Urbanisation in emerging markets: boon and bane for insurers

1 Executive summary
2 Urbanisation in emerging markets
14 Urbanisation and non-life insurance
26 Urbanisation and life insurance
33 Outlook and conclusions

Check out www.sigma-explorer.com to explore and visualise sigma data on natural catastrophes and world insurance markets.
Check out www.sigma-explorer.com to explore and visualise sigma data on natural catastrophes and world insurance markets.

© 2013 Swiss Re. All rights reserved.

The editorial deadline for this study was 30 September 2013.

sigma is available in English (original language), German, French, Spanish, Chinese and Japanese.

sigma is available on Swiss Re’s website: www.swissre.com/sigma

The internet version may contain slightly updated information.

The entire content of this sigma edition is subject to copyright with all rights reserved. The information may be used for private or internal purposes, provided that any copyright or other proprietary notices are not removed. Electronic reuse of the data published in sigma is prohibited.

Reproduction in whole or in part or use for any public purpose is permitted only with the prior written approval of Swiss Re Economic Research & Consulting and if the source reference “Swiss Re, sigma No 5/2013” is indicated. Courtesy copies are appreciated.

Although all the information used in this study was taken from reliable sources, Swiss Re does not accept any responsibility for the accuracy or comprehensiveness of the information given or forward-looking statements made. The information provided and forward-looking statements made are for informational purposes only and in no way constitutes Swiss Re’s position. In no event shall Swiss Re be liable for any loss or damage arising in connection with the use of this information and readers are cautioned not to place undue reliance on forward-looking statements. Swiss Re undertakes no obligation to publicly revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

Order no: 270_0513_en
The world continues to urbanise, underpinned by the rapid growth of towns and cities in emerging markets. In 2011, about 74% of the world’s urban population lived in the emerging markets, with China and India having the most city inhabitants. The world’s urban population is forecast to grow by about 1.4 billion to 5.0 billion between 2011 and 2030, with more than 90% of the increase coming in emerging markets.

In general terms, urbanisation is understood to be the transformation of rural areas into towns and cities but actually, there is no standard definition. One feature of urbanisation recently has been the expansion of cities into ‘megacities’ of least 10 million inhabitants. By 2025, it is projected that there will be 37 megacities around the globe, up from 23 in 2011. Another development is the linking up of towns and cities into urban or industrial ‘clusters’ as seen in the Yangtze River Delta region of China, and what is intended with the Delhi-Mumbai Industrial Corridor project in India. Small and mid-sized towns and cities are also expected to grow rapidly in the coming years.

Urbanisation brings fundamental socio-economic change, and a new risk landscape featuring higher population density and concentration of values. Recently more attention has also been given to environmental issues such as air and water pollution, and to the championing of green, sustainable cities. Further, there is growing recognition in emerging markets of the importance of providing migrants with access to basic needs, and the threat of social unrest generated by lack thereof.

Urbanisation will continue to drive emerging market growth, and this presents opportunities for insurers. Rising incomes and levels of asset ownership will favour the development of non-life personal lines, in particular motor insurance. Commercial fleets will also see growth, supported by expanding public transport and logistics sectors. At the same time, the need to accommodate ever-growing urban populations entails huge infrastructure investment. It is estimated that USD 43 trillion (in 2012 constant dollars) investment in infrastructure between 2013 and 2030 will be required for successful urbanisation. Both the construction phase and recurrent premiums post-construction represent significant business opportunities for the insurance sector.

Industrialisation comes hand-in-hand with urbanisation in emerging markets, and leads to increasing need for insurance of production facilities. Further, with education, improved literacy and growth of the consumer society, litigation against goods and services providers for faulty or damaged products could become more frequent, especially if supported by law, indicating a growing role for liability insurance.

The life and health insurance sector will also benefit. Modern towns and cities are characterised by high population density, fast-paced lifestyles, mobility and better education opportunities. Increased financial literacy can facilitate sales of more complex life products. Healthcare cover will also likely become more critical, particularly for an ageing population less able to rely on the younger generation for post-retirement support. Other trends such as an increase in the number of working women and the rise of formal employment will also generate demand for new forms of risk protection.

Urbanisation presents challenges for insurers too. For instance, larger cities are more vulnerable to health hazards and prone to large losses should they be hit by a major natural disaster event. Also, insurers will need to innovate and provide customised solutions, because the diversity within different urban centres means a ‘one-size-fits-all’ approach will not suffice. They should also use the multi-channels now available for product distribution to meet the needs and preferences of the modern urban consumer.

From an implementation perspective, national and local authorities should partner with re/insurers in managing the challenges facing modern cities, such as the financing of healthcare services or of reconstruction after a natural disaster. Re/insurers can contribute their expertise in risk management strategy. Indeed, risk transfer to the private sector should be an integral part of city risk management to help alleviate the financial and personal burden that can strike many in the wake of a catastrophic event.
Urbanisation in emerging markets

Urbanisation was a defining feature of the 20th century. Between 1950 and 2010, the world’s urban population grew nearly fivefold, with on average 47 million more urban residents every year.\(^1\) The migration came with the onset of industrialisation in all regions of the world, people lured into towns and cities by the prospect of better employment and lifestyle opportunities.

Today more than half the world’s population lives in urban areas. The pace of urbanisation in advanced markets has stabilised since the 1970s, with the emerging markets becoming increasingly prominent as the driver of the global move into towns and cities.

<table>
<thead>
<tr>
<th>Year</th>
<th>World</th>
<th>Developed markets</th>
<th>Emerging markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950–1970</td>
<td>3.0</td>
<td>2.1</td>
<td>4.1</td>
</tr>
<tr>
<td>1970–2010</td>
<td>2.4</td>
<td>0.9</td>
<td>3.4</td>
</tr>
<tr>
<td>2010–2030F</td>
<td>1.7</td>
<td>0.5</td>
<td>2.1</td>
</tr>
</tbody>
</table>

\(^1\) Population Division, Department of Economic and Social Affairs, United Nations.

In 2011, 73.5% of the world’s urban population was in emerging markets.

The largest and fastest growing cities are in the emerging markets (Figure 1). In 2011, 73.5% of the world’s 3.6 billion urban dwellers were in the emerging markets with China and India having a 30% share. Urbanisation rates vary widely, from 36% to 43% in sub-Saharan Africa and emerging Asia, respectively, to 80% in Latin America (92% in Argentina).

The overall urbanisation rate in emerging markets was 46.5% in 2011 and is expected to increase to 56% by 2030. The number of people living in emerging market cities is forecast to increase from 2.7 billion to 3.9 billion in the same period, on average an additional 66 million new urbanites each year. The pace of urbanisation is slowing from previous decades, but the growth continues and will further transform the socio-economic landscape of emerging markets in the coming years.

* Emerging Asia includes China, India, Indonesia, Malaysia, the Philippines, Thailand and Vietnam

F = forecast
Source: Population Division, Department of Economic and Social Affairs, United Nations.

In 2011, 73.5% of the world’s urban population was in emerging markets.

The largest and fastest growing cities are in the emerging markets (Figure 1). In 2011, 73.5% of the world’s 3.6 billion urban dwellers were in the emerging markets with China and India having a 30% share. Urbanisation rates vary widely, from 36% to 43% in sub-Saharan Africa and emerging Asia, respectively, to 80% in Latin America (92% in Argentina).

The overall urbanisation rate in emerging markets was 46.5% in 2011 and is expected to increase to 56% by 2030. The number of people living in emerging market cities is forecast to increase from 2.7 billion to 3.9 billion in the same period, on average an additional 66 million new urbanites each year. The pace of urbanisation is slowing from previous decades, but the growth continues and will further transform the socio-economic landscape of emerging markets in the coming years.

* Emerging Asia includes China, India, Indonesia, Malaysia, the Philippines, Thailand and Vietnam

F = forecast
Source: Population Division, Department of Economic and Social Affairs, United Nations.

Table 1
Average annual growth (%) in urban populations

In 2011, 73.5% of the world’s urban population was in emerging markets.

The largest and fastest growing cities are in the emerging markets (Figure 1). In 2011, 73.5% of the world’s 3.6 billion urban dwellers were in the emerging markets with China and India having a 30% share. Urbanisation rates vary widely, from 36% to 43% in sub-Saharan Africa and emerging Asia, respectively, to 80% in Latin America (92% in Argentina).

The overall urbanisation rate in emerging markets was 46.5% in 2011 and is expected to increase to 56% by 2030. The number of people living in emerging market cities is forecast to increase from 2.7 billion to 3.9 billion in the same period, on average an additional 66 million new urbanites each year. The pace of urbanisation is slowing from previous decades, but the growth continues and will further transform the socio-economic landscape of emerging markets in the coming years.

* Emerging Asia includes China, India, Indonesia, Malaysia, the Philippines, Thailand and Vietnam

F = forecast
Source: Population Division, Department of Economic and Social Affairs, United Nations.

1. Population Division, Department of Economic and Social Affairs, United Nations.
Urbanisation will be driven by emerging markets, albeit with regional differences.

The pace of urbanisation in different emerging markets will likely diverge, with deceleration in the more urbanised Latin America and Eastern Europe regions but rapid growth in Asia and Africa. The global urban population is expected to grow by about 1.4 billion between 2011 and 2030, with more than 90% of the increase coming in emerging market countries, including 276 million in China and 218 million in India. Together these two nations will contribute 37% of the world increase. By 2050, China will have the world’s largest urban population (1 billion) followed by India (0.9 billion). Other emerging markets, including Nigeria, Indonesia, Pakistan and Brazil will also have significant urban expansion.

Figure 2
Growth of urban population, CAGR 2010–2030F

There is no one global standard definition of urbanisation.

Administrative criteria have been established by national authorities, but these have inconsistencies too.

Different socio-economic factors are often part of the definition of ‘urban.’

What’s urban?

Urbanisation is generally viewed as the transformation of rural areas into towns and cities. Yet classifying an inhabited territory as urban (or rural) is not straightforward, because there is no one global standard definition. The criterion varies across countries, and can also differ within the same country at different times.

Moreover, it is difficult to draw the boundaries of a city or town as they and the surrounding regions are typically economically interdependent and share similar social and demographic trends. Administrative criteria (municipalities/districts) established by national authorities are the most commonly used benchmarks. In some cases, however, the city proper as defined by administrative boundaries may not include suburban areas where a significant proportion of the population lives.

In other cases, two or more adjacent cities may be separately administered but together form a single urbanised region, which further blurs a city or town’s boundaries. For these reasons, factors such as population size or density, economic activity, infrastructure and access to utilities are often also part of the definition of urban.
Urbanisation in emerging markets

The UN adopts the concept of urban agglomeration in defining ‘the city’…

... and classifies cities into five categories, by population size.

