

Responding to the Impact of Climate Change: Business Strategy Adaptation by the Insurance Sectors in Bangladesh and Australia*

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Abstract

The extant literature and scientific evidence suggest a rise in catastrophes linked to climate change both in terms of intensity and frequency affecting people's lives and livelihoods. At the same time, these occurrences are having profound impact on public and private sector establishments. One of the sectors that tend to become directly affected by such events is the insurance sector. Given the scenario of uncertainty and risk, this sector is found to be in a unique albeit intricate situation as both opportunities and threats are considerable with respect to the sector. Based on perceived level of risk and preparedness, KPMG has recently come up with a framework that claims to propose a structure applicable to several business sectors to combat the scenario. However, the country-specific differences have not been taken into consideration while analyzing the business risks and economic impacts at sector level. Following a scrutiny of the KPMG document, the extant literature and recent scientific evidence, this paper has considered the country-specific context as a variable to analyze and understand the changing nature of the strategy and structure of the insurance sector. It is argued that different countries with different socio-economic realities may require to formulate and use distinct set of strategies to combat the situation. In arguing so, this paper has found out that the insurance sectors in Australia and Bangladesh are affected by the ongoing adverse climatic phenomena that have been significantly influencing their business strategy adaptation. However, while these adaptation strategies vary considerably between these two countries, the actual exposure and adaptation status in these two countries differ from the findings of KPMG (2008) to a certain extent.

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Introduction

Australia is a country exposed to natural disasters. Until recently, wild fires in Victoria were considered to be the worst natural disaster in Australia's modern history (SCA, 2009). However, recent floods in Queensland have surpassed this record (Shupple, 2011). Similarly, the cyclone Yasi has been termed as the strongest ever cyclone in the Australian history. These adverse climatic events have been linked with climate change and are consistent with the outcomes of climate models that forecast increased severity of weather events (CSIRO, 2011; Fogarty, 2011; Greenpeace, 2010, Smith, 2011). Some argue that Australia is the most vulnerable amongst all developed countries (The Australian Collaboration, 2011; Tourism NT, 2011).

Bangladesh shares considerable level of similarities with Australia in terms of exposure to extreme weather events. Bangladesh is a populous low-lying state exposed to coastal inundation (e.g. storm surge) and flooding from major river systems (e.g. the Ganges and Brahmaputra). While being a least developed country (LDC), it has other challenges particularly given the vulnerability of poor communities in coastal areas and on flood plains. It is also widely recognized that as like others LDCs, Bangladesh has 'fewer resources to adapt: socially, technologically and financially' (UNFCCC Secretariat, 2007:6).

Climate change impacts for Bangladesh include increased frequency and severity of low pressure system and cyclones, anomalies in rainfall (including drier dry seasons and wetter wet seasons), sea-level rise along with salinity intrusion and deteriorating public health (Cruz *et al.*, 2007; Ahmed & Neelormi, 2007; MoEF, 2009). In terms of exposure to climate change, Australia ranked as the 6th most affected country while Bangladesh ranked as the 8th most affected country in 2009 (Harmeling, 2010).

Climate change and its resultant impacts are likely to affect both individuals and businesses. Recent analyses by KPMG (2008) concluded that six business sectors, namely, oil and gas, aviation, healthcare, financial, transport and tourism, are more exposed to the risks associated with such impacts. However, the report indicated that these sectors lack awareness of the risks associated with these impacts and relatively less prepared to combat and address these risks. In the same analysis, the insurance sector along with eight other sectors is viewed as neither in danger nor in the safer zone (KPMG, 2008).

As the identified sectors indicated above are not country-specific, it could be argued that different countries may have distinct sectors to be affected by adverse climatic events and that those sectors

need to formulate their respective business strategies accordingly. In this paper we highlight the business strategy adaptation in insurance sector in Australia and Bangladesh, the two countries critically exposed to climate change impacts but with contrasting development status. The paper first provides the background of the study and presents an overview of the extant literature relevant to climate change adaptation and associated strategic business directions. A discussion on the adaptation strategies by the insurance sector in response to the impact of climatic change follows. Finally two countries, Australia and Bangladesh, are compared with respect to the adaptation processes pursued by their respective insurance sectors in order to see if any pattern is likely to emerge across these two disparate countries.

