LLOYD'S

Lloyd's City Risk Index

Global analysis of finance, economic and trade risks

Centre for
Risk Studies

UNIVERSITY OF CAMBRIDGE
Judge Business School

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The index shows finance, economic and trade risks are likely to be the costliest for businesses

Key findings

Finance, economics and trade risks are the costliest risk category in the index, accounting for $141.59bn of the total $546.50bn GDP@Risk across all 279 cities.

Market crash is the largest single threat, with cities exposed to losses of $103.33bn annually.

Commodity price shock has an annual cost of $20.29bn, while sovereign default could cost up to $17.97bn globally.

The costs of a one-off scenario in a specific city are, in many cases, higher than their annualised figure. For example, the index estimates the annualised cost of commodity price shock in New York at $1.15bn. A single extreme commodity price shock event could, however, cost the city $70.17bn.

About this report

The purpose of this report is to help risk managers and insurers to manage the complex area of trade risk providing a snapshot of the level of financial risk in cities across the world. Risk managers can see at a glance the economic impacts of finance, economic and trade risk in the cities where they are headquartered or have regional operations, or which are key sales markets or links in their supply chains. The report draws on research from the 2018 Lloyd's City Risk Index which, uniquely, quantifies the possible annual cost, in US dollars, from these risks.

The global trade environment is changing. International markets continue to grow, albeit at a slower rate, but pressures on them are building. Rising interest rates and disruptive technologies are putting many businesses under pressure. Not all will survive, meaning companies need to carefully consider their exposure to the insolvencies of their customers and suppliers. On a macro level, economic populism is on the rise, and businesses need to adjust to this, too, establishing their value to the countries they work in and developing closer ties with local governments and stakeholders.

Insurers need to gain better understanding of the digital advances in supply chain management and their impact on trade credit insurance and credit management.

Finance, economic and trade risk has a high economic cost. The risk is also in an almost constant state of flux, which risk managers and insurers must keep on top of.

Top ten cities at risk

1. **Tokyo** $24.31bn
2. **New York** $14.83bn
3. **Manila** $13.27bn
4. **Taipei** $12.88bn
5. **Istanbul** $12.74bn
6. **Osaka** $12.42bn
7. **Los Angeles** $11.56bn
8. **Shanghai** $8.48bn
9. **London** $8.43bn
10. **Baghdad** $7.91bn

Top ten threats

1. **Market crash** $103.33bn
2. **Interstate conflict** $80.00bn
3. **Tropical windstorm** $62.59bn
4. **Human pandemic** $47.13bn
5. **Flood** $42.91bn
6. **Civil conflict** $37.15bn
7. **Cyber attack** $36.54bn
8. **Earthquake** $33.96bn
9. **Commodity price shock** $20.29bn
10. **Sovereign default** $17.97bn

About Lloyd’s City Risk Index

The Lloyd’s City Risk Index, based on original research by the Centre for Risk Studies at Cambridge University’s Judge Business School, measures the GDP@Risk of 279 cities across the world from 22 threats in five categories: finance, economics and trade; geopolitics and security; health and humanity; natural catastrophe and climate; and technology and space. The cities in the index are some of the world’s leading cities, which together generate 41% of global GDP.

The index shows how much economic output (GDP) a city would lose annually as a consequence of various types of rare risk events that might only take place once every few years, such as an earthquake, or from more frequently occurring events such as cyber-attacks. GDP@Risk is an expected loss figure – in other words it is a projection based on the likelihood of the loss of economic output from the threat. The resilience levels of each city are taken into account, including the city’s governance, social coherence, access to capital and the state of its infrastructure. If some or all of these are resilient, they can reduce the overall expected loss. One way of thinking about GDP@Risk is as the money a prudent city needs to put aside each year to cover the cost of risk events.

The index also shows the scenario costs – these are the one-off costs if a specified threat event like an earthquake or a cyber-attack takes place. The index shows two scenario cost numbers: the lower total is the loss that would occur from a moderate-sized event in that threat category; the higher total is the loss from an extreme event. If policyholders hold insurance that covers property damage and business interruption, then some of the economic losses would be compensated from claims payments on these policies.

The cities which stand to lose most GDP to economic risk are primarily established financial centres

1. Overview of finance, economic and trade risks[1]

Business interruption and event insurance are perhaps the best known and understood of these classes, possibly because they are used following a geophysical event - rain cancelling a concert or a flood causing a delay in production, for example.

However, these forms of insurance can also be used to protect policyholders against conflict events and other risks covered in our political risk report (see Lloyds.com/cityriskindex/politicalrisk).

These other insurable classes demonstrate that businesses can take steps to protect themselves against finance, economic and trade risks, which as the Lloyd's Risk Index shows, are likely to be the costliest for businesses. Indeed, financial and political risk are often critical factors for businesses that are deciding whether or not to invest in a city or base their key suppliers there. While it remains important for businesses to consider and monitor these risks closely, they should also think about buying insurance cover as part of their operational decision-making. Accounts receivables, the money owed to a company by third parties, are often a large part of a businesses' uninsured assets.

Companies can buy standard trade cover (which is often designed for SMEs) but many policies are bespoke, reflecting the unique and complex supply and trade chains in an individual business. This allows businesses to be selective about the receivables that they choose to insure; for example, they can limit cover to specific customers in certain markets, or even to a single transaction. The Lloyd's market, which has world-leading specialists underwriting these risks, provides insurance cover in this class, where often policies are tailored to complex multi-site operations. One advantage of this kind of insurance is that it can help the insured company secure financing.

The Lloyd's market offers a range of insurance products for finance, economic and trade risks

These include:

Financial guarantee, which insures the policyholder against a number of trade risks including bankruptcy, lack of sales and receipts and changes in currency rates, interest rates, land or securities.