Table 2
Some common measures to define city or urban boundaries

<table>
<thead>
<tr>
<th>Administrative boundaries</th>
<th>Municipalities, districts or census divisions established by national authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic characteristics</td>
<td>Predominantly non-farm (manufacturing or services sector) activities or inhabitants mainly in non-agricultural occupations</td>
</tr>
<tr>
<td>Population</td>
<td>Exceeding certain population density and size</td>
</tr>
<tr>
<td>Urban characteristics</td>
<td>Existence of paved streets, water supply systems, sewage systems and electric lighting</td>
</tr>
<tr>
<td></td>
<td>Minimum size of the urban land and distance between urban lands to be considered as part of the same continuous settlement</td>
</tr>
<tr>
<td>Functional natures</td>
<td>A catchment area with some closely linked or inter-dependent socio-economic functions (e.g. in terms of administration, employment, services and leisure)</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting

Table 3
Types of cities by population size

<table>
<thead>
<tr>
<th>Types of City (by population size)</th>
<th>Share of world urban population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1970</td>
</tr>
<tr>
<td>Fewer than 500,000</td>
<td>61.6</td>
</tr>
<tr>
<td>500,000 – 1 million</td>
<td>9.4</td>
</tr>
<tr>
<td>1 million to 5 million</td>
<td>18.0</td>
</tr>
<tr>
<td>5 million to 10 million</td>
<td>8.0</td>
</tr>
<tr>
<td>&gt;10 million (megacity)</td>
<td>2.9</td>
</tr>
<tr>
<td>Smaller cities*</td>
<td>71.0</td>
</tr>
<tr>
<td>Larger cities</td>
<td>29.0</td>
</tr>
</tbody>
</table>

* Cities with population size less than 1 million
F = forecast
Source: Population Division, Department of Economic and Social Affairs, United Nations

The urbanisation rate referred to in this report is based on figures published by the United Nations (UN), which in turn rely on the national definitions of individual countries. The UN also adopts the concept of urban agglomeration in the analysis of the total built-up area of a city in a broader sense. The urban agglomeration is defined as “the build-up or densely populated area containing the city proper; suburbs, and continuously settled commuter areas. This may be smaller or larger than the metropolitan area.”

The UN has classified cities into five population sizes, ranging from fewer than 500,000 to megacities which have at least 10 million inhabitants (see Table 3). Historically, urban growth has been more concentrated in larger cities. In 1970, small cities (less than 1 million) accounted for 71% of the world’s urban population. That dropped to 61% in 2011 and is expected to fall further to 53.5% by 2025.

Cities are expected to get bigger, with the number of megacities increasing substantially. In 1970, there were two megacities with 2.9% of the world’s urban population. The number rose to 23 (9.9% of the world’s urban population) in 2011 and is forecast to be 37 by 2025, housing 13.6% of the world’s urban population. Of these, 30 will be in emerging markets, with 19 in Asia, including 13 in China and India.

---

2 "Urban Indicators Guidelines" (July 2009), United Nations Human Settlements Programme, UN-Habitat.
An estimate by McKinsey projects that the top 20 megacities will together account for USD 5.8 trillion of global GDP by 2025, a compound annual growth rate (CAGR) of 7.6% from 2011. That’s almost double the growth rate expected for the global economy as a whole, making megacities the key centres of global growth in coming decades.

Smaller cities (so-called middleweight cities) are expected to grow slightly faster, with a CAGR of 8% to 2025.4

Large cities and urban clusters

Historically, the rise of large cities has been the creation of dynamic, growing centres for modern production and industry, in which resources are used more efficiently to contribute to higher income and perceived improved living conditions for society at large. Urbanisation has lowered production costs partly due to economies of scale. Noteworthy, however, is that empirical studies show larger cities have had higher factor productivity than smaller cities up to a certain size, after which factor productivity displays decreasing returns.5 With metro lines and railways networks becoming high speed, travel times between cities have fallen sharply. This has resulted in a clustering structure of city-networks, linking cities of similar size performing different functions, achieving economies of vertical integration and division of labour.

There has been an increasing tendency for cities, whether large or small, to merge to form urban clusters which are more economically and functionally dependent. The spatial pattern of clusters typically takes three forms: (1) mega regions (amalgamating several cities within the orbit of the overall region); (2) urban corridors (a number of urban centres of various sizes connected along transportation routes in linear development axes); and (3) city regions (large city expansion beyond formal administrative boundaries to engulf smaller ones, as well as semi-urban and rural hinterlands). These networks of cities tend to create economies of scale which benefit transport, infrastructure and communication development, in turn raising efficiency, productivity and consumer demand.

4 McKinsey defines middleweight cities as those with population between 200,000 and 10 million. See “Urban World: Cities and the rise of consuming class” (2012), McKinsey

5 Roberto Camagni, Roberta Capello and Andrea Caragliu, “One or infinite optimal city sizes? In search of an equilibrium size for cities” (2013).
Urbanisation in emerging markets

However, the seemingly endless extension of urban borders has given rise to socio-economic and environmental issues and raises the question of whether larger cities are always more efficient. There is a large body of literature demonstrating the environmental and social costs of greater urban size. While there does not seem to be consensus as to optimal city size, some see higher growth potential in small and medium-sized cities than in large ones.

In the emerging market context, when considering the efficiencies of large cities, it is important to remember that urbanisation has happened at a very rapid pace. For instance, the urbanisation rate in China increased by 20 percentage points (from 16% in 1960 to 36% in 2000) within a span of 40 years, while the same change took 120 years in Great Britain and 80 years in the US. The speed of urbanisation in emerging markets has sometimes outpaced the ability of governments to build essential infrastructure, creating serious challenges in some cities. In others, urban expansion has been haphazard, driven by push factors forcing people to leave rural areas such as civil conflict, disasters or drought, land degradation and population pressures.

Economic, social and environmental change

Whether positive or negative, urbanisation has significant economic, social and environmental implications. When underpinned by suitable infrastructure and governance, urbanisation can act as a strong engine for growth by raising productivity, generating income and employment, and improving living standards. Conversely, when poorly managed, urbanisation can compromise growth prospects and social well-being.

Urbanisation changes the risk landscape of towns and cities, which presents both opportunities and challenges for the insurance sector. These will be discussed in the next two chapters. What follows here is a review of the key socio-economic impacts of urbanisation.

Wealth effects

In developed nations, urbanisation is mostly associated with the creation of wealth and improved living conditions. In emerging markets, that correlation is not so clear. For instance, Latin America underwent a seemingly similar path of income growth alongside urbanisation as the US until the late 1960s, with about half the population becoming urbanised. Between 1950 and 1980, many people migrated to cities, with falling crop prices driving people out of rural areas. At the same time, however, the cities were not prepared in infrastructure terms and employment opportunities were also lacking. The result was that while towns and cities became home for many more people, there was little growth in per capita income.

Today, Latin America is the most urbanised region in the world, with around 78% of the population living in cities. However, the poor management of urbanisation means that inadequate infrastructure remains a big problem. One in four people in Latin American live in slums or informal settlements, with limited access to water, sanitation and electricity. For some, their well-being may have been compromised by the urban experience.

7 “The State of Latin American and Caribbean Cities” (2012), UN-Habitat
Currently, about 1 billion people live in slums in emerging markets, and the number is projected to reach 1.3 billion by 2020. In Africa, about 62% of the urban population lives in slums. About half of the urban population in Africa, Asia, Latin America and the Caribbean suffer from one or more diseases associated with inadequate water supplies and sanitation. At the same time, with few jobs comes widespread unemployment. Urban poverty is strongly linked to poor human capital, social unrest, crime, violence and outbreaks of diseases. Studies have shown that slums and the resulting poor human capital development affect the longer-term growth potential of a city.

Infrastructure investment
Expanding cities need adequate infrastructure to prosper. More sophisticated buildings are required to support greater population densities. Likewise utilities such as electricity, gas and fresh water distribution, sanitation and waste management are critical for successful and sustainable urbanisation. Big-ticket infrastructure facilities, for example international airports, high-speed rail links and mass transit systems, are economically viable only in areas where there is sufficient demand. These factors are also important in order to attract foreign direct investment (FDI). History shows that FDI flows are more concentrated to urban than other areas due to the better infrastructure and availability of skilled workers, financial and legal services.

The expanding cities in emerging markets will account for a major share of infrastructure investments in the coming decades. For the period 2013–30, it is estimated that global investment on transport, utilities (power generation and water & waste management) and construction of commercial structures will be USD 70 trillion. Of this, 61%, or USD 43 trillion (in 2012 constant dollars), will be in the emerging markets.

---

8 “Global Report on Human Settlement” (2007), UN-Habitat
9 “Global Report on Human Settlement” (2009), UN-Habitat
11 Estimated high level indicative data for global infrastructural investments (transport and utilities) and commercial structures for the period 2013–2030. The methodology is Swiss Re ER&C internal and is based on data from “Strategic transport infrastructure needs 2030” (2012), OECD; “Urban World: Cities and the rise of the consuming class” (June 2012) and “Infrastructure Productivity: How to save USD 1 trillion a year”, (January 2013), both McKinsey; “Opportunities in an urbanizing world” (April 2012), Credit Suisse Research Institute – www.credit-suisse.com/researchinstitute; and “Current Market Outlook 2012–2031” (2012), Boeing. The numbers are in 2012 constant dollars.
Urbanisation in emerging markets

To remain efficient, expanding cities need better transport networks.

Emerging markets will require an estimated USD 19.3 trillion investments in utilities between 2013–2030.

Urbanisation triggers demand for additional housing and commercial floor space.

Infrastructure investment

Transportation sector
An efficient transport network is critical in urbanisation. There is a strong relationship between the degree of urbanisation and number of airports and kilometres of highways and railways. For instance, countries where 55% of the population is urban usually have one airport per 1 million people, while countries with a 70% urbanisation rate have 2 per million and 80% have 3 airports per million. Between 2013 and 2030, an estimated USD 7.6 trillion investment will be required in the transport sector in emerging markets.

Utilities (Power generation, water and waste management)
Larger cities will require an estimated USD 19.3 trillion investment in utilities between 2013 and 2030. For example, emerging markets will need an estimated 2,500 new power stations by 2030, with an average power generation capacity of 1,000 MW each.

Construction (residential and commercial floor space)
Growing populations and rising per capita income, along with increased commercial activity, lead to additional housing and commercial floor space requirements. The additional demand for commercial floor space in emerging market cities is forecast to total USD 15.8 trillion by 2030, with China expected to account for 46% of that.

Figure 5
Additional infrastructure investment by sector in emerging markets (%), and by regions/countries (USD billion), 2013–2030F

- Transportation: 37%
- Utilities: 22%
- Construction: 18%
- Other: 24%

Total investments, USD billion

- China: 2000
- India: 1000
- Middle East & Africa: 1000
- Latin America: 1000
- Other Emerging: 1000

F = forecast
Source: Swiss Re Economic Research & Consulting

---

12 “Opportunities in an urbanising world” (2012), Credit Suisse.
13 “Strategic transport infrastructure needs 2030” (2012), OECD; “Urban world: Cities and the rise of the consuming class” (June 2012), McKinsey Global Institute; “Opportunities in an urbanising world” (2012), Credit Suisse Research Institute; and “Current Market Outlook 2012–2031” (2012), Boeing. All figures are in 2012 constant dollar.
14 “Opportunities in an urbanising world” (2012), Credit Suisse.
15 “Urban world: Cities and the rise of the consuming class” (June 2012), McKinsey Global Institute.
Social impact

Urbanisation is as much a social as an economic phenomenon. The nature of work (formal sector employment) and the way of life can redefine interpersonal and family roles and relations. A common characteristic of the urban setting is smaller families than in rural areas. For instance, in Malaysia the average urban household shrank from 6.1 to 4.3 people between 1970 and 2000, whereas in rural areas it declined from 5.5 to 4.7 in the same period. Another characteristic is an increase in the number of women in formal employment. Take for example Indonesia, where in 2010 only 10% of working females in urban areas were “unpaid family workers”, compared with 46% in rural areas.