Climate Change Adaptation and Business Strategy

Adaptation to climate change involves scope, process and scale, including autonomous ('bottom-up') or imposed ('top-down') approaches. Adaptation responses also include migration (from impacted areas) or coping (with change), and coping strategies include both biological (e.g. physiological) and infrastructural (e.g. flood and cyclone protection). IPCC (2007:6) has defined adaptation as 'the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities'. Burton (1992, 1997; cited in Ahmed, 2006:30) has defined it as 'the process through which people reduce the adverse effects of climate on their health and well-being, and take advantage of the opportunities that their climatic environment provides'. Although quite human-centric, Leary (1999:307) also reiterated the similar definition of others by defining adaptation as 'human responses to the direct and indirect effects of climate change and variability for the purpose of lessening detrimental consequences or enhancing beneficial consequences'.

From an individual and economic point of view, Smith *et al.* (1996, cited in Ahmed, 2006:30) have argued that 'Adaptation to climate change includes all adjustments in behavior or economic structure that reduce the vulnerability of society to changes in the climate system'. Smit *et al.* (2000:225) have placed adaptation in the context of adjustments in ecological-social-economic systems in response to actual or expected climatic stimuli, their effects or impacts'. A framework proposed by Berkhout *et al.* (2006) considers the strategy of 'wait and see' as a legitimate business response. They further argue that a risk management approach should inform the business strategy adaptation to climate change (Berkhout *et al.*, 2006). Linnenluecke and Griffiths (2010) view 'organizational resilience' as a proactive business strategy for averting risks due to climate change while acknowledging that organizations resist action in the absence of climate-induced shocks. In this context, Kolk and Pinkse (2008) have argued that risk aversion through companies' business

strategy adaptation is dynamic due to given changes to public opinion, legislation or regulation and scientific evidence on global sustainability issues.

We argue that not enough attention has been given so far to the opportunities created as a part of the business adaptation process in response to climate change. Kolk and Pinkse (2008) have argued that climate change is assisting multi-national companies (MNCs) to take the opportunity of developing “green” firm-specific advantages and those advantages are also helping to gain profit, to grow and to survive. Strategic opportunities aimed at reducing carbon emissions through the development of innovative goods and services can position companies to take advantage of emerging consumer demand (Kolk & Pinkse, 2005; Kolk & Pinkse, 2004). Similarly, innovation by firms offering goods and services which allow better adaptation to climate change can expect a competitive advantage (Porter & Reinhardt, 2007). The Insurance sector is viewed as one of the sectors that requires to respond to new risks emerging from climate change including the transaction costs associated with the mitigation of climate change and its impact (e.g. carbon trading schemes) (Kolk & Pinkse, 2004).

Adverse Climatic Events and Adaptation for Insurance Sector

The insurance industry is relatively more familiar compared to other industries as it needs to frequently deal with claims for damages and destructions contributed by natural disasters such as floods, fires, and storms. However, the frequency and pattern of such occurrences is rapidly changing as they are becoming more frequent, stronger and more destructive as result of climate change (Botzen, van den Bergh, & Bouwer, 2010; Herweijer, Ranger, & Ward, 2009). In the United States of America (USA), flood insurance policies increased from 4 million in 1997 to 5.55 million by the end of 2007 in the wake of the Hurricane Katrina (Kunreuther *et al.*, 2009; Luffman 2010). From 1980 to 2005, the insurance industry in the USA paid some US\$320 billion to policyholders for weather-related losses (U.S. Government Accountability Office, 2008). Thus, demand for services from the Insurance industry is likely to increase with climate change (Kolk & Pinkse, 2004).