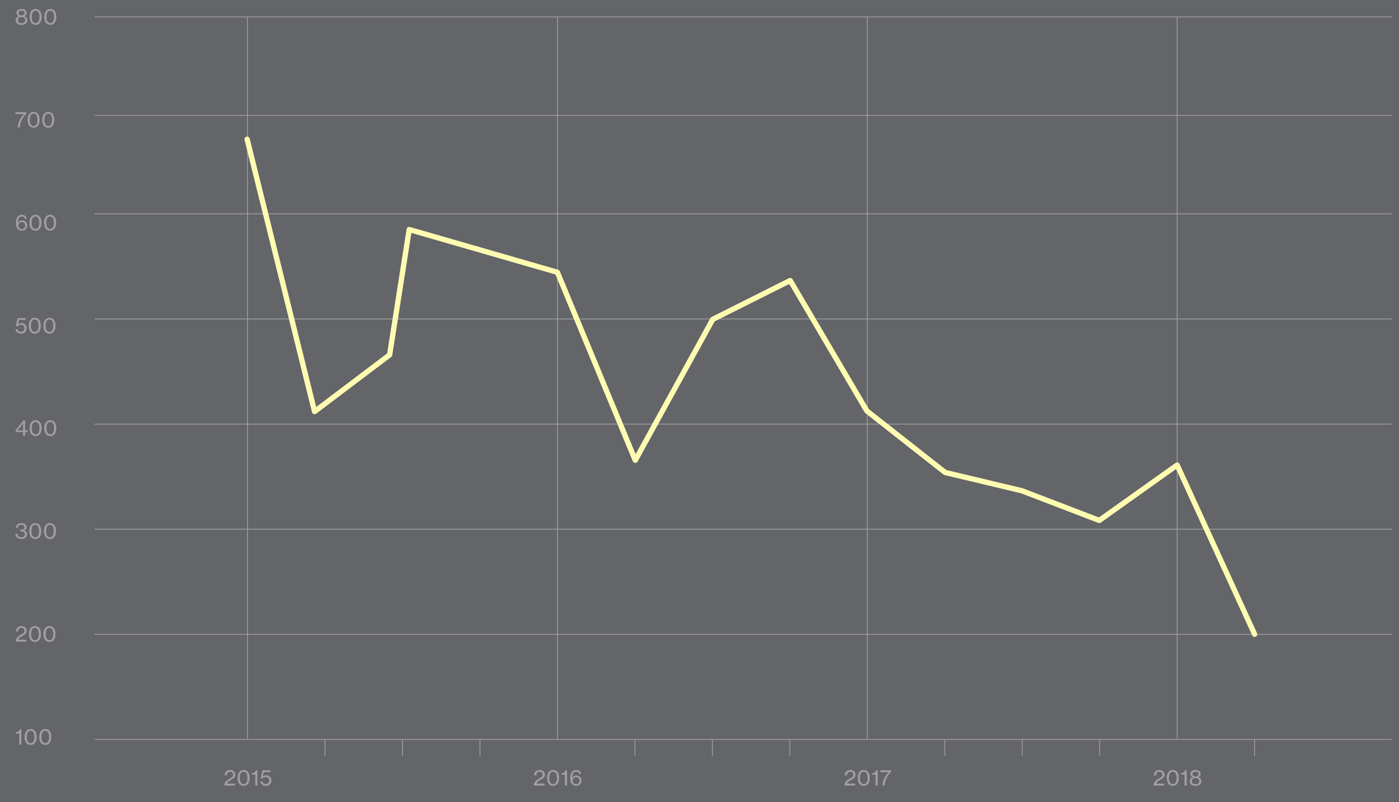
Contract frustration which insures against loss under a specified contract for the sale, purchase, lease or delivery of assets, goods or services as a result of a political event (for example, strikes, civil or invasion) or the action of government.

Trade credit, which covers a business for losses from the failure of debtors to pay debts.

Currency inconvertibility, which protects against a government enacting new currency restrictions, (for example, the transfer of investment returns).

Business interruption, which covers lost income from an event which impedes business operations and **event insurance,** which covers financial loss as a result of an event being cancelled.

Figure 1. Global foreign direct investment flows inward flows (US$ billions)



Source: Orginisation for Economic Co-operation and Development (OECD)
www.oecd.org/investment/statistics.htm

Trade flows are also reducing; figures show declining levels of foreign direct investment

1. Overview of finance, economic and trade risks

The primary cause of financial loss is a market downturn, which leads to the frustration of contracts or payments often as the result of bankruptcy.

Some financial lines insurance is classified as political risk - this is usually as a result of civil unrest or protectionism, which can lead to a host government putting trade barriers in place, such as making it hard for a foreign-based business to move assets, or even expropriation and nationalisation of assets.