Urban lifestyle also gives rise to a consumer culture, in which people place a high value on material possessions and have a tendency to consume more than they need. The rise of consumerism has implications on product design and marketing, not least because of more consumer activism, with demand for honest labelling and advertising of products.

Rural to urban migration creates socio-economic pressures too. In many emerging markets, migrant workers do not have access (and may not be entitled) to the same level of social security benefits, including to schools and healthcare, as urban residents. Poorly managed migration also puts huge pressure on urban infrastructure and can contribute to the rise of urban slums. Lack of adequate provision of basic needs for migrant workers can be the root cause of social tensions. Indeed, many policymakers regard these pressures as the main problem in managing the influx of migrant workers.

Impact on health

City lifestyles also give rise to ‘urban diseases’. City dwellers tend to eat convenient and processed foods and follow sedentary routines. These are linked to obesity, diabetes, heart disease, stroke and some cancers. Continuous exposure to high levels of noise is linked to hearing impairment, high blood pressure and heart disease. In poor urban areas, infectious diseases are usually exacerbated by unsanitary living conditions and poor access to health facilities. The growth of affluent societies in cities has spurred a rise of motorisation, leading to an enormous increase in traffic, air-pollution and rising risk of road accidents. Globally, road traffic accidents constitute the ninth leading cause of death and will climb to the third position by 2030.

Urban dwellers are also highly exposed to air-pollution. The World Health Organisation (WHO) estimates that 1.5 billion people in towns and cities face levels of outdoor pollution (mostly fine particulate matters from vehicles and industrial fuel combustion) above the recommended limits. Fine particulate matter is estimated to cause about 8% of lung cancer deaths, 5% of cardiopulmonary deaths and 3% respiratory infection deaths worldwide. Indoor air-pollution is also severe, especially in emerging markets. Indoor urban air-pollution caused the death of 2 million people worldwide in 2004, mostly from pneumonia, chronic lung disease and cancer.

17 Indonesia Central Bureau of Statistics (BSP, 2010) “Population Census. Employment status of main job: female”, retrieved from http://sp2010.bps.go.id/ “Unpaid family worker” is the terminology used by the BSP to mean all personnel working in a company without any salary and benefits as stated in the company policy. Such workers include the owner of a company, and family members of the owner.
19 “Why Urban Health Matters” (2010), WHO.
20 “Why Urban Health Matters” (2010), WHO.
Environmental impact

Towns and cities consume huge amounts of resources: energy, water, land and other materials for buildings and transport. An outcome is waste and pollutants. Cities are a major source of air, noise and water pollution, greenhouse gas emissions, waste, land degradation and falling water tables. According to the WHO, cities contribute directly to more than 60% of greenhouse gas emissions, and 75% of energy consumption and all waste. However, less than half of the cities of the world have environmental plans.21

There is rising awareness about the environment and in the developed markets various green policies have been implemented in an attempt to make economic development more environmentally sustainable. In the emerging markets, there has recently been more attention on renewable energies, electric vehicles, waste and water recycling, green buildings and infrastructure. For instance, investment in the global renewable energy sector is projected to rise to USD 630 billion by 2030 from USD 243 billion in 2010.23 To date most of this investment has been in the developed markets, but it is beginning to materialise in emerging markets now too.

There will be a growing number of new ‘greenfield’ cities, especially in the emerging markets. Greenfield projects provide an opportunity to design and build new forms of urban landscape using the latest technologies to improve a city’s essential infrastructure and services, and to reduce energy inputs and CO2 outputs (the so-called ‘smart city’). For example, smart buildings with monitoring devices to connect heating, air conditioning, lighting, security systems and other appliances in homes and businesses, enable users to better track and control use of electricity and water.

A new risk landscape

The economic, social and environmental changes wrought by urbanisation give rise to a new and interconnected risk landscape. Some of these risks may have no or little significance today, but can become concerns in the future. Either way, the new risk landscape presents challenges and opportunities for the insurance sector.

- **Urban agglomerations give rise to complex and emerging risks.** Risks are relatively straightforward and insurable in a rural setting. However, urbanisation can bring new and emerging risks which are, at least initially, difficult to insure. For instance, terrorism has hit major city centres in the past decade. Insuring for terrorism is challenging given the unpredictability and severity of terror events. Cyber risk and personal data risk are also emerging risks more pertinent in urban than rural areas.

- **Scalability versus increasing risk concentration.** A main advantage of urbanisation from the insurance point of view is the increased concentration of economic assets. This means insurers can potentially benefit from economies of scale and offer insurance at lower prices. However, with asset concentration comes risk accumulation, more so if cities are located in areas prone to natural disasters.

- **Property rights are better defined in urban areas.** Property rights in some rural areas are ill-defined, posing a major challenge to underwriting risks in those regions. For instance, farm tools may be collectively owned but there may be no proper ownership documents. In towns and cities, property rights tend to be better defined, with ownership stipulated in relevant documentation and upheld by law.

- **Pricing of risk is facilitated.** Insurability depends on accurate pricing of risk. The lack of secondary markets for many insured properties in rural areas can be problematic. In cities, comparable properties can be used as benchmarks and a vibrant secondary market keeps pricing up-to-date.

---

21 “Why Urban Health Matters” (2010), WHO.
22 “Global Report on Human Settlement” (2009), UN-Habitat.
Megacities and the concentration of risk

Large cities are vulnerable to man-made and natural catastrophe risks due to the high concentration of people and economic assets. This is especially true for those megacities around coastal areas or near areas prone to high-seismic activity or flooding. Cities also concentrate health risks. When large numbers of people are together in the same area and are connected by shared public services and utilities, the consequence of food or water contamination, air or noise pollution, a chemical spill or a disease outbreak, are amplified.

Natural catastrophe risk

In 2011, about 87% of people living in coastal megacities were exposed to at least one hazard. By 2025, more megacities will be located in or close to natural hazard-prone regions, many in Asia. These cities are mostly located in coastal or seismic-prone regions and have a higher degree of exposure to multi-natural catastrophes than those located inland in Latin America for instance. The high density of business activity and population significantly increases the risk of human and economic loss from natural catastrophes.

Table 4

<table>
<thead>
<tr>
<th>Key risks facing megacities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural catastrophes</td>
</tr>
<tr>
<td>Manmade disasters</td>
</tr>
<tr>
<td>Social/political risks</td>
</tr>
<tr>
<td>Infrastructure damage</td>
</tr>
<tr>
<td>Health risk</td>
</tr>
<tr>
<td>Business interruption</td>
</tr>
<tr>
<td>Earthquake, flood, cyclones, tsunami</td>
</tr>
<tr>
<td>Industrial disaster</td>
</tr>
<tr>
<td>Terrorism, rioting</td>
</tr>
<tr>
<td>Infrastructure damage like road, rail, port, airport</td>
</tr>
<tr>
<td>Pandemics, food/water contamination</td>
</tr>
<tr>
<td>Interruption to global supply chains</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting

Industrial disaster risk

Likewise, the majority of these megacities/mega regions are clustered around industrial belts and an industrial disaster can have devastating consequences. A case in point is the Bhopal gas leak of 1984 in India, in which the leakage of methylisocyanate from a Union Carbide plant resulted in the death of thousands of civilians and disabled many more because of soil and water contamination. The total estimated claims were around USD 470 million, of which only about half were insured.

Terrorism

Terror acts are another risk facing megacities. The losses in terms of lives, property and business interruption arising out of the 9/11 attacks amounted to billions of dollars. Terror risk is difficult to assess given the unpredictability of acts and their related losses.

Business interruption

Megacities are key players in the global supply chain. Any disruption to their functioning can interrupt global economic activity. The prolonged period of flooding in the 2011 Thailand floods generated insured losses of some USD 12 billion, mainly due to business disruption. This was the highest-ever recorded fresh water flood loss event in history. 24

Pandemic risk

The high concentration of human life in megacities also increases vulnerability to pandemics. High population density and the proliferation of high-speed transportation can facilitate the spread of viral disease. An example is the Severe Acute Respiratory Syndrome (SARS) epidemic in Asia in 2003, where transmission via air travel is thought to have been an important contributory factor in the rapid spread of the disease.
Urbanisation and insurance sector growth

Though it is unclear if urbanisation causes an increase in demand for insurance (e.g., income growth could be determining both), it is certainly coincidental with increased insurance demand. In industrialised countries, urbanisation has appeared to fuel growth for insurance products, generating higher insurance density (total insurance premiums per capita).

For emerging markets, urbanisation and insurance spending grow together also. The urbanisation rate in emerging markets was 46.5% (in 2011), with the rate in many countries well below that typically seen in advanced economies (Figure 6), which also have much higher insurance penetration rates (total insurance premiums as a percentage of nominal GDP). Insurance opportunities are likely to be substantial as emerging markets become increasingly urban.

The new risk landscape that emerges with urbanisation presents different insurance drivers. These have important implications for those insurers well positioned to respond to growing demand for new forms of risk protection. Table 5 summarises the implications for insurers in terms of types of insurance cover that will likely come into demand as urbanisation progresses. The implications of urbanisation in emerging markets and the specific drivers for the non-life and life insurance sectors are discussed in the following two chapters.
<table>
<thead>
<tr>
<th>Economic</th>
<th>Higher incomes and wealth generate demand for insurance products, such as motor, home and life savings products.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrialisation, increased trade and commerce, concentration of business and investment drives growth of commercial insurance.</td>
</tr>
<tr>
<td></td>
<td>An expanding formal employment sector will come with employer liability for employee protection.</td>
</tr>
<tr>
<td>Social</td>
<td>Reduced inter-generational support and longevity improvements. Create challenges for ageing and retired population, and will create opportunities for old-age health and pension products.</td>
</tr>
<tr>
<td></td>
<td>The rise of consumer rights has implications for casualty &amp; liability lines of business.</td>
</tr>
<tr>
<td></td>
<td>City lifestyles gives rise to ‘urban diseases’ (diabetes, heart disease, cancer): this needs to be reflected in insurance product offerings.</td>
</tr>
<tr>
<td></td>
<td>Higher financial literacy renders consumers more receptive to complex products like universal life. On the other hand, insurers can expect more competition from other financial intermediaries as the services sector becomes more developed in urban areas.</td>
</tr>
<tr>
<td></td>
<td>With technological advancements, cyber and personal data risk are growing segments that are more pertinent to urban centres. These risks are already generating demand in specialty line insurance.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>New opportunity for commercial insurance during the construction phase of infrastructure projects.</td>
</tr>
<tr>
<td></td>
<td>Post-construction recurrent insurance demand will likely remain strong, but this will also depend on whether governments act as de facto insurers.</td>
</tr>
<tr>
<td>Environment</td>
<td>Take-up rate of green insurance may increase with rising awareness of environmental issues and the use of IT to build “smart cities”.</td>
</tr>
<tr>
<td></td>
<td>Many large cities are located in areas prone to multi-natural disasters. The high concentration of people and economic values amplifies the losses from natural/manmade disasters, industrial disasters, terrorism or a disease outbreak. Insurance can be taken not only at the individual and enterprise levels, but also on the city-level as part of the risk management strategy.</td>
</tr>
<tr>
<td></td>
<td>Increasing awareness of city risk management and the benefit of public-private partnership will open up additional opportunities for insurance.</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting
Urbanisation and non-life insurance

Urbanisation generates demand for new forms of risk protection, which has implications for both the non-life and life insurance sectors. This chapter discusses the non-life side.