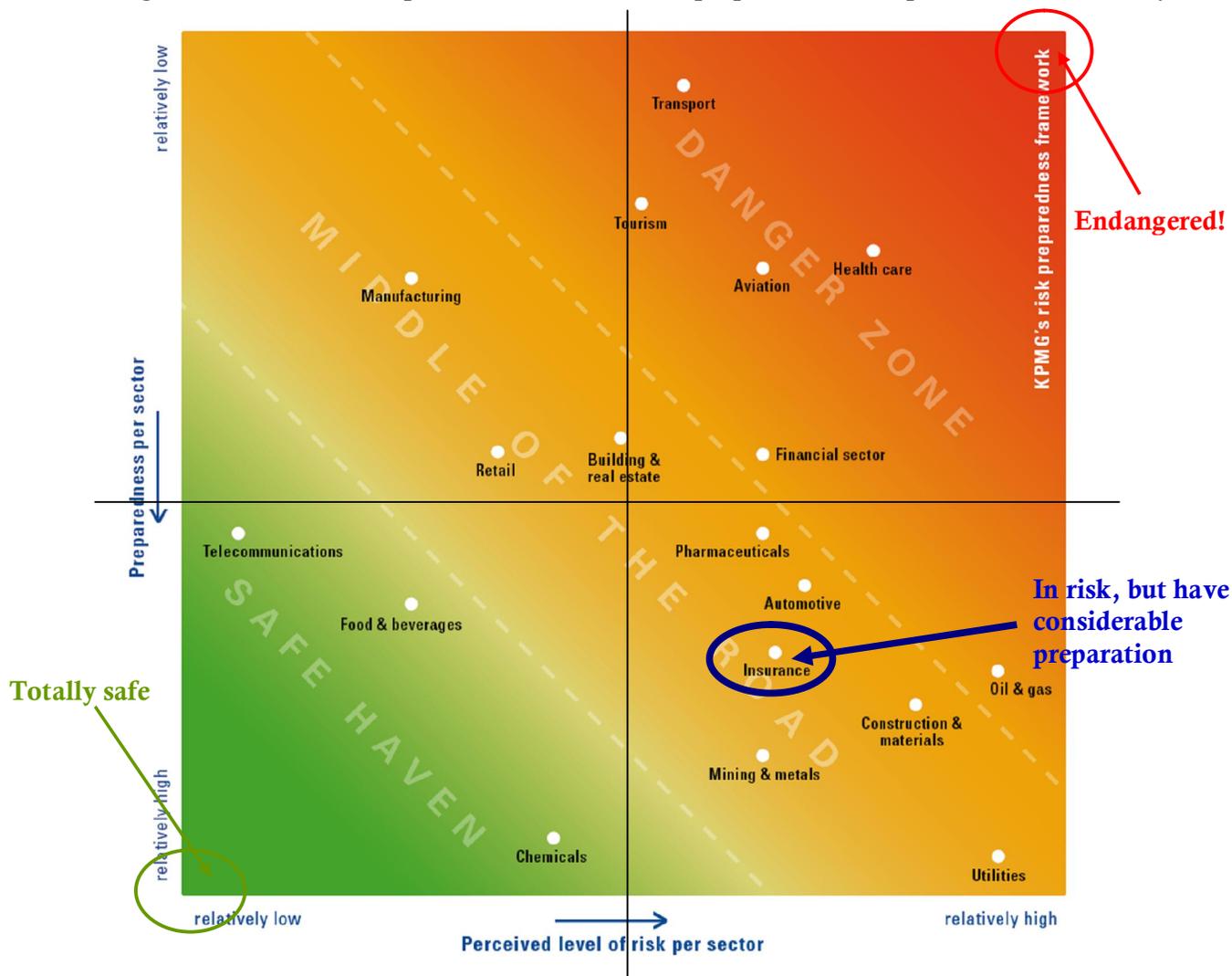
Nonetheless, the insurance industry provides vital support to governments seeking to rebuild communities in the wake of major natural disasters (Atmanand, 2003; Hoeppe & Gurenko, 2006). Although there are obvious opportunities for the Insurance industry with climate change, unpredictable, frequent and complex climatic events can also threaten insurance businesses (Romilly, 2007). In the face of any major, unprecedented natural disaster, such as the recent Tsunami in Japan (although not climate-induced), the industry may face enormous liability.

Increased risks may, however, result in increased premiums and resistance from consumers to using some insurance products. At the same time, underinsured assets will inevitably put increased pressure on governments to compensate for the damage and to make the insurance sector taking some responsibilities (U.S. Government Accountability Office, 2008).

In addition, the complexity of climate change has prompted the development of new insurance products (Linnerooth-Bayer *et al.*, 2009). Some companies are promoting index-based insurance by setting baseline of intensity, such as the amount of rainfall, above or below which payment is made to policy holder (Linnerooth-Bayer & Mechler, 2006). Such an approach can create conflicts where policy holders and the insurance company interpret technical terms associated with climatic events differently.