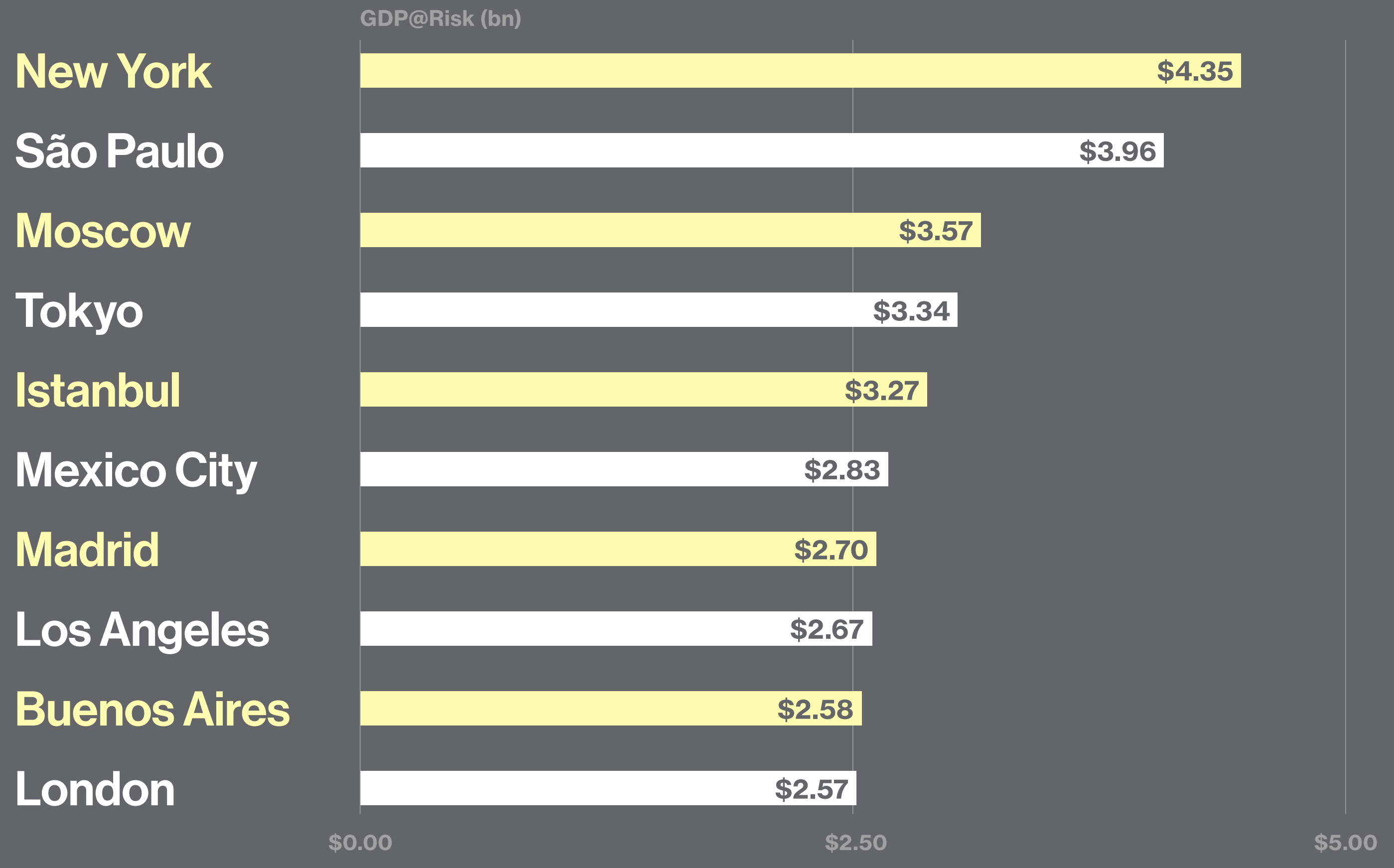
At present, economic and political conditions are exacerbating these threats. The International Monetary Fund (IMF) predicts a gradual slowdown over the next few years, primarily due to a reduction in Chinese growth. In October 2018, the IMF revised down its global growth projections for 2018 and 2019 by 0.2 percentage points. The IMF expects growth to slow in the US from 2.9% last year to 2.4% in 2019, and in China from 6.6% to 6.2%. Rises in interest rates could also depress growth. Businesses that financed expansion on low interest rates may find themselves under pressure.

Trade flows are also reducing; figures from the Organisation for Economic Co-operation and Development (OECD) show declining levels of foreign direct investment (FDI) *(see Figure 1).*

The rise of populism is changing the way trade is viewed. The belief that global trade is creating benefits for all, and should therefore be protected by national governments, is changing. Some governments are increasingly taking a more nationalist approach. This was seen most acutely in 2018, with threats (and some tariff measures) in the US-China trade relationship, which is ongoing at the time of going to press. Governments in other countries, including in Europe[2], have blocked foreign acquisitions of domestic businesses.

This is resulting in an erosion of the rules-based intergovernmental systems. For example, the World Trade Organisation (WTO)'s appointment of arbitration judges is currently blocked by the US and, if this continues, will render the WTO unable to mediate disputes by the end of 2019.

Figure 2. **Cities that stand to lose the most from finance, economic and trade risks**



Multinational businesses with many operations centres, multiple markets and complex supply lines are particularly vulnerable to finance, economic and trade risks

2. The report's findings

The cities which stand to lose most GDP to financial risk, are primarily established financial centres. This does not mean they are more likely to experience a market crash, more that the impact will be greater, given their importance as economic hubs.

This is why New York, Tokyo, Los Angeles and London are all prominent in the index in this risk category *(see Figure 2).* However, a number of key emerging market cities, such as Moscow, and noticeably three Latin American cities also appear in the top 10 of cities that stand to lose most GDP. All have GDP@Risk of more than $2bn.

The combination of a deteriorating outlook and high potential losses leaves businesses needing to develop new strategies to manage these threats. Multinational businesses with many operations centres, multiple markets and complex supply lines are particularly vulnerable to these risks. Willis Tower Watson's 2018 Political Risk Survey Report found that 55% of businesses with revenues in excess of $1bn had experienced political risk, including contract frustration and exchange transfer losses.

Additionally, businesses operating in certain sectors, such as energy, telecommunications or the delivery and management of large infrastructure projects, are vulnerable to political expropriation or contract alteration. In December 2018 JLT reported the threat of contract alteration to foreign businesses operating in the mining sector in Indonesia as the Government sought to placate nationalist demands ahead of the country's 2019 elections.

However, small and medium-sized businesses that either trade internationally or that have overseas supply lines are also exposed to bankruptcies of their key customers or suppliers and should develop clear risk mitigation strategies. The Willis report showed 35% of all respondents had suffered losses, with half costing more than $100m.