The rise of personal lines

Urbanisation brings higher disposable income and aspirations for improved living standards. The accumulation of personal assets amongst the urban population drives demand for housing, personal automobiles and other consumer goods. These factors, combined with increased risk awareness, are likely to support higher demand for non-life personal line insurance products.

Homeowner insurance, for instance, has traditionally had limited take-up in emerging markets due to low awareness and reliance on government as the risk absorber of last resort. This differs from the advanced markets. For example, in 2012, homeowner insurance in the US constituted around 15% (USD 68 billion) of total non-life insurance premiums. Homeowner insurance will likely increase in emerging markets, and governments can facilitate this by making homeowner and/or insurance against natural catastrophes mandatory. This would be a positive step, not least because a population is often unaware of the huge personal losses triggered by natural catastrophes until an event actually hits.

Personal motor and third-party liability insurance will benefit from the rapid increase of car ownership in emerging markets. Personal travel insurance is also likely to see strong growth driven by increased travel (personal, leisure and business) of the urban population. Here too, regulatory change such as making travel insurance compulsory can have a significant impact on insurance lines. In March 2012, for example, the Malaysian government made outbound travel insurance compulsory and the expectation is for a commensurate increase in travel insurance premiums.

The motorised society

There is a strong correlation between urbanisation and rising vehicle ownership. Historically this has led to steady growth in motor insurance premiums and today, motor insurance is the main non-life business line in emerging markets. It also remains a growth opportunity across both personal and commercial insurance lines.

In 1980, motor insurance accounted for 18% of the total non-life premiums written in emerging markets. By 2012, the share had risen to 45%, boosted in the years following the financial crisis by government efforts to encourage domestic consumption through motor ownership. Last year, motor insurance accounted for 72% and 43% of non-life premiums in China and India, respectively.
Despite several challenges, car ownership in emerging markets will increase further due to the higher income and mobility needs of urban dwellers.

However, growth will vary across emerging markets.

Despite the challenges of pollution, traffic congestion, increasing fuel prices and parking space constraints, the expectation is for continued robust growth in the motor sector, supported by two main factors. First, the rise of a middle class will drive growth of private vehicle ownership, including first-time drivers. Second, sales of commercial motor vehicles will likely grow on the back of increased demand for large-scale logistics services and public transportation needs. As a result, motor insurance is likely to retain its dominant position in non-life insurance in the coming decade.

The growth of the motor sector will vary across the emerging markets. Brazil and Russia will see lower growth as they are already highly urbanised and motor vehicle density is much higher than in other markets. The expectation for China, India and Indonesia, on the other hand, remains strong growth of vehicle ownership. The spatial growth pattern of urbanisation in these countries, with mid-size cities sitting alongside and connected to megacities, is expected to influence motor insurance development as follows:

- Mid-size cities in India and China will likely see faster growth in motor sales than bigger cities. The likes of Beijing and Shanghai already face pollution and congestion problems, and public policy there is geared towards discouraging motor ownership. As a result, there will likely be a shift in incremental growth in motor premiums from the big to mid-sized cities.
- On the other hand, high fuel costs, maintenance charges and parking challenges will continue to discourage car ownership in towns and cities. Improved public transport networks may do the same. This could see the rise of a car rental market, and insurance for rental-fleets could become an important component of an insurer’s portfolio.
- The car industry in emerging markets is becoming more sophisticated. New industrial belts will likely have high concentration of motor and parts manufacturers which in turn creates additional property and liability insurance opportunities.
- Local factors such as better roads, transport networks and regulatory liberalisation that typically come with urbanisation will help to improve underwriting results. The ability to apply differentiated tariffs will also be important in driving future profitability.
Urbanisation and non-life insurance

**Motorisation in China**

China surpassed the US as the world’s biggest motor market in 2009 with passenger vehicle sales hitting 13.5 million, spurred on by a government stimulus policy. In the same year, sales in the US were 10.4 million. Sales in China increased further to 15.5 million in 2012, compared to 14.4 million in the US, despite rising concerns about pollution and congestion, as well as the winding down of earlier government policy incentives.

The ability of infrastructure to keep up with rapidly rising car ownership is a concern. The length of highways in China grew from 3.6 million km in 2007 to 4.1 million km in 2011, an increase of 14.6%, but the number of registered “civil motor vehicles”, grew by 115% in the same period (43.6 million to 93.6 million).

China also has its fair share of associated issues including worsening traffic congestion and air pollution/CO2 emissions. In response, city authorities have implemented measures to rein in the number of motor vehicles on roads. Nonetheless, demand is expected to remain strong. Note that in relative terms, vehicle ownership in China remains low. For instance in Shanghai there were 70 private passenger vehicles per 1,000 inhabitants in 2011. The equivalent ratio in Japan was 466, suggesting considerable scope for yet more cars on China’s roads.

**Figure 8**

Urbanisation and passenger car ownership in China, 2011

Note: Each marker represents one individual region in China based on 2011 data. The trend line illustrates the correlation between urbanisation and passenger car ownership.

Sources: China Statistical Yearbook 2012; Swiss Re Economic Research & Consulting.

---

25 [http://cartrends.wordpress.com/2010/01/10/china-overtakes-us-as-worlds-biggest-car-market/]  
26 Of which “private vehicles” increased from 28.76 million in 2007 to 73.27 million in 2012.  
Industrialisation drives commercial insurance sector growth

With urbanisation comes industrialisation. The build-up of economic activity associated with industrialisation generates demand for a range of commercial insurance products, covering fire, theft and natural catastrophe risk. In emerging markets, the rise of small and medium enterprises (SMEs) has been a central feature of industrialisation in recent years, alongside the expansion of large conglomerates. For example in China, SMEs accounted for 99% of registered enterprises, around 60% of the GDP and 80% of urban employment in 2012. Comprehensive insurance products covering property and casualty risks tailored to the requirements of SMEs is a growing market.

Likewise, the construction of factories, logistic centres and commercial facilities to support increased economic activity yields opportunities such as construction-all-risk and erection-all-risk insurance. Construction activities are often contracted or sub-contracted out, and this can see new demand for surety bonds as a means to safeguard quality standards and to protect against delay-related losses. This occurred in Brazil, where a construction boom driven by sporting events and energy exploration has led to a sharp rise in surety bond purchases among infrastructural developers (Figure 9) since 2005–2006.

Increased trade and commerce from emerging market urban and industrial belts will also benefit insurers. With the centre of gravity for trade shifting to the likes of China, India, Indonesia and Brazil, the share of emerging markets in global trade increased from 27% in 1980 to 41% in 2012. As this shift becomes more entrenched, so premium volumes from corresponding insurance lines will grow. Trade credit insurance is expected to continue its robust expansion. There will also be more demand for marine insurance given that most global trade flows by sea.

The workers compensation and employer’s liability segments also stand to gain from industrialisation as formal employment increases. As occupational hazards such as business travel and workplace accidents increase, the demand for related cover will grow. Regulatory requirements for employers to provide protection to the employees will play a role here too. For instance, in Beijing demand for employer’s liability insurance is expected to grow because the municipal government made cover mandatory in certain high-risk industries beginning 1 July 2011.

Urbanisation and non-life insurance

Additional commercial insurance premiums from infrastructure construction projects could reach USD 68 billion between 2013 and 2030.

Specialty lines, particularly engineering and construction covers, will benefit from infrastructure development.

The majority of infrastructure in emerging markets is owned by governments, which often retain the risks.

**Insuring infrastructure in emerging markets**

Increased spending on infrastructure and subsequent growth in value of economic assets will expand the commercial insurance market. From 2013 to 2030, insurance premiums from infrastructure investment projects (construction insurance cover) in emerging markets will cumulatively total an estimated USD 68 billion (in 2012 constant dollars). China and India are expected to be the key growth markets with a combined share of 50% of these premiums. On completion of building, property coverage requirements for infrastructure facilities will add an annual USD 24 billion (in 2012 constant dollars) in premiums by 2030. The power generation sector will be the main source of premiums (45% of the total), followed by water and waste management. Premiums from aviation, engineering, construction and liability insurance lines will also rise. For example, the building of connecting highways, railways and airports will benefit engineering insurance, while rising demand for power generation will create more business in the offshore energy insurance sector. Likewise aviation insurance will benefit given increased passenger travel and air cargo and the need for fast connections between cities and towns. For example, the demand for new passenger and cargo planes is forecast to exceed 34,000 in the period 2012–2031 (or USD 4.5 trillion), with most of the increase coming from the emerging markets.

The degree of state-ownership of infrastructure assets is an important consideration in determining the extent of opportunity for the insurance sector, more so in the emerging markets. Past trends suggest the take-up rate of insurance for state-owned infrastructure in emerging markets is low, with most losses fully absorbed by the public sector. For example, the railway networks in many countries are not insured by the private sector. Instead, the government acts as insurer of last resort, meaning that the annual in-force and new insurance premiums from the expansion of the network are negligible. On the other hand, power generation and aviation (mainly new fleets) projects tend to be fully covered by private sector insurance, and offer significant growth opportunities.

---

30 Infrastructure investment includes investment in roads, marine, aviation, power generation, railways, water and waste water management and commercial floor space construction.

31 Premium rate (weighted average) for construction led commercial insurance opportunity is estimated at 0.16%. Construction of commercial floor space though forms a large part of aggregate construction, has a lower insurance rate thereby driving down the average premium rate. Source: Swiss Re Economic Research & Consulting estimates based on infrastructural investments data from McKinsey Global Institute, OECD, and Boeing.

32 Power generation sector comprises of Oil & Gas transmission and distribution as well as electricity generation, transmission and distribution.

33 "Current Market Outlook 2012–2031" (2012), Boeing.
Who owns the infrastructure risk in emerging markets?

Infrastructure development involves three major steps: the planning phase, the construction phase, and the maintenance and operation phase. With trillions of dollars of investment at stake in each, commercial insurance can play a significant role.

Ownership of assets will determine the magnitude of the insurance opportunity arising from infrastructure development.

In the emerging market context, the scale of opportunity for insurers depends on whether the capital stock and infrastructure is under private or public sector ownership. In private sector hands, the project operator arranges for the requisite risk mitigation and financing measures by buying insurance to cover possible losses and damages. With public-owned projects, the government usually absorbs the risk itself or insures the project through government-owned insurance companies.

In many emerging markets, infrastructure and capital stock remain in large part public-owned (federal or state/provincial government). For example, take India’s 10th five-year plan (FY 2002-07), in which only 20% of infrastructure investment came from the private sector. This rose to 30% in 11th plan (FY 2007–12). As projects become more expensive and fiscal constraints tighter, insurance opportunities could increase.

The insurance needs of industrial belts and urban clusters

A feature of urbanisation in emerging markets will be the development of large industrial belts and urban clusters. This will follow from the development of economic and industrial regions close to already-established cities, making large urban clusters/agglomerations. Huge industrial belts such as the Yangtze River Delta (Shanghai, Jiangsu and Zhejiang) and the Pearl River Delta (Guangdong) in China, and the planned Delhi Mumbai Industrial Corridor (DMIC) in India require large scale physical capital investment and have the potential to make huge contribution to economic growth. The Yangtze River Delta and Pearl River Delta are already the economic powerhouses of China. The former accounts for just 1.1% of the total land area of China, but 8.1% of population and 17.4% of its GDP.

