for goods also a significant factor.

The IMF believes Asia is in a ‘favourable position’ in terms of sustained growth. It is urging governments to press ahead with key reforms in order to maximise advantage from the situation. ‘The tailwinds in the region are an opportunity to pass structural reforms and address vulnerabilities,’ added Changyong Rhee, Asia and Pacific director for the IMF.

Inflation forecasts for the region have been revised down to 2.3 per cent for 2017, and growth in most of the Association of Southeast Asian Nations (ASEAN) bloc has compensated overall for the sluggish performances of India and Australia, according to the IMF’s latest analysis.

It found that China is expected to post growth of 6.8 per cent this year, with 6.5 per cent forecast for 2018. This is being attributed to stronger infrastructural spending and a resilient real estate sector during the first half of 2017. The IMF believes China can sustain strong growth over the next three to five years, but that this will require accelerating reforms that will make growth less reliant on debt and investment.

China’s relative success is bolstered by the performance of the so-called ‘ASEAN-5’ region incorporating Indonesia, Malaysia, the Philippines, Singapore and Thailand. Economic prospects remain positive, according to the IMF, with average expansion of 4.9 per cent expected during both 2017 and 2018. Again, growth is being driven by increased investment and rising exports.

Japan enjoyed significant growth of 1.5 per cent during the first half of 2017, which is being driven by improved export markets and healthier domestic consumer demand.

The overall IMF analysis is clear that much needs to be done on the policy front in order to ensure that the currently impressive economic progress can be sustained. It remarks: ‘With strong overall growth for the region, near-term risks to the outlook are broadly balanced. On the plus side, the cyclical recovery in China and Japan could be stronger and last longer than expected, driven by stronger confidence and more favourable market conditions.

‘But a sudden tightening in global financial conditions could trigger disruptive capital outflows that would affect particularly those emerging and developing Asian economies and weaken their growth prospects.

‘A sharp adjustment in China due to unsustainable policies, further increases in debt, and mounting financial imbalances also present risks to the region’s outlook.’

The IMF says that Asian economies are especially vulnerable to protectionism because of their openness and their integration into global value chains. ‘Escalating geopolitical risks could also negatively
impact the region’s medium-term growth prospects,’ adds its latest analysis.

‘Additionally, over the longer term, Asia will need to tackle two key challenges: population ageing and lagging productivity growth - a measure of a country’s efficiency. The robust recovery and fiscal space in some countries provide an opportunity to offset the short-term costs and build public support for ambitious structural reforms.’

The IMF wants policy makers to do more to encourage working-age participation and to improve pension and long-term care provision, promoting competition in the service sector.

Economic activity in the region continues to involve significant spending on rail and transport infrastructure, the energy sector and large-scale residential development. China continues to lead the way in terms of policy, especially in its promotion of the ‘Belt and Road Initiative’ (BRI), which involves massive infrastructure and related spending across Asia and towards the Middle East, with numerous collaborations with private and public sectors along those routes.

Work has begun on the first phase of the Thai-Chinese rail development project linking Bangkok and the northeastern area of Nakhon Ratchasima. The 253-kilometre first phase will be followed by design work completion for the Chinese phase of the railway, and a 355-kilometre second phase linking Nakhon Ratchasima with Nong Khai on Thailand’s border with Laos. The aim is to complete an arterial high-speed railway linking Thailand, Laos and China.

The Thai government, which is raising funds for its share of the project, expects both phases to open by 2022, in synchronicity with the China – Laos rail link, which is currently under construction. China and Thailand are currently negotiating a ‘technology transfer’ deal to cover Chinese-designed rolling stock that will be used on the new line.

Thailand is also launching light rail projects in four key cities – Phuket, Chiang Mai, Khon Kaen and Nakhon Ratchasima – during 2018, and the total US$5 billion cost will be borne using a public-private partnership (PPP), according to the transport ministry.

The ‘Thailand 4.0’ project, created by the Thai government in an effort to harness technology and challenge economic inequalities, has attracted praise and attention in the region. Chinese tech giant Huawei has put forward digital transformation plans for ten major industry sectors, such as city management, energy, agriculture and education, for Thailand as a response to the initiative.

In Australia, a major US$4.3 billion PPP project took a step closer to reality. This is the 10.2-kilometre Cross River Rail link, which includes a 5.9-kilometre tunnel beneath the Brisbane River. The Queensland government said that more than 12 companies met the September deadline to express an interest in the tunnel-and-stations part of the project.