Figure 3. Cities that stand to lose the most from market crash

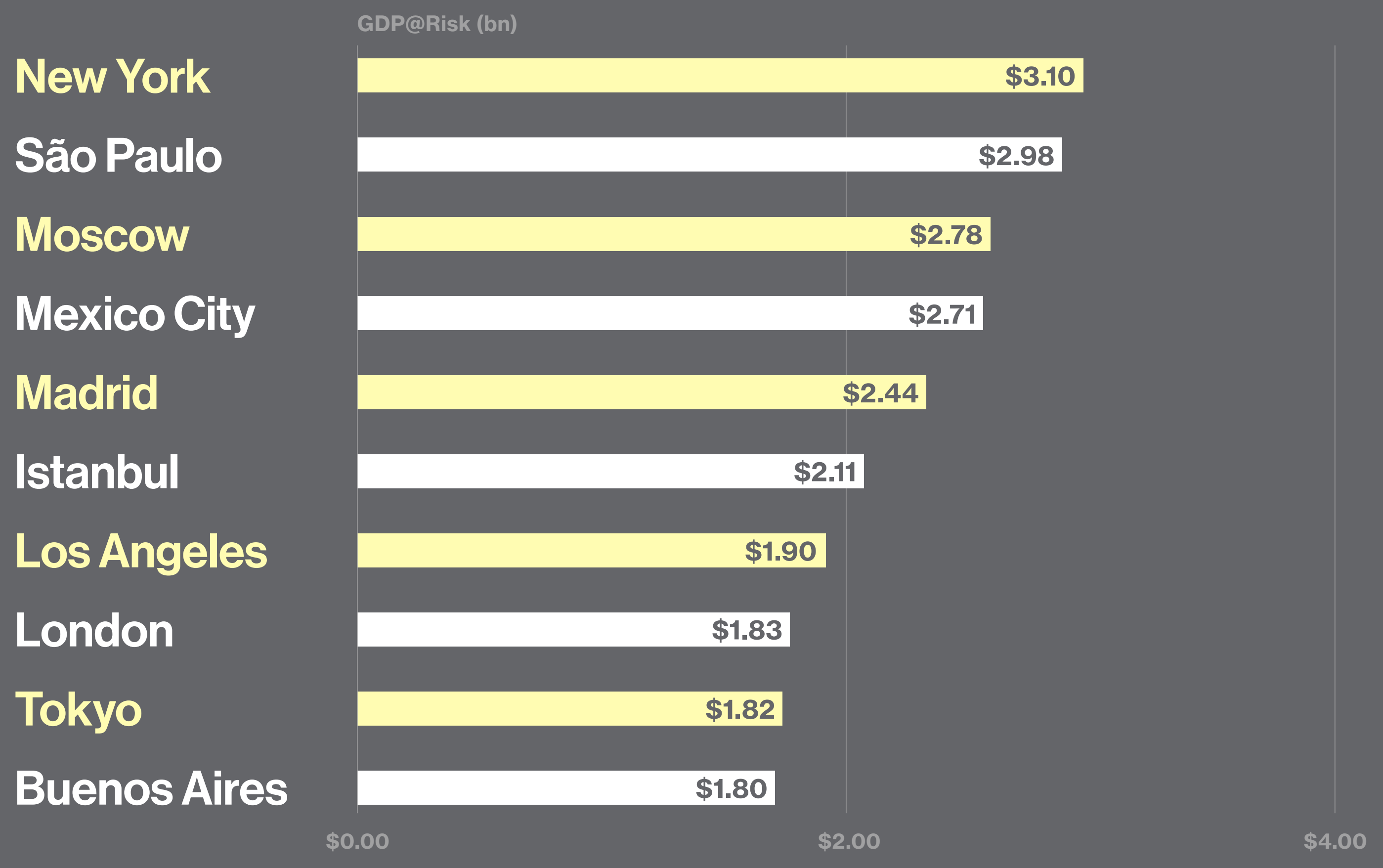
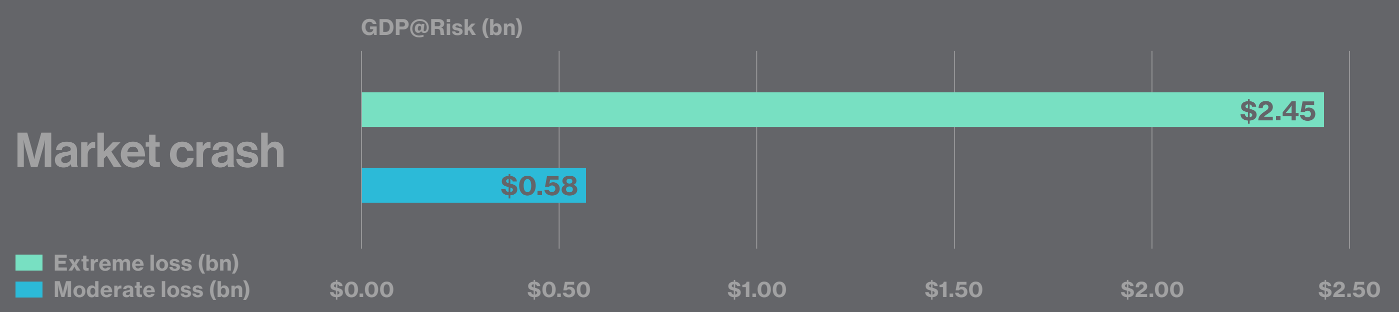


Figure 4. One-off cost of a market crash in Caracas, Venezuela



Market crash is the costliest risk in Europe, North America and Latin America, and the second largest threat in Asia Pacific

3. Individual risk analysis: Market crash

Market crash is the costliest single risk in the index with a total GDP@Risk of $103.33bn annually. The cities that stand to lose the most are in many cases established financial centres. New York could lose $3.10bn each year, in large part because of the size of its financial centre.

Los Angeles, London, Tokyo and Madrid are also in the top 10 cities affected *(see Figure 3).* Market crash is the costliest risk in Europe, North America and Latin America, and the second largest threat in Asia Pacific. More than two-thirds of US cities have market crash as their costliest risk, with a combined cost of $19.9bn, because of their reliance on private capital.

Although established centres stand to lose the most, every city is exposed to this threat, which can lead to reduced investment and increased unemployment. For example, Sao Paulo, Moscow, Istanbul and Mexico City are exposed to market crash, with each potentially losing more than $2bn a year. This correlates with insurance claims data. The Berne Union reported[4] highest claims volumes for market crash in 2018 in Turkey and Venezuela.

The size of Caracas' GDP means it does not feature in the index's top 10 cities for this threat, however, its risk profile – with sovereign debt, civil conflict, social unrest and market crash all featuring in its top six threats, shows the interconnectivity of market and political risk. Caracas also demonstrates the financial impact of this risk. It has an annual GDP of $21.08bn. An extreme market crash could cause a loss of $2.45bn, over 10% of the city's GDP *(see Figure 4).*