Further development of economic/industrial clusters will be positive for commercial insurance.

The tendency of governments to retain the risk undermines private insurers’ opportunities.

In the emerging market context, the scale of opportunity for insurers depends on whether the capital stock and infrastructure is under private or public sector ownership. In private sector hands, the project operator arranges for the requisite risk mitigation and financing measures by buying insurance to cover possible losses and damages. With public-owned projects, the government usually absorbs the risk itself or insures the project through government-owned insurance companies.

In many emerging markets, infrastructure and capital stock remain in large part public-owned (federal or state/provincial government). For example, take India’s 10th five-year plan (FY 2002-07), in which only 20% of infrastructure investment came from the private sector. This rose to 30% in 11th plan (FY 2007–12). As projects become more expensive and fiscal constraints tighter, insurance opportunities could increase.

The insurance needs of industrial belts and urban clusters

A feature of urbanisation in emerging markets will be the development of large industrial belts and urban clusters. This will follow from the development of economic and industrial regions close to already-established cities, making large urban clusters/agglomerations. Huge industrial belts such as the Yangtze River Delta (Shanghai, Jiangsu and Zhejiang) and the Pearl River Delta (Guangdong) in China, and the planned Delhi Mumbai Industrial Corridor (DMIC) in India require large scale physical capital investment and have the potential to make huge contribution to economic growth. The Yangtze River Delta and Pearl River Delta are already the economic powerhouses of China. The former accounts for just 1.1% of the total land area of China, but 8.1% of population and 17.4% of its GDP.

34 "Infrastructure report 11th five year plan" (January 2011), Planning Commission of India.
35 Hong Kong Trade Development Council (http://china-trade-research.hktdc.com/business-news/article/Fast-Facts/Yangtze-River-Delta-Profile/Query/1/1X000000/1X06BW0C.htm)
Urbanisation and non-life insurance

Huge urban and industrial clusters are emerging.

The DMIC project is in planning phase, the objective being to connect India’s capital New Delhi with its financial centre Mumbai. This project will incorporate nine large industrial zones of about 200–250 square km, high-speed freight lines, three ports, six airports, a six-lane intersection-free expressway and a 4,000 MW power plant. Several industrial estates and hubs will be built along the corridor.36 This type of economic clustering has the potential to generate significant insurance opportunities, in part by attracting large industrial conglomerates which are key buyers of commercial insurance.

These urban clusters will likely feature increasing specialisation.

The urban and industrial clusters will likely lead to production specialisation based on comparative advantage. Areas with large labour supply and natural resources could focus on traditional industries such as mining, textiles and garments production. Others with limited access to natural resources could focus on higher value-add sectors such as technology, electronics and pharmaceuticals. An example is Bangalore, which has seen rapid urbanisation in the past decade after the establishment of various IT firms in the city. The financial services sector, meanwhile, will likely remain concentrated in specific locations such as Shanghai and Mumbai. Recently some Middle Eastern states have attempted to establish international financial centres in cities such as Dubai, Doha and Abu Dhabi in a bid to diversify their hydrocarbon-dominated economies.

Insurers taking advantage of this trend will need to be aware of the unique characteristics of each urban/industrial cluster.

To realise the full potential that these industrial belts and urban clusters present, insurers need to take the following considerations into account: (1) as the character of areas will be largely defined by specialisation of production, insurers will need to design customized solutions. A ‘one-size-fits-all’ approach won’t work as each city has its own unique characteristics and risk attributes, and a customized approach in terms of product development and distribution will become increasingly important; (2) new urban clusters are emerging in previous less urbanised areas, for example in the central and western regions of China. Insurers currently operating nationwide will face pressure to adopt a decentralised approach to meet local needs, at a time when more regional/provincial players are expected to emerge; and (3) the specialisation and value concentration in urban clusters and their interconnectedness with the global supply chain introduce risks such as potential business interruption losses. Insurers will need to take these factors into consideration in underwriting by, for example, requesting additional information on supply chains.

The services and consumer economy, and green cities

Urban dwellers are generally more aware of their rights and have higher expectations.

It is projected that there will be 66 million new inhabitants in the towns and cities of emerging markets each year between 2011 and 2030.37 People living in urban areas tend to have higher disposal income levels than in rural areas, and also different lifestyles and preferences. And, with increased awareness and literacy, they are more able and likely to assert their rights and demand better goods and services. These considerations could have a major impact on the non-life insurance sector.

Increased consumer protection and a more litigious environment could drive demand for liability insurance products.

Litigation against good and services providers for faulty or damaged products could become more frequent, particularly where supported by law. Enterprises will demand a full suite of liability insurance to protect themselves, including for product liability and product recall. For example, demand for Directors and Officers (D&O) insurance increased after 2004 in Brazil following implementation of a law that made directors and officers personally liable for their corporate decisions.

36 Delhi Mumbai Industrial Corridor (http://delhimumbaindustrialcorridor.com/)
Demand for product liability insurance is likely to increase.

The demand for product liability insurance in Latin America is increasing as many companies are exporters and need cover to be able to run their business.38 Elsewhere, in India discussions with regards to possible legal action against car makers who conceal generic manufacturing defects are underway. The government also plans to have a recall policy, which will specify timelines within which a defect needs to be fixed.39 This kind of activism around product standards in emerging markets will boost demand for product liability cover.

Professional accountability and corresponding covers will gain more traction.

A rise in ‘professionalism’ is a common feature of urbanisation. At the same time, disputes and accusations of professional misconduct can increase. Professional liabilities will increasingly be demanded by practitioners like lawyers and architects and may even be mandated by regulation, as another means of consumer protection. Globalisation will also lead to an increase in the expatriate population living in emerging markets, and an infusion of global risk management practices. This will support higher demand for professional liability and D&O liability covers.

Cyber risk also could become prominent.

With the advance of technology comes a rise in cyber and personal data risks, another source of commercial insurance demand. Corporations can and already do buy insurance against security breaches in an effort to mitigate potential financial and reputation losses resulting from data leakage.

It will take a longer time before emerging markets reach a critical mass for a viable market in environmental liability insurance.

As income and education levels in urban clusters increase, ‘green’ or environmental liability insurance could become more common as corporations become or are made increasingly accountable for environmental protection. Environmental liability insurance has received greater attention of late due in part to widely reported increases in pollutants in major cities. According to the classic Environmental Kuznets Curve40, environmental quality deteriorates with increasing per capita income at the early stage of economic growth, and gradually improves when a country/region reaches a certain level of affluence. However, it may take some years before emerging markets have a fully-fledged environmental liability insurance segment. Improvements in regulation, raised risk awareness, increased government monitoring and the building of insurance data are all steps needed to achieve a viable market.

Insuring increasing value concentration

The increase in economic activity driven by urbanisation results in more economic value and concentration of exposed risks. In the future many megacities, particularly in emerging Asia, will be vulnerable to natural catastrophes such as floods, storms, storm surge and earthquakes by virtue of their location. This can lead to significant economic and insured losses, as well as loss of human life.

The rise of cities around catastrophe-exposed areas and increased frequency of events will increase the need for risk mitigation measures.

Many of these cities are grossly under-prepared to deal with the losses resulting from major catastrophes and have a huge underinsurance protection gap, with insured losses much smaller than actual economic losses. With urbanisation and industrialisation further raising asset accumulation, the loss potential will increase exponentially. According to a recent Swiss Re study, in the case of Jakarta a 1-in-a-100 year earthquake loss would leave an IDR 1 10 trillion (USD 9.7 billion) protection gap today; that is estimated to rise to IDR 310 trillion by 2023, assuming insurance penetration rates increase only marginally.41

38 Swiss Re sigma No 5/2012.
39 “Government’s bid to drive vehicle recall” (26 July 2013), Times of India.
40 See for example the following for an introduction (http://www.eoearth.org/view/article/152627/)
41 Nat Cat protection Gap in Jakarta by Swiss Re. The protection gap refers to the difference between economic and insurance losses. Nat Cat protection Gap in Jakarta by Swiss Re. The protection gap refers to the difference between economic and insurance losses.
Swiss Re studied the risks faced by 616 major metropolitan areas.

Flood risk is the most prominent risk and threatens more people than any other natural catastrophe.

China has the biggest flood loss potential amongst emerging markets...

Urban centres threatened by natural catastrophes

A recent study by Swiss Re examined the risk exposure of 616 major metropolitan areas to five major perils – earthquake, storms, storm surge, tsunamis and river flood. In 2012 these urban centres collectively accounted for 1.7 billion people, approximately 25% of the world’s population, and covered about 50% of global GDP. Of the cities, 334 were located in Asia/Oceania, 90 in Europe, 83 in North America, 60 in Africa and 49 in South America.

The study shows that based on the human loss potential, some of the cities most at risk are in Asia, notably China, Japan and India. The study also analysed the effect of different perils on these regions. Flood risk is the most prominent, threatening more people than any other natural catastrophe. River flood risk alone affects 379 million residents, while 283 million are at risk from earthquakes and 157 million from strong winds. Coastal storm surges affect 33 million and tsunamis 12 million.

Industrial flood loss potential in China

Of all high growth markets, China has the biggest flood loss potential, given the size of its economy and level of foreign direct investment. China’s major industrial centres are located in river valleys and river plains such as the Pearl River Delta region, thereby exposing the supply chain and business activities of thousands of foreign-owned companies to losses from floods and storm surge.

An estimated 52% of China’s industrial production centres are at risk of river flooding and 25% are threatened by storm surges. It is estimated that the Pearl River area alone could potentially record insured losses of up to USD 35 billion and USD 9 billion from storm surges and river flooding, respectively, if such events occur today. Shanghai is similarly exposed to storm surges and torrential rainfall, with insured loss potential reaching USD 10 billion and USD 6.5 billion, respectively.

42 Read “Mind the risk: A global ranking of cities under threat from natural disasters” (2013), Swiss Re. (http://media.swissre.com/documents/Swiss_Re_Mind_the_risk.pdf)
Demand for insurance against natural disasters is expected to continue to increase alongside urbanisation. This presents an attractive opportunity for both personal and commercial insurance lines in emerging markets, but also significant challenges.

With the concentration of assets in urban clusters, managing and spreading risk accumulation is an increasingly difficult task. There is a lack of data around hazard sites in many emerging markets and models do not adequately account for potential losses and exposures. In addition, sub-standard construction practices and the lack of proper risk management can make risk assessment difficult. For instance, the lack of building codes, non-compliance with codes, disregard for zoning laws and the use of sub-standard building materials results in poor quality construction. This has led to building collapses and huge losses, as demonstrated vividly in 2013 with the collapse of a garment factory near Dhaka in Bangladesh, killing more than 1 000 workers.

New cities in both advanced and emerging markets are often built in regions prone to natural disasters. Recent events affecting urban populations, such as the floods in Thailand and the earthquake in Christchurch, New Zealand, both in 2011, revealed unexpected underwriting losses. The interruption of interconnected global supply chains can add to insured losses. Similarly, secondary loss agents such as soil liquefaction (New Zealand) or tsunamis (Japan) have the potential to wreak havoc. This needs to be taken into consideration in models as well as in underwriting calculations.