The project is split into two main parts. The tunnel, stations and development (TSD) package covers the main construction works, and will be delivered as a PPP. The rail, integration and systems package covers the rail systems. At-grade projects will be delivered as an alliance.

The Cross River Rail is to be built between the stations of Dutton Park and Bowen Hills, with 5.9km of the line running beneath the Brisbane River and CBD.

With the population of south east Queensland forecast to be more than 5 million people within 20 years, the Cross River Rail project will improve the reliability of public transport, increasing accessibility to the CBD and reducing congestion around existing bottlenecks.

As part of the project, five new high capacity stations (highlighted above) will be built or upgraded to accommodate the new route.
Queensland has also launched a US$310 million upgrade to the key Ipswich motorway, a project hailed by state premier Annastacia Palaszczuk as a key element of improving commercial and passenger transport to and from Brisbane.

China’s BRI continues to attract attention. Late in 2017, China and Myanmar signed a deal confirming the former as a 70 per cent investor in the controversial KyaukPhyu project that will be an integral part of the trade corridor that will ultimately connect Africa, the Middle East and China.

Initially, the project included a deep-water port, industrial park and residential zone. Its remit was extended to include an oil pipeline, with power-generation facilities also added into the mix. The total cost of the 1,680ha site is now more than US$7.3 billion. There are concerns about the environmental impact of the massive investment, which is in one of Myanmar’s poorest regions.

Meanwhile, a leading international ratings agency, S&P Global, has warned that Chinese developers need to refinance billions of dollars of onshore bonds during the next three years, including $35 billion during 2018 alone.

The South China Morning Post quoted Moody’s as saying that 75 per cent of its rated Chinese developers have bonds maturing in 2018. ‘The refinancing risk will escalate in 2018, 2019 and 2020,’ said Cindy Huang, S&P Global. ‘Onshore bond refinancing will face particular pressure.’

Huang said a huge number of domestic corporate bonds with maturities of three years had been sold by Chinese developers during 2014 to 2016 after the government re-opened the onshore bond market to the sector. Since the fourth quarter of last year, Chinese regulators have imposed restrictions on bond-raising applications by property companies in a bid to cool down the overheated property market.

‘A number of developers will encounter financial problems if they can’t issue onshore bonds next year,’ Huang said. ‘They may seek high-risk, short-term trust loans for refinancing.’
# Cost data

## High-level building costs - Q3 2017

Local currency/per m² CFA

<table>
<thead>
<tr>
<th>City</th>
<th>Melbourne (AUD)</th>
<th>Sydney (AUD)</th>
<th>Beijing (RMB)</th>
<th>Shanghai (RMB)</th>
<th>Shenzhen (RMB)</th>
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<td>Offices</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>High-rise</td>
<td>3,600-4,320</td>
<td>4,225-4,655</td>
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<td>8,000-10,000</td>
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<td>6,000-8,000</td>
<td>7,000-9,000</td>
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<td>Residential</td>
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<td></td>
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<tr>
<td>High-rise</td>
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<td>3,900-4,680</td>
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<td>Hotels</td>
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<th>Singapore (SGD)</th>
<th>Thailand (Baht)</th>
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**Notes:**

- **Australia:** Industrial buildings assume pcc frame and exclude office provisioning. Office rates assume prestige CBD standard.
- **Australia, China and Singapore:** Costs exclude GST/VAT.
- **Data centres:** Costs dependent on Kw/m².
Focus

Modern construction and the art of managing risk

Construction projects have been increasing in complexity for some time, with new technologies and techniques in greater demand as clients and designers strive for innovation and efficiency.

Modern demands are such that new buildings – be they bridges, shopping malls, highways or sports stadiums – have to meet a lengthening list of criteria. Clients want projects to be expertly managed so that they meet budget expectations with little room for manoeuvre. They seek ever-bolder designs and are attracted by new and often expensive materials.

In addition, projects of all shapes and sizes are subject to greater sustainability demands. Clients want buildings and other structures to have longer lifespans, while having to meet increasingly stringent local and national environmental guidelines.

The consequence of all this is that project management itself has become more complex. One of the first issues when planning any project is its capital cost. Sophisticated systems are now able to plan known fixed costs, with flexibility to plot in additional cost factors as they become known, mainly during the planning period.

Next, managers will set about improving estimating uncertainty. Based partly on previous experience, they will seek to identify likely uncertainties in the project and adjust financial provisions accordingly.