This whole scenario in relation to risks, opportunities and preparedness in facing climate change impacts has influenced the analysis of sector-specific business risk. As shown in Figure 1, KPMG has put the insurance sector in the ‘Middle of the Road’ i.e. the insurance sector is exposed to medium risk and the sector has relatively good amount of preparedness to counter those risks. It could be noted that, in KPMG’s analysis, sectors that are exposed to relatively high risk but have relatively low preparedness are placed in ‘Danger Zone’, whereas, sectors that are exposed to relatively low risk but have relatively high preparedness are placed in ‘Safe Haven’ (KPMG, 2008).

Figure 1. Sector-wise perceived risk versus preparedness map in KPMG’s analysis



Source: Adapted from KPMG (2008:48)

Australian Insurance Sector and Recent Climatic Impacts

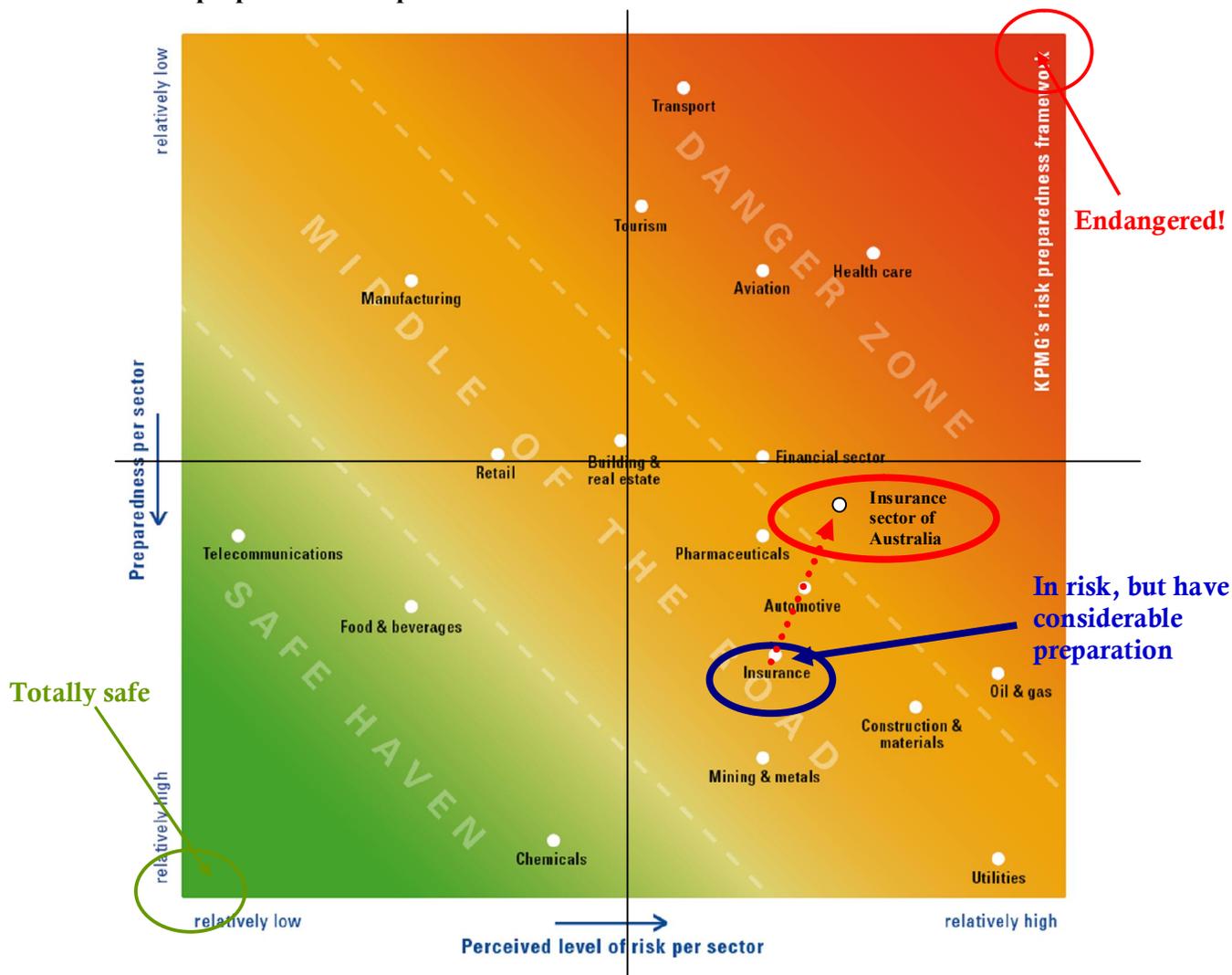
The insurance industry in Australia has been struggling to adopt relevant strategies in response to a relatively high likelihood of adverse climatic events. In the wake of the recent flood in Queensland, insurance companies were accused of not remedying flood damage, are symptomatic of increased exposure of the insurance industry to climate change risk. In this regard, arguments (with policy holders) over the definition of flood and storm damage attract negative public scrutiny of the insurance sector. In addition, governments were threatening to intervene with stricter regulations for the industry (Yeates, 2011; Mickelborough & Harvey, 2011). Yet it should be noted here that in the last 4 years insurance policies with flood coverage had increased by a staggering 400 percent (“Disasters Offer Lessons”, 2011).