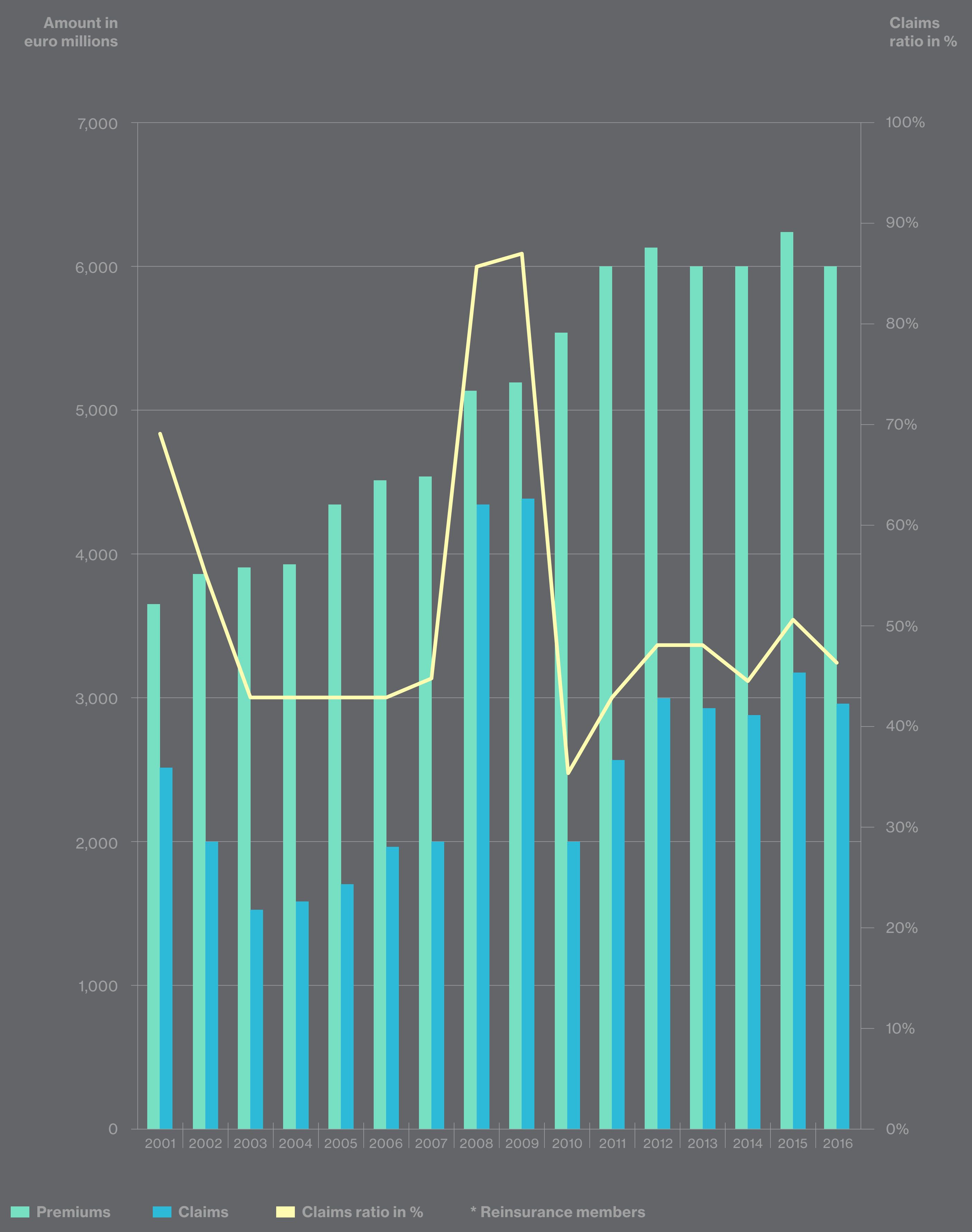
The drivers of market crash are manifold and difficult to monitor. Currently, the IMF is predicting that the global economy will continue to grow, albeit at a slower pace, but economists have indicated a number of concerns. The Chinese economy, which has fuelled global expansion, is growing at a slower pace than previously, which could impact cities with economies that import to China.

Rising interest rates are likely to tighten financing, which will affect countries with high financing needs - Malaysia and Turkey, for example. Inflationary pressures could also lead to higher input costs, putting a further squeeze on profitability. Large bankruptcies as a result of tighter financing and higher input costs can have a domino effect, causing smaller suppliers to also face insolvency.

Businesses with key trading partners in other countries - suppliers, for example - need to monitor closely the financial health of these companies and the sectors in which they operate. Many trade credit insurers use databases and monitoring software as an early warning mechanism. Establishing solvency levels and payment profiles means action can be taken if a customer or supplier shows signs of financial weakness. Late payment is often an early sign of potential problems.

Figure 5 on page 15 shows premium, claims and the claims ratio of members of the International Credit Insurance and Surety Association (ICISA) clearly shows the effect of the last financial crisis on both claims and the claims ratio, which rose to around 90% in 2008 and 2009[5].

Figure 5. Trade credit insurance – premium, claims and ratio International Credit Insurance and Surety Association members*



3. Individual risk analysis: Market crash

Good credit management companies monitor businesses that are at risk of insolvency due to local market or sector pressures. Currently, the retail sector is experiencing major change due to online trade. The failure of a large high-street retailer creates liabilities for suppliers and customers, and insurance can take away a part of this risk.

The collapse of the Flybmi airline in the UK shows how a combination of pressures from competition, regulation, commodity costs and political change (Brexit) can combine to drive a business into insolvency. Disruptive competitors that use technological platforms to drive down costs are increasing the pressure on companies working in vulnerable sectors.

However, the most unpredictable threat is the rise of populist politics and thus protectionism. In 2018 and into 2019, the threat of a trade war between the US and China – the two largest economies – has intensified, with new tariffs being set. In the first half of 2018, the US and European Union also threatened to raise tariffs on imports from the other. The US also announced “global safeguard tariffs”– totaling just over $10bn[6].

The undermining of the multilateral rules that have underpinned trade since the end of World War II, with nations taking a more selective approach over which rules to implement and establishing their own procedures. For example, in 2017, China created, for the first time, its own international arbitration rules. These trends will also require businesses to establish stronger local partnerships, navigate political pressures and local legal systems, and improve their monitoring of the risks from popularist economic policy. As a first step, they should consider how and where any potential dispute would be settled.

A market downturn creates tensions between businesses that trade together, handling slow payment from a critical customer requires skill. Many trade credit insurers take over this role, monitoring payments, spotting unusual activity and managing the situation without causing damage to the trading relationship.

Implications for risk managers

Market crash has multiple implications. Careful management of slow payments can alert risk managers to a market downturn and allow businesses to make adjustments to credit lines. Risk managers should also have a clear understanding of the legal implication of a bankruptcy - in particular, where would a dispute be resolved?