Uncertainties can arise from many sources, both during construction and the lifetime of a project. Uncertainty might make itself known if, for example, design teams have not fully appreciated required complex site methodologies, if there are unexpected changes in raw materials prices, or if there is a lack of co-ordination for chiller replacements.

One materials risk factor in construction is the market price of steel, which is frequently volatile. But project teams must also identify the less obvious factors.
Focus

The sensible project manager can plot in these ‘known unknowns’, via sensitivity analysis. For example, if an element may cost five per cent more (or less) than the mean estimate, then the project's contingency can be adapted to allow for this eventuality.

Contingency planning is key to construction projects of any shape or size. Generally speaking, if clients have agreed a contingency allowance, they will be satisfied if costs can be kept within these parameters in the event of a price rise. The risk of project discord rises, of course, if the contingency provision fails to cover actual cost increases, and clients are asked for additional funds that they did not expect to pay.

Given all of the above, key risks and uncertainties can be integrated into the cost model based on probability and previous experience.

It is important that project managers maintain a robust view of risks on costs. It is often tempting to ‘fudge’ risk assessments, and present financially palatable figures that may not reflect the true risk attached to particular elements of the project. This is known as ‘optimism bias’. Too often, risk numbers are adjusted because they may be higher than desired, but this is a dangerous route to take, and the ‘optimistic’ view can backfire. Risk managers are necessarily cautious, but it is important to recognise that their ‘worst case’ scenario is included for good reason, even if it is not the most likely.

Major events that involve substantial construction elements are good examples of complex risk and project management. The last three Olympic Games – in Beijing, London and Rio de Janeiro – were prime examples, involving the construction of state-of-the-art stadiums, accommodation for participants, and substantial infrastructure development, including roads and public transport links.

Typically, a range of project financial models will be integrated into a single project-wide programme, with risk analyses attached to each of them. At the London 2012 Games the models were run monthly, so that project teams were fully informed of progress, with issues being identified quickly and required actions enabled as a result.

Modelling tools deliver quite sophisticated statistical outputs. One example is the ‘tornado diagram’, which shows which item within the model is having the biggest potential impact on final costs. This in turn gives the team a real focus as they set about managing the risk.

Risk modelling has its own terminology; one commonly used is P80. This refers to the 80% probability point on a distribution curve where a randomly simulated cost value for the project will be less than or equal to the P80 value 80% of the time. Such forecasts can be used to set budgets with a stated confidence factor attached. They can also be used in other ways, for example, securing funding at the P80 level with the project team having been given a P50 target with the difference held as client contingency.
At the heart of any preparation is the risk management plan (RMP): an over-arching document, or set of documents, that sets out the risk strategy. This will record how risks are to be owned, evaluated, controlled, reviewed and flagged up.

It will include details about who ‘owns’ a particular risk, or set of risks, associated with the project. That will include a useful description of the risk itself, and how it will be managed, controlled and reported. So project managers, or others responsible for particular risks, will set out as precisely as possible the actions they will take to avoid, reduce or control them.

Ownership of risk remains the key to effective risk management. If potential risks are properly identified, then risk ownership – including clear responsibilities and accountability – works as the best method of risk management by far.

An important action at the beginning of the risk analysis process is to identify which party is best positioned to ‘own’ the various types of risk present in the project. For example, the client must take responsibility for any risks that affect the business or the business case for the project as a whole, where those risks might prevent its overall benefits from being realised. Similarly, it is often the case that ground conditions risk is best owned by the client.

The project manager owns risks that affect the delivery of the project as a whole. Contractors meanwhile should own any risk that might affect their ability to deliver to project objectives. Ownership has to be agreed at the point when risks are identified, accepted and logged. While each party must acknowledge their role, the ultimate decision on risk ownership has to rest with the project team, and particularly the project manager. Each ‘owner’ then has responsibility for making sure the risks are monitored effectively, and managed appropriately, with agreed mitigating actions in each case.

The project manager should also be responsible for communication about risk across the team. It is vitally important that each party has a clear understanding of their own role.

In summary, risks are present, where they:

- Affect the project baseline (the business case)
- Affect the ‘fit’ of the project within the overall business strategy
- Affect dependent projects (if the project is a part of a programme)

Modern, effective project management relies on realistic and thorough risk assessment. Done properly, it can deliver real insight to the project management team, and offer all parties – client, manager and contractor – enormous comfort in an age when cost and complexity combine to present daunting deadlines and demands.
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