The outlook for natural catastrophe risk management in large cities will also depend heavily on government regulation and risk mitigation measures, which are often lacking in emerging markets. Certain cost-effective measures (such as expanding early warning infrastructure, enforcing building codes for new construction and ensuring drainage systems are maintained) can mitigate some of the risks faced by urban areas.43 Likewise, mandatory insurance and risk pooling are options to improve financing and mitigate the challenge of natural disasters.

In both advanced and emerging markets, there is a tendency to underestimate the risk of natural catastrophes until one actually occurs. Also, people tend to expect state aid or compensation, and these two factors result in underinsurance and a large protection gap.44 For example, according to the Italian Association of Insurance Companies (ANIA), an estimated 44% of residential properties have fire insurance policy, but only 0.4% have earthquake cover.

Domestic insurers in emerging market megacities which are prone to natural catastrophes need to have adequate capital or use reinsurance to cope with large events. This is particularly important in emerging markets where adherence to risk adjusted pricing is a challenge given poor data quality and lack of models. Also, local insurers have high concentration risk since they tend to focus on domestic markets and are less geographically diversified.

44 Swiss Re sigma No 2/2013, page 9.
Urbanisation and non-life insurance

Natural catastrophes require proactive risk management strategy

The gap between economic and insured losses after a natural catastrophe can be very severe in emerging markets, often beyond a government’s ability to act as insurer of last resort. This was the case following the 2010 earthquake in Haiti, where the economic loss was estimated at USD 8 billion, or 121% of the country’s GDP. With only 1% insured, the reconstruction and relief effort was heavily dependent on donations from foreign nations and global organisations.45 Similarly Hurricane Ivan, which struck Grenada in 2004 causing economic losses of up to USD 889 million, or 203% of GDP. Under extreme financial pressure, Grenada defaulted on its foreign debt a year later.46

As it turns out, strong physical infrastructure alone does not mitigate damage from major catastrophes, as hurricane Sandy in the US in 2012 confirmed. Rather, a proactive risk management strategy that deals with the consequences of an event and provides financial support in the aftermath for relief, recovery and reconstruction is required. With rising risk concentration and governments facing fiscal constraint, increasing the financial resilience of large cities in emerging markets requires strong partnership between governments, non-government organisations, supranational organisations such as the World Bank and Asian Development Bank, and private insurance companies.

In fact, the use of public-private partnership to help countries absorb the financial consequences of catastrophic events is key to making emerging market countries more resilient. Governments can encourage risk transfer for example by setting rules and regulations that enable the insurance sector to absorb large losses. These can include compulsory insurance schemes to create a sufficiently large ‘risk community’, or measures to better define liabilities and improve access to international re/insurance markets. Re/insurers can play an advisory role in a city’s planning process, as well as be an absorber of risk. Re/insurers have global technical expertise on both the geophysical aspects as well as disaster risks, and can help governments be effective in city risk mitigation planning. In addition, risk financing mechanisms can be developed through public-private partnership to bridge the funding gap.

At the same time, city risk management in emerging markets needs to be more focused, with a structured approach at multiple levels: national, state and municipality. Risk management needs to provide a more holistic framework to manage and mitigate the various risks facing modern cities. An effective and ex-ante strategy can help mitigate the potential impact of financial losses and speed up recovery efforts. The city risk management department can also be involved in executing and overseeing safety, loss prevention and control, insurance and risk financing.47

45 “Lessons from recent major earthquakes” (2012), Swiss Re. All figures are in 2011 prices.
46 See “Closing the financial gap” (2011), Swiss Re.
47 See “Closing the financial gap” (2011), Swiss Re.
Table 6 summarizes the impact of urbanisation on key lines of businesses.

<table>
<thead>
<tr>
<th>Line of business</th>
<th>Impact of urbanisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal lines</strong></td>
<td></td>
</tr>
<tr>
<td>Homeowners/</td>
<td>Increase in personal wealth; higher consumption</td>
</tr>
<tr>
<td>personal property</td>
<td>- Increased demand for residential housing</td>
</tr>
<tr>
<td></td>
<td>- Higher risk awareness of catastrophe exposure</td>
</tr>
<tr>
<td></td>
<td>- Regulatory requirements making insurance mandatory</td>
</tr>
<tr>
<td>Personal motor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased mobility needs and purchasing power leading to higher demand for personal vehicles</td>
</tr>
<tr>
<td></td>
<td>- Regulatory requirements making insurance mandatory (already in many markets)</td>
</tr>
<tr>
<td>Personal accident/</td>
<td></td>
</tr>
<tr>
<td>personal travel</td>
<td>- Increased mobility needs (personal/business/leisure)</td>
</tr>
<tr>
<td></td>
<td>- Regulatory requirements making insurance mandatory</td>
</tr>
<tr>
<td><strong>Commercial lines</strong></td>
<td></td>
</tr>
<tr>
<td>Commercial property</td>
<td>Big-ticket infrastructure investments; industrialisation; consumerism, regulatory changes and public-private partnership</td>
</tr>
<tr>
<td></td>
<td>- Industrialisation and growth of commercial insurable assets</td>
</tr>
<tr>
<td></td>
<td>- Rising risk awareness and exposure to catastrophes (natural and man-made)</td>
</tr>
<tr>
<td></td>
<td>- Huge infrastructure assets: ports, airports etc.</td>
</tr>
<tr>
<td>Engineering insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Massive infrastructural investments and construction of commercial/industrial insurable assets</td>
</tr>
<tr>
<td>Marine insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Urban consumption demand leading to increased trade and subsequent growth in supply chain and logistics</td>
</tr>
<tr>
<td>Aviation insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased mobility, higher disposable income and growth in business travel requirements</td>
</tr>
<tr>
<td></td>
<td>- Higher demand for air cargo</td>
</tr>
<tr>
<td>Offshore energy insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased demand for energy</td>
</tr>
<tr>
<td>Trade credit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased trade and commerce</td>
</tr>
<tr>
<td>D&amp;O, E&amp;O and product</td>
<td></td>
</tr>
<tr>
<td>liability covers</td>
<td>- Growth in professional services</td>
</tr>
<tr>
<td></td>
<td>- Increased regulatory requirements; minimum service quality; compliance requirements; higher accountability</td>
</tr>
<tr>
<td></td>
<td>- Litigious environment; rise in consumerism</td>
</tr>
<tr>
<td>Workers compensation/</td>
<td></td>
</tr>
<tr>
<td>employers liability</td>
<td>- Industrialisation and increase in formal employment</td>
</tr>
<tr>
<td></td>
<td>- Regulatory requirements</td>
</tr>
<tr>
<td></td>
<td>- Increase in occupational hazards</td>
</tr>
<tr>
<td>Environmental liability</td>
<td></td>
</tr>
<tr>
<td>or green insurance</td>
<td>- Regulatory requirements; pressure from environmental groups, society etc.</td>
</tr>
<tr>
<td></td>
<td>- Urban growth around hazardous industrial belts</td>
</tr>
<tr>
<td>Cyber risk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increase in sensitive data and corresponding security risks. e.g. credit cards, phone /internet banking</td>
</tr>
<tr>
<td>Commercial motor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Supply chain and logistical needs of commercial entities</td>
</tr>
<tr>
<td></td>
<td>- Public transportation needs</td>
</tr>
<tr>
<td>General public liability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Growth of urban population around industrial plants</td>
</tr>
<tr>
<td></td>
<td>- Regulatory requirements making the line compulsory</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting
Urbanisation and life insurance

The new risk landscape

Urbanisation brings socio-economic changes, creating a new risk landscape, including greater chance of pandemics (e.g. SARS⁴⁸) and likelihood of pollution. The rise in personal and household income in urban areas will remain a key supporting factor for life and health insurance demand. At the same time, insurers need to consider several factors to meet the challenges of and optimise the opportunities that urbanisation provides: lifestyle changes, demand for saving products and mortality protection, healthcare for young and old alike, longevity issues and group insurance demand.

A main challenge of urbanisation is the socio-economic pressures generated by migration. While the influx into towns and cities expands the urban workforce, it also adds to the burden of providing social benefits. In China, for instance, migrant workers are not entitled to some of the medical insurance and pension benefits that other urban residents are. This opens up opportunities for the provision of affordable private insurance. More importantly perhaps, policymakers have the incentive to and should leverage private solutions to better meet the needs of migrants. Failure to provide for these needs, including access to shelter, healthcare and schooling, can be the root cause of damaging social unrest.

Lifestyle changes and impacts on health and medical insurance

Urban living can mean low levels of physical activity, increased consumption of fast and processed foods, and psychological stress from various sources. At the same time, inter-generational support may be reduced given typically smaller household sizes in towns and cities. For these reasons, urban life can generate more demand for health care and retirement support, today and in the longer term. Also, in spite of improved public healthcare provisions, there is nonetheless expectation that individuals will increasingly need to provide for their own healthcare requirements.

In particular, the low levels of physical activity, poor diet and stress can increase ‘urban diseases’ such as cardiovascular disease, lung cancer and chronic obstructive pulmonary disease. The (re)emergence of communicable diseases like dengue fever and chikungunya has also been seen in emerging market cities with poor water and sanitation facilities. High population density, meanwhile, facilitates the transmission of respiratory diseases and has contributed to change in the epidemiological characteristics of infectious diseases.

Table 7
Examples of diseases where urbanisation has contributed to modified epidemiology

<table>
<thead>
<tr>
<th>Category</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water-borne diseases</td>
<td>Bacterial dysentery, Hepatitis A, Cholera</td>
</tr>
<tr>
<td>Vector-borne diseases</td>
<td>Dengue, Chikungunya, Malaria, Leishmaniasis,</td>
</tr>
<tr>
<td></td>
<td>Lymphatic filariasis, African trypanosomiasis,</td>
</tr>
<tr>
<td></td>
<td>Chagas disease, Yellow fever, Plague, Leptospirosis</td>
</tr>
<tr>
<td>Air-borne diseases</td>
<td>Tuberculosis, Pneumonia</td>
</tr>
<tr>
<td>Sexually transmitted</td>
<td>HIV</td>
</tr>
</tbody>
</table>


⁴⁸ Severe Acute Respiratory Syndrome.
Migration leads to interchange of viral diseases between rural and urban areas.

The continued migration to towns and cities also can lead to more interchange of viral infections between rural and city areas. Migrant workers new to the urban environment are exposed to a range of diseases for which they may not have the acquired immunity. They can pass on these infections when they travel back to rural areas.

Critical illness insurance products can provide protection from higher incidence of urban diseases.

The shifting landscape and higher incidence of urban diseases needs to be accounted for in insurers’ product offerings. Health insurance products, including critical illness cover for example, need to reflect the evolving epidemiological landscape. The penetration of critical illness insurance has increased tangibly in emerging markets recently. With urbanisation increasing, insurers need to follow the trends in emerging diseases in order to offer products that meet the requirements of people living in towns and cities. This is also the case for medical indemnity products, which need to take into account the higher rate of medical cost inflation in urban areas. Private insurance can also improve access to healthcare facilities in rapidly urbanising areas where public services may struggle to keep up with the rate of city expansion.

The life and health protection gap is increasing rapidly in emerging markets.