Market crash can trigger political risks. Demonstrating clear value to a local community can help to prevent a business being targeted by a populist government or local pressure groups who, in the event of market downturn, may organise demonstrations to disrupt operations.

Risk managers should consider the value of insurance in terms of protecting balance sheets, securing investment and credit management.

Figure 6. Cities that stand to lose the most from commodity price shock

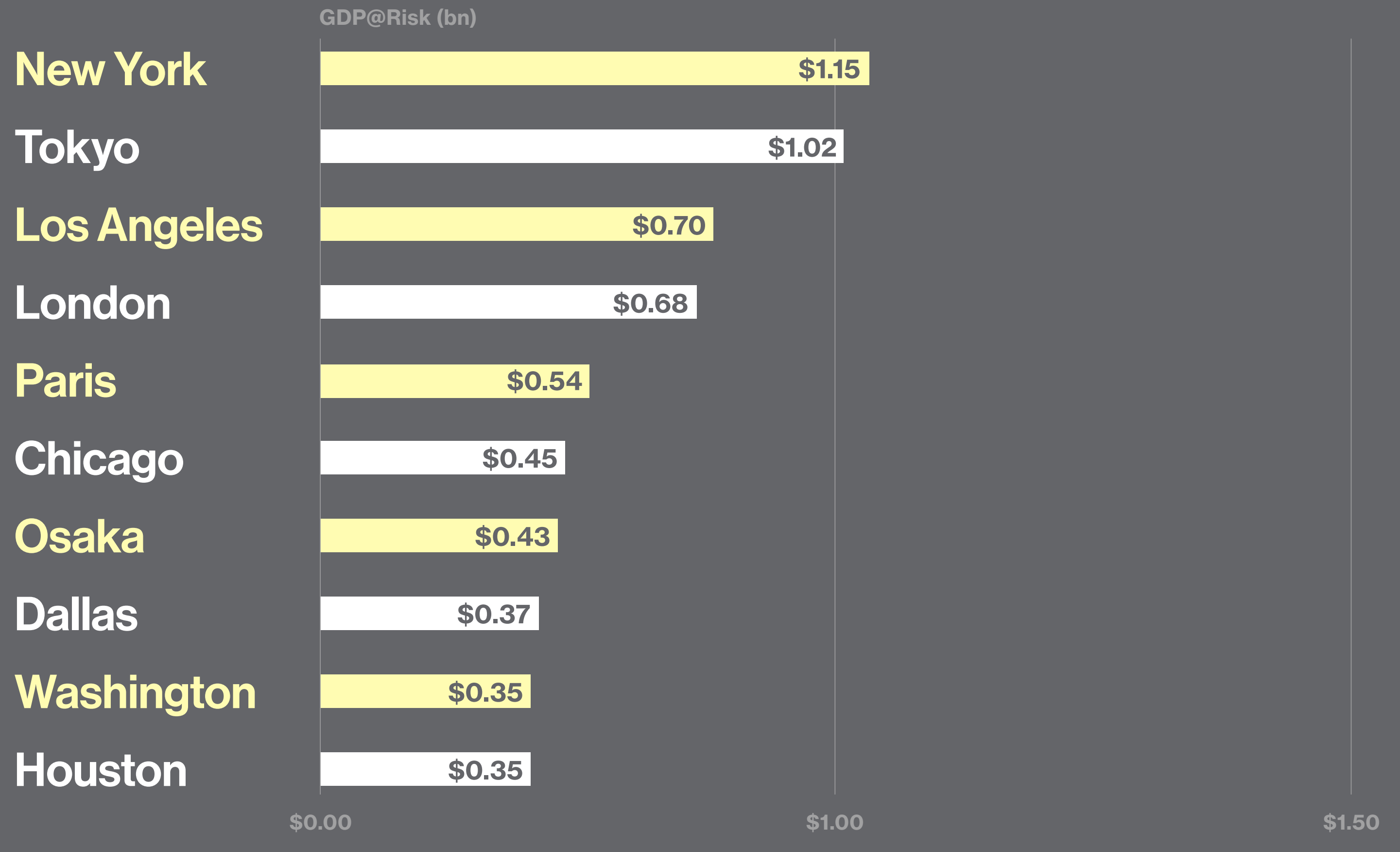
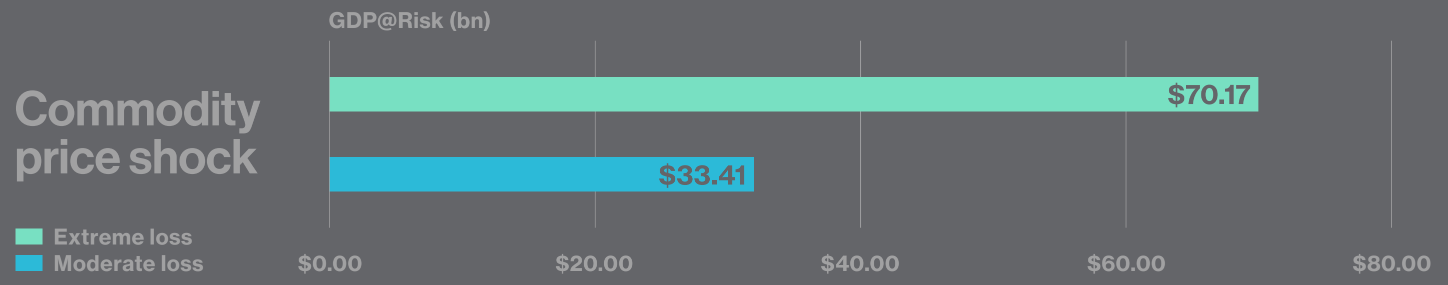


Figure 7. The costs of a one-off commodity price shock in New York



Risk managers should run scenarios to establish the impact of commodity price rises

4. Individual risk analysis: Commodity price shock

Oil prices have risen by around 20% (for Brent crude) in 2019. This is in part an issue of supply, following the political and economic turmoil in Venezuela, the decision by Opec+, which includes Russia and Saudi Arabia, to cut oil output, something which Goldman Sachs, predicting higher prices, has described as “Shock and Awe”, and the attacks on oil tankers near Iran and the Strait of Hormuz. On the demand side, China’s imports have risen.

One impact of higher commodity prices, particularly oil, is to raise manufacturing and household costs, and can lead to inflationary pressures on an economy. The cities most at risk are manufacturing economies with a high reliance on energy imports. In regional terms, the Lloyd’s City Risk Index shows Western European cities to be most vulnerable to this threat. The European Union imports almost 90% of its crude oil. China and US, respectively the largest importers of oil, are also vulnerable to price rises.

The index shows the GDP@Risk from commodity price shock is $20.29bn annually across all cities. The most vulnerable are cities in the US, Japan and Europe. Of the top 10 cities which stand to lose most from this threat, 60% are in the US *(see Figure 6)*, with a single severe commodity price event in New York having the potential to cost $70.17bn to the city’s GDP *(see Figure 7)*.

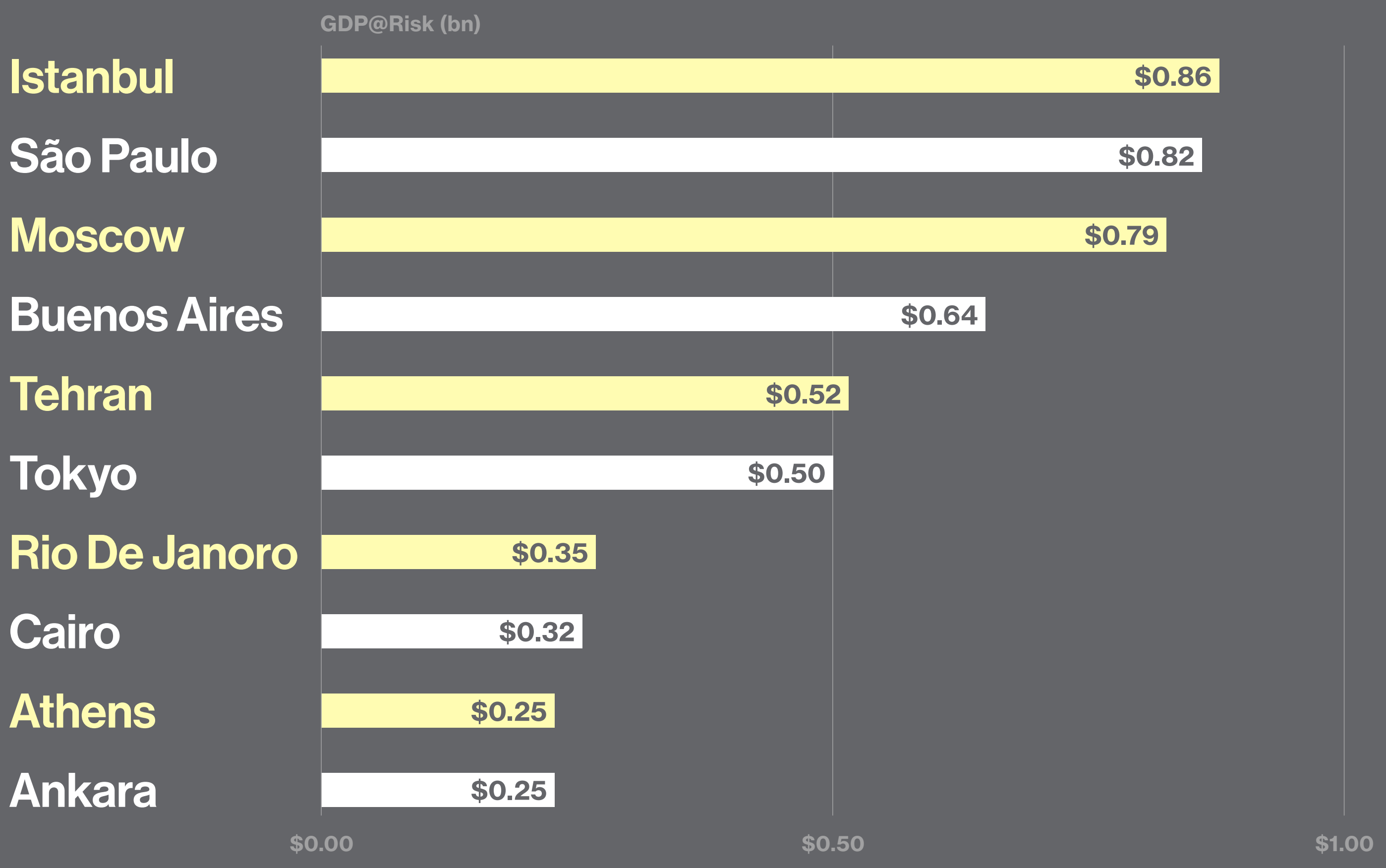
Implications for risk managers

Risk managers, particularly those in the manufacturing sector with high energy use, should run scenarios to establish the impact of commodity price rises.

Understanding the impact of oil price rises on inflation is critical for companies with high borrowing levels. It is also important to establish the impact of inflationary pressures on critical trade partners. Will key customers and suppliers survive a rise in interest rates? How might they impact on supply chains?

Inflation and high prices can also trigger civil unrest, and businesses should review their plans to ensure the security of employees, assets and operations in the face of riots and demonstrations.

Figure 8. Cities that stand to lose the most from sovereign default



The index shows sovereign default will lead to the highest losses in emerging economies

5. Individual risk analysis: Sovereign default

The index shows sovereign default will lead to highest losses in emerging economies. Only two cities in the top 10 - Tokyo and Athens - are in developed economies.

Sovereign default can have a number of consequences. Clearly, it can affect any businesses supplying goods and services - in the energy, construction or telecommunications sectors, for example, - as well as national governments. The rise in state-owned enterprises (SOEs) means that more than a quarter of the world's largest businesses are now state-owned, adding to the risk of sovereign debt crisis.

The index shows Istanbul is the most vulnerable city in the world to this threat, followed by Sao Paulo and Moscow *(see Figure 8)*. All three of these cities could lose in the region of $800m of their GDP annually to this threat. The three most vulnerable cities in Europe are all in Russia. However, Standard & Poor's decision in February 2018 to upgrade Russia's rating to investment class credited "prudent policy" decisions. Businesses looking to invest in these markets, or which have supply chains in them, should ensure they have a strategy to deal with a sovereign debt crisis. Other countries that have experienced recent credit level upgrades include Greece, Portugal, Spain, Cambodia and Israel.