Reducing the protection gap – outlook for protection and savings products

There is a large protection gap in emerging markets. In the case of death benefits, the high cost of living and replacement income are widening the protection gap, more so given that savings-type products have been a main feature of insurance growth in emerging markets. A similar gap exists in health protection: there is not enough healthcare financing to cover future healthcare needs. For example, a recent study across 13 markets in the Asia Pacific region estimated a health protection gap of USD 197 billion in 202049 (Figure 12), up from USD 9 billion in 2011.

Medical inflation, volatility in medical costs and increasing risk awareness are some of the factors behind the expected rise in gap, alongside the socio-economic and demographics changes that emerging markets are going through. Urbanisation will have an impact because medical cost inflation tends to be higher in towns and cities than in rural areas, and urban consumers have higher expectations as to the quality and range of medical services on offer. Also, as discussed, urban lifestyle can lead to higher incidences of certain illness. Closing the protection gap will remain a key business opportunity for insurers in emerging markets. They can help by designing relevant risk protection products and risk awareness initiatives.

People living in towns and cities tend to have more disposable income than their rural counterparts. Better education and financial literacy mean more urban dwellers will be able to take advantage of complex insurance/saving products. The higher participation rate of females in the workforce further boosts household earnings while also empowering a new prospective client segment for insurance products.

Urbanisation creates more buyers of insurance and savings products.

![Projected health protection gap by markets, 2020F](image)


Figure 12

Medical cost increases tend to be more rapid in urban areas, increasing the health protection gap.

Medical inflation, volatility in medical costs and increasing risk awareness are some of the factors behind the expected rise in gap, alongside the socio-economic and demographics changes that emerging markets are going through. Urbanisation will have an impact because medical cost inflation tends to be higher in towns and cities than in rural areas, and urban consumers have higher expectations as to the quality and range of medical services on offer. Also, as discussed, urban lifestyle can lead to higher incidences of certain illness. Closing the protection gap will remain a key business opportunity for insurers in emerging markets. They can help by designing relevant risk protection products and risk awareness initiatives.

Figure 12

Projected health protection gap by markets, 2020F


49 For more details, see “Health Protection Gap: Asia-Pacific 2012” (2012), Swiss Re. Note: the gap refers to the expected shortfall by 2020 if Asian markets continue to spend the same amount, as % of GDP, on healthcare as in 2010.
Urbanisation and life insurance

Life insurance products are popular in emerging markets.

The options for different investment vehicles is growing in emerging markets, and life insurance products have gained considerable popularity in recent years. These can take the form of wealth accumulation (for example unit linked insurance, child savings) or wealth distribution products (annuities, pension products). Even though stock market performance has been volatile in the years since the financial crisis, investment and savings-type products still continue to contribute significantly to life premiums in emerging markets. In addition, higher income levels trigger demand for mortgages and credit and at the same time create opportunities for insurers to sell credit life insurance products through tie-ups with banks and other credit institutions.

Old-age healthcare...

Urbanisation has led to a change in traditional extended family bonds. The average household size in Asia and Australia has declined significantly, as the younger generation move out of their parental homes once they become self-sufficient. Employment and other factors take the younger people away, often to different cities, regions or even countries. This physical separation creates challenges for the elderly. Where the younger generation would once look after their parents through old age, now the elderly often need to arrange and fund their own healthcare and post-retirement income needs. In China, for example, the one-child policy has led to a situation where the number of children available to support ageing parents has declined significantly.

In addition, as the population ages the reduced share of working to total population puts pressure on social security schemes which rely on contributions from the working population to fund the medical and retirement benefits of retirees. This highlights the growing necessity to shift the burden of providing for old-age medical and retirement benefits from public schemes to private individuals themselves.

Aging populations put pressure on existing social security schemes.

Studies have showed that pre-retirees and retirees generally depend on government provisions for healthcare-related expenses. At the same time, they feel these provisions are insufficient to meet their healthcare-related costs post retirement. There is also strong intention to purchase medical and health insurance amongst consumers, but the pattern varies in different markets depending on the population profiles. The challenge to provide for the medical needs of an ageing population will be particularly acute in China. By 2050, China’s ‘silver segment’ aged 60 and over, will total almost 440 million, more than one third of the country’s population. In 2011, medical expenditure accounted for about 5% of China’s GDP. In the future, this is projected to increase considerably due to the ageing population and demand for better medical services.

Insurance can help finance old-age healthcare needs.

With the dilution of traditional family bonds, the need for long-term care insurance solutions will also increase. Specifically, advancements in medicine leading to longer lives and faster recovery from hospital procedures will change the nature of life and health insurance offerings. For example, benefits may increasingly be designed with a view to provision of care in the home, including support from a nurse or attendant. Long-term care insurance is still at an early stage of development in emerging markets but there has been growth in more advanced markets. This will offer valuable experience to emerging markets in their quest for a suitable model, particularly taking into consideration the role of government support and private insurance. In the UK and Taiwan, for example, there is an ongoing debate on the use of private insurance to supplement state-sponsored long-term care services, including the use of products such as immediate-needs annuities, disability-linked annuities and other pre-funded products.

Long-term care insurance is in a nascent stage of development and has strong growth potential in emerging markets.

Healthcare delivery and financing models need to be sustainable.

Funding emerging markets’ future healthcare expenditure is a daunting task, and providing healthcare to millions of people living in cities will require a focused approach. Building a long-term sustainable system of quality universal healthcare for all sectors of society is a challenge, and the investment requirements are huge. As such, governments will need to consider optimal financing by leveraging private sector programs, including the use of public-private partnership, to ensure sustainability.

50 “Spotlight on Consumer Health” (2012), Swiss Re.
## Implications of urbanisation on healthcare and role of public and private participants

<table>
<thead>
<tr>
<th>Implications on society</th>
<th>Role of state/policymakers</th>
<th>Role of re/insurers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positives</td>
<td>Access to better healthcare infrastructure and services in urban cities</td>
<td>Development of healthcare infrastructure</td>
</tr>
<tr>
<td></td>
<td>Urban poor</td>
<td>Improving access to quality of healthcare services and keeping it affordable</td>
</tr>
<tr>
<td></td>
<td>... leads to undernourishment, unhygienic living conditions and poor health</td>
<td>Foster conducive policy environment for private players</td>
</tr>
<tr>
<td></td>
<td>High concentration &amp; mobility</td>
<td>Reducing financial burden of state through risk financing</td>
</tr>
<tr>
<td></td>
<td>... increases risk of spread of communicable diseases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lifestyle, social &amp; environmental</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... stress, pollution, physical inactivity, need for elderly care</td>
<td></td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting

Emerging countries have introduced pay-as-you-go pension plan systems.

Pay-as-you-go plans may not be sustainable in the long run.

Re/insurers have a competitive advantage in managing longevity risks.

...and insuring for longevity

Urbanisation is typically associated with reduced household family size and a weakening of traditional inter-generational support systems. The need to provide adequately for an ageing population is further compounded by the use of unfunded pay-as-you-go (PAYG) pension schemes in emerging markets. The trend has started to shift from defined benefit to defined contribution schemes, but some markets will nonetheless continue to feel the stress of rising pension demand.

However as people live longer, the longevity risk developing in many Asian countries (with the exception of some younger populations like India and Indonesia) will place too large of a burden on younger generations. It may be that PAYG plans prove unsustainable in the longer run. In this event, individuals will have to be more self-reliant and consider supplementing their income in retirement through private solutions, including retirement plans provided by insurers. The government still has a role to play, in particular by creating a policy environment that both fosters private sector participation and provides consumer protection.

Re/insurers can design savings, risk financing, post-retirement health and long-term care solutions to address these changing dynamics. At the same time, however, they need to be cognisant of the competition from other financial services providers such as banks and mutual funds, which also offer a wide range of savings and wealth management products/services (although these products do not offer longevity protection like annuities). Re/insurers have a competitive advantage from their deeper understanding of risk and healthcare issues, and will need to draw on this to remain leaders in the provision of healthcare solutions and longevity products.
Urbanisation and life insurance

Urbanisation, if not well managed, can lead to deterioration in the quality of the environment.

Lack of sanitation facilities, coupled with rising mobility of people increases pandemic risk...

... that can lead to potentially significant losses for the insurance industry.

The concentration of risk in large urban conglomerations is susceptible to catastrophes.

Group insurance programs will benefit from growth of formal employment.

Environment and mortality shocks

Urbanisation can lead to deterioration in the quality of the environment, particularly when not well managed. Towns and cities are a major source of air, noise and water pollution, and these create significant challenges to public health. Despite efforts at national and global levels, an estimated 130 million people living in urban areas lacked access to improved water resources in 2010, and 714 million had no access to improved sanitation. This can lead to the emergence and easy spread of air- and water-borne communicable diseases.

The mobility of people in the modern world increases the likelihood of rapid spread of a communicable disease. That can be within a city, to other towns and cities, across regions and also borders. The loss consequences can be extreme as the SARS epidemic in 2003 in Asia demonstrated. SARS spread very quickly, with 8,096 registered cases across different Asian cities and a 9.6% fatality rate. The Asian economy was hit hard too, with USD 60 billion of expenditure and business losses.

With the constant movement of people between different urban centres, the magnitude of economic loss resulting from a 1% pandemic flu infection rate amongst the world’s population could be as high as 5% of global GDP. The increased mobility of urban dwellers will impact on the effectiveness of traditional classic surveillance and epidemiological response techniques, thus prolonging the duration of a pandemic.

Lack of access to clean water or improved sanitation in some emerging market urban centres will also aggravate the problem. Insurers will need to take these potential “mortality shocks” into consideration as part of their risk control process. Sufficient reinsurance protection against peak risks is also probably necessary.

The impact of major catastrophes can be comparable to pandemics. On average, over 70,000 people have lost their lives in catastrophes (natural and manmade) each year since 1990. Increasing population densities, particularly in towns and cities located in areas prone to severe weather or earthquake events, further heightens the vulnerability of communities to, and the probability of, large-scale loss events occurring. With this comes greater need for effective mortality risk accumulation analysis by insurers.

Group insurance opportunities

With the growth of formal employment in emerging markets as urbanisation progresses, increasingly employers have been providing employee benefits such as term life, health, personal accident and travel insurance as part of group insurance schemes. This is a major new source of premiums. In India, for instance, group life and health insurance premiums grew at an annualised rate (inflation adjusted) of 20% between 2001 and 2011, compared with 10% growth in individual premiums in the same period.

---

51 “Progress on Drinking Water and Sanitation” (2012 update), UNICEF and WHO.
55 Swiss Re, sigma No 2/2013: “Natural catastrophes and man-made disasters in 2012”.
Insurance distribution

Distribution is a key component of an insurer’s value chain. Traditional agents will continue to be important distributors, but will likely be supplemented by other channels, including bancassurance, internet, social media and affinity groups.

Figure 14
Insurance distribution channel development in emerging markets and future impact of high urbanisation

<table>
<thead>
<tr>
<th>Future impact with high urban population</th>
<th>High Internet/social media</th>
<th>Bancassurance Telemarking</th>
<th>Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Brokers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broker Affinity group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealth management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supermarkets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Evolving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mature</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Current status of channel development

Source: Swiss Re Economic Research & Consulting

Figure 14 highlights the potential impact of high urbanisation on the various distribution channels. Though insurers may have a single contact person in dealing with rural customers, there are multiple contact points for urban clients. This allows for a choice of channels based on product characteristics. Bancassurance, for example, is well suited for urban distribution given higher demand for bank credits among people living in towns and cities who may want insurance when they apply for a mortgage or car loan.