$108.31bn

The estimated cost of sovereign debt in Sao Paulo

5. Individual risk analysis: Sovereign default

Four Latin American cities are likely to lose the most from sovereign default. Two are in Brazil, which has emerged from depression with a forecast $180bn borrowing requirement in 2018[7]. President Bolsonaro has said he plans to achieve a budget surplus by 2020, but with the fiscal deficit currently running at 8%, this is ambitious. The index estimates the cost of a sovereign debt crisis in just one city, Sao Paulo, at $108.31bn.

Sovereign debt can also raise the likelihood of expropriation of assets or forced nationalisation of industries. Some indicators - if a government has signed an agreement with the Multilateral Investment Guarantee Agency (MIGA), for example - can reduce the likelihood of expropriation.

The rise in populist policies may also lead to a rise in economic nationalism which could increase the threat of expropriation. Additionally, the period leading up to a sovereign debt default can be characterised by governments reducing social spending. These can all increase the likelihood of riots, civil conflict or social unrest, which can disrupt operations and the supply of goods. The cost of these threats in the world's cities is covered in our report on political risk (see https://cityriskindex.lloyds.com/analysis).

Implications for risk managers

Risk managers should develop strategies to manage debts of state-owned enterprises and renew these when governments change.

They should also consider how to manage the risk of earnings being trapped in a market or expropriation of assets. Are guarantees in place? Are they sufficiently robust to withstand a sovereign debt crisis in a state with a populist government?

Insurance to mitigate the risk of expropriation is widely available and should be explored in cities that are vulnerable to sovereign debt.

The primary challenge for businesses is therefore, to consider how insurance might help to overcome finance, trade and political risks

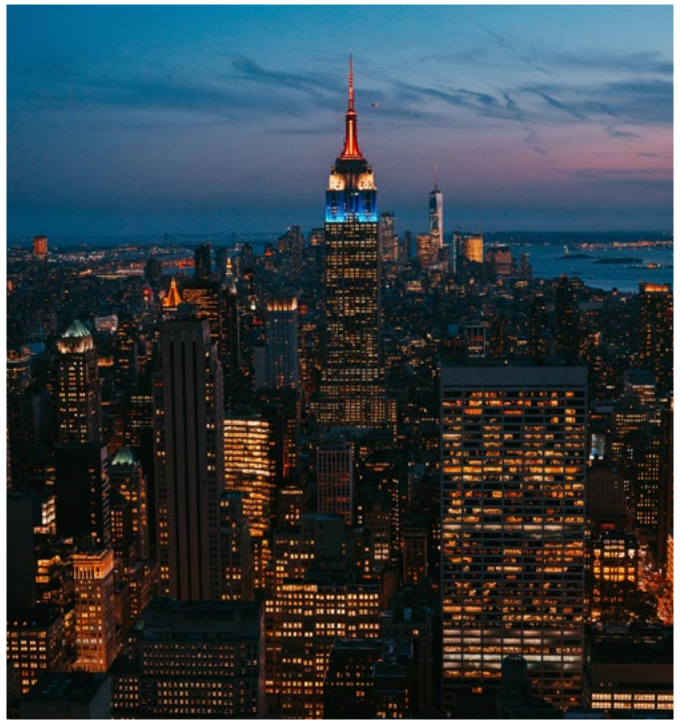
6. Conclusion

The City Risk Index provides a snapshot of how financial, economic and trade risks affect city economies across the world. This is the starting point for risk managers to establish the level of the threat. According to ICISA data[8], both premiums and insured exposure are growing in trade credit insurance, suggesting that businesses are aware of a rising risk. Yet balance sheets remain, in large part, uninsured.

The 2018 Willis Towers Watson report gives an interesting insight into why risk managers do not insure against political risk, which includes threats to balance sheets. Almost a third (28%) believed the cover offered was not broad enough, while just 13% thought the cost was too high. However, the biggest reason was that businesses believed they could mitigate these risks in other ways, although they may be doing this by scaling down or even avoiding investment altogether.

The primary challenge for businesses is, therefore, to consider how insurance might help to overcome finance, trade and political risks. This could improve their access to capital and liquidity. Insurers need to balance the considerable growth opportunities in these classes of business, against their exposure to a volatile and fast-changing risk landscape, using a combination of human judgement and technological tools to monitor the financial stability of businesses and governments.

This class of insurance has a strong potential to improve trade flows and thus prosperity in cities across the world, particularly those that have struggled to attract investment. The index shows the potential size of losses is high, which is an incentive for businesses to look into insurance options and not least because of the increasing links between political and trade risk.



4. Conclusion

Possible actions for insurers and risk managers

Actions for insurers

Work closely with customers. With the prospect of trade wars escalating, insurers would do well to work with policyholders to establish risk levels and coverage in place for tariff rises.

Continue to work with experts to identify how technological advances in supply chain management, particularly blockchain, will change credit management, both in eliminating and creating new risk.

Seek possibilities to work with development agencies to develop insurance or reinsurance cover for markets seen as “uninsurable” and which currently have little insurance penetration.

Carefully monitor exposures to high-risk markets.

Actions for risk managers

Understand the vulnerabilities of critical customers and suppliers, from local economic, political and sectoral pressures.

Invest in monitoring systems that allow companies to spot early warning signs that a trade partner is experiencing difficulties.

Develop stronger relationships with local trade partners, promoting their value to the local community to avoid protectionism measures. Consider how any trade dispute would be settled.

Don’t rule out specific markets; private and public insurance may be available to offset risk.

References

1 A full definition of financial guarantee and contract frustration can be found in Lloyd's market bulletin Y4396.

2 For a fuller account see the World Economic Forum's 2019 Global Risk Report.

3 Insurance business Australia report of 11 February 2019.

4 Berne Union Annual report 2018.

5 ICISA 2017-18 Yearbook.

6 World Economic Forum 2019 Global Risks Report.

7 S&PGlobal.

8 ICISA press release June 2018.