Note that Figure 14 is a generalised picture of distribution channel development in emerging markets. Individual markets will probably see different development patterns depending on local market characteristics and the business landscape.

The following factors will also influence insurance distribution in urban areas:

- Improvements in financial literacy and more financial advisors can facilitate an increase in distribution of sophisticated savings products
- Economies of scale in cities will help lower distribution costs
- Rapid pace of technological change and the tendency towards faster adoption in urban areas
Urbanisation continues to transform the socio-economic and risk landscape. Insurers need to continuously evaluate these changes to design products that contribute to the building of effective life and health insurance systems in different countries. Table 8 summarizes the impact of urbanisation on key lines of business in life and health.

### Table 8
Impact of urbanisation on different life and health business lines

<table>
<thead>
<tr>
<th>Line of business</th>
<th>Impact of urbanisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term</td>
<td>Higher risk awareness and affordability in an urban setting. Increase protection gap by raising household leverage, countered by smaller family size, higher household financial assets and better coverage of social benefits.</td>
</tr>
<tr>
<td>Endowment</td>
<td>Participating endowment policy is attractive for retirement savings (endowment products with a return of premium feature) and as bequest to next generation.</td>
</tr>
<tr>
<td>Unit-linked and Universal life</td>
<td>Higher household financial wealth is favourable to the growth of investment-type products. Higher financial literacy renders consumers more receptive to complex products like universal life. More competition is expected from other financial intermediaries for household savings.</td>
</tr>
<tr>
<td>Critical illness (CI)</td>
<td>Increases in urban illnesses will have impact on CI product design. Medical cost inflation can be higher in urban than rural areas. Urban dwellers also have expectation of higher quality and easily accessible medical treatment.</td>
</tr>
<tr>
<td>Disability income (DI)</td>
<td>Higher cost of living/salary income level impacting on potential payout.</td>
</tr>
<tr>
<td>Long-term care (LTC)</td>
<td>Lack of family support creates need for LTC. Develop ‘retirement cities' or ‘health cities' to provide long-term nursing care to retirees.</td>
</tr>
<tr>
<td>Group insurance</td>
<td>More formal employment in urban regions. Employers eager to offer group insurance to retain talents.</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting
Outlook and conclusion

Well-managed urbanisation can provide many benefits, but if it is poorly managed many social ills are likely.

By 2030, around 3.9 billion of the emerging market population will be living in urban areas. The overall urbanisation rate in emerging markets was 46.5% in 2011 and is expected to increase to 56% by 2030. This will have significant implications for the economy, society and environment. Well-managed urbanisation can be a driver of higher incomes and improved standards of living. Poorly managed urbanisation, however, can create serious socio-economic challenges. These include income inequality, social unrest, poor infrastructure and lack of access to basic requirements such as water, power and sanitation facilities for many.

Urbanisation in emerging markets in the coming decades will have the following characteristics:

- **Asia and Africa are likely to see the biggest rise in urbanisation rates as well as in urban population.** In particular, China and India will account for 20% (276 million) and 16% (218 million), respectively, of the 1.4 billion increase of global urban population between 2011 and 2030.

- **Urbanisation patterns will differ across markets.** Some markets will continue to feature strong planning from the state while others will likely see more spontaneous organic growth in urban centres with limited city planning.

- **Small and mid-sized cities are expected to grow rapidly in the coming years, even more so than the emerging market megacities.**

- **Networks of cities are merging to form various types of urban clusters such as mega-regions, urban corridors and city regions.** This is happening very quickly in some markets (e.g., China).

- **Massive infrastructure investment is required to support urbanisation.** There will be an estimated USD 43 trillion (in 2012 constant dollars) spending on urbanisation-related infrastructure development in emerging markets between 2013 and 2030.

- **Urbanisation will continue to change the nature of emerging market societies, including traditional family structures as the younger generation migrate to cities for employment.** Higher participation of women in the labour force will be another feature of the urban environment. The outcome is smaller families and a dilution of traditional family bonds, in turn weakening inter-generational support links.

Re/insurance demand will likely grow alongside further urbanisation.

Urbanisation brings increases in the value and concentration of insurable assets, raised risk awareness and higher income levels. These in turn generate demand for insurance products, and all business lines are likely to benefit.

- **Commercial insurance is likely to benefit** with premiums for construction insurance covers from infrastructure development amounting to an estimated USD 68 billion (in 2012 constant dollars) during the period 2013–30. The property coverage of newly completed infrastructure facilities could add another USD 24 billion (in 2012 constant dollars) in premiums annually by 2030.

- **Specialty business lines (aviation, marine, engineering, construction and liabilities) are also likely to see strong demand in the emerging markets.**

- **Demand for non-life personal insurance products (homeowners, personal motor, travel) is likely to grow along with rising income levels and/or policies making the purchase of such insurance mandatory.**

---

56 Emerging markets defined as less developed regions by United Nations. Source: "World Urbanization Prospects: The 2011 Revision" (2012), UN Department of Economic and Social Affairs, Population Division.
Outlook and conclusion

- The biggest incremental re/insurance opportunity is expected to be in emerging Asia, where the urbanisation rate is currently still lower than in Latin America and Central and Eastern Europe. China and India are expected to account for around half of emerging-market infrastructure-led commercial insurance opportunities.

- The privatisation of risk/infrastructure assets can improve insurance coverage in emerging markets. Governments are facing fiscal challenges and participation of the private sector in the provision of risk protection solutions will likely increase.

- Urbanisation-led societal changes (smaller families, increase in education and women participation in the workforce) and demographic transition to an ageing population will increase the need for life and health insurance products (savings products, post-retirement health and long-term care solutions, critical illness).

- Growth in formal employment opportunities in urban areas will boost demand for group life insurance products. The growth of group business in medical insurance, for example, will likely be robust.

Challenges posed by urbanisation

Though urbanisation creates opportunities for re/insurers, it also brings challenges. Risk assessment and management issues are very important in the urban environment for two main reasons: the density and dynamism of the population.

The following are the key challenges re/insurers need to consider.

- The risk of unorganised urbanisation. Where urbanisation is not well managed, the resulting infrastructure inefficiencies can challenge different insurance lines. This is the case when, for example, buildings are constructed without due consideration of earthquake shocks. Separately, lack of clean water, sanitation and high pollution levels generally engender higher incidence of poor health and subsequent claims.

- Impact on risk management. The coming era of cities will have a high degree of risk concentration. The rise of urban agglomerations poses increased challenges in managing risk accumulation and modelling potential risk exposures. The uncertainty surrounding natural catastrophe events and climate change makes modelling and forecasting difficult. Increased mobility and high population density raises pandemic risk also.

- Risk adjusted pricing is a challenge in emerging markets. This allows insurers to finance large-loss events and remain solvent. This issue is of greater importance to local insurers in emerging markets given their typically lower levels of geographic risk diversification. The challenge is made more acute by poor data quality on historic losses and exposure in emerging urban conglomerations.

- Increased consumerism has the potential to make society more litigious. Generally speaking, consumers in cities are more aware of their rights and have higher expectations about the quality of products and services than people living in rural areas. In emerging markets, there is also an increasing trend of regulation to protect consumer interests. These factors could increase the frequency and magnitude of lawsuits filed by consumers. The impact is hard to assess and factor accurately into the pricing of casualty insurance lines. Insurers need to track regulatory and legal developments closely to be ready and able to adjust premium rates, terms and conditions accordingly.
Managing the challenges of urbanisation requires collaboration. For instance, governments need to invest heavily in infrastructure and social security benefits in order to accommodate the large number of urban migrants who move from rural areas to cities every year. Poorly-managed urbanisation and/or a failure to provide an adequate social support system for migrants generates risk of social unrest which, depending on the severity of tensions, can lead to significant economic shock events for society.

Governments are under financial strain and some may well encourage private sector participation in the provision of services such as hospitals, and in the establishment of infrastructure and utilities. Insurers can also play their part by partnering with the authorities in city planning, as well as supporting risk management strategies. It is likely that market-based insurance solutions, including risk-transfer involving both public and private participants will become increasingly common in emerging markets. Public-private partnership could become a preferred way to finance and maintain infrastructure, and to manage risk effectively.

In contrast to the advanced markets, the risk management and mitigation framework in emerging market cities is not well developed. This is mainly due to low awareness and lack of regulation and governance. In cases where regulations are in place, enforcement is often lax. Increased asset value at risk, high catastrophe exposure and increased severity and frequency of catastrophes can lead to devastating consequences for towns and cities, particularly given the large protection gap that currently exists.

In playing their part in risk management, re/insurers will increasingly need to follow city centric and regional strategies, because a one-size-fits-all is no longer adequate. Each city has its own unique characteristics and risk attributes and a customized approach in terms of product development and distribution is vital. In addition, insurers need to continuously strengthen their models to incorporate ever-growing risk exposure, monitor emerging risks and manage risk accumulation. Diversification and effective risk transfer mechanisms will become increasingly important as insurers seek to best respond to the challenges and opportunities that urbanisation in emerging markets presents.
Recent *sigma* publications

**2013**  
No 1 Partnering for food security in emerging markets  
No 2 Natural catastrophes and man-made disasters in 2012:  
   A year of extreme weather events in the US  
No 3 World insurance 2012: Progressing on the long and winding road to recovery  
No 4 Navigating recent developments in marine and airline insurance  
No 5 Urbanisation in emerging markets: boon and bane for insurers

**2012**  
No 1 Understanding profitability in life insurance  
No 2 Natural catastrophes and man-made disasters in 2011:  
   historic losses surface from record earthquakes and floods  
No 3 World insurance in 2011: non-life ready for take-off  
No 4 Facing the interest rate challenge  
No 5 Insuring ever-evolving commercial risks  
No 6 Insurance accounting reform: a glass half empty or half full?

**2011**  
No 1 Natural catastrophes and man-made disasters in 2010:  
   a year of devastating and costly events  
No 2 World insurance in 2010  
No 3 State involvement in insurance markets  
No 4 Product innovation in non-life insurance markets: where little “i” meets big “I”  
No 5 Insurance in emerging markets: growth drivers and profitability

**2010**  
No 1 Natural catastrophes and man-made disasters in 2009:  
   catastrophes claim fewer victims, insured losses fall  
No 2 World insurance in 2009: premiums dipped, but industry capital improved  
No 3 Regulatory issues in insurance  
No 4 The impact of inflation on insurers  
No 5 Insurance investment in a challenging global environment  
No 6 Microinsurance – risk protection for 4 billion people

**2009**  
No 1 Scenario analysis in insurance  
No 2 Natural catastrophes and man-made disasters in 2008:  
   North America and Asia suffer heavy losses  
No 3 World insurance in 2008: life premiums fall in the industrialised countries – strong  
   growth in the emerging economies  
No 4 The role of indices in transferring insurance risks to the capital markets  
No 5 Commercial liability: a challenge for businesses and their insurers

**2008**  
No 1 Natural catastrophes and man-made disasters in 2007: high losses in Europe  
No 2 Non-life claims reserving: improving on a strategic challenge  
No 3 World insurance in 2007: emerging markets leading the way  
No 4 Innovative ways of financing retirement  
No 5 Insurance in the emerging markets: overview and prospects for Islamic insurance