Pressure on Australian insurance businesses is substantially increasing due to the increase of adverse climatic events in Australia in recent times (“The Realities of Insurance”, 2011). The Queensland flood provides a classic example that generated damage claims worth \$6 billion (Johnston, 2011a). Such claims could put further upward pressure on insurance premiums. It also could require an additional payment to staff to process unanticipated claims (“Disasters Stretch Companies,” 2011; Keane, 2011). All of these factors have made Australia a risky place for insurance business as opined by the global reinsurance multi-national company Swiss Re very recently, indicating that they are also considering to increase the premium to be paid by Australian domestic insurance companies to them in arguing for their existence also (Johnston, 2011b).

However, Wilkins (2010) has highlighted the positive sides regarding the preparedness of the insurance sector in Australia. The Australian insurance industry has been engaging with the government, assisting communities in increasing their awareness of, and resilience to, climate change (Wilkins, 2010:346). Nevertheless, Wilkins (2010) warns that there is a reputation risk for the industry arising from negative public perception and potential government regulatory intervention.

Therefore, based on our analysis above, we argue that the Australian insurance sector’s position differs from that of the global insurance sector shown in KPMG’s analysis. As shown in figure 2, because of increased climatic risks and other risks associated with reputation and government regulation, the actual risk for the Australian insurance sector is much higher than the global insurance industry. Although the Australian insurance sector has a considerable amount of preparedness, it is not prepared well enough to manage its reputation, or to influence regulators in a positive way and meet increased demands for policy payout and associated workload. We postulate that the Australian insurance sector may be in the ‘Danger Zone’ rather than in ‘Middle of the Road’. Consequently, an adaptive business strategy for insurance sector in Australia would be more towards ‘risk aversion’ approach of climate change adaptation by minimizing perceived risks and increasing associated level of preparedness.

Figure 2. Probable Positioning of Australian Insurance Industry in terms of perceived risk versus preparedness map of KPMG



Source: Adapted from KPMG (2008:48)

Bangladeshi Insurance Sector and Recent Climatic Impacts

Bangladesh, like Australia, is among the most vulnerable countries in the face of climate change. However, as a least developed country, Bangladesh has additional risks in adapting to climate change. Its insurance industry differs considerably from that of Australia due to very different customer base and the development status of the sector itself (Akter *et al.* 2011). In Bangladesh, a private insurance market for property damage and livelihood risk due to natural disasters does not exist. Akter *et al.* (2011) have examined two different institutional-organizational models in their study in relation to the feasibility of private micro-flood insurance provision in Bangladesh and found that such provisioning is not profitable for private insurance companies. Illiteracy and low-income/poverty are key factors which present a low potential customer base. The relatively high administrative costs for the insurance sector without a viable risk-sharing instrument in a weak

financial market make it prohibitive for private insurance companies to operate in Bangladesh. Akter *et al.* (2011) advocate an effective public-private partnership based on well-developed risk-sharing instrument (see also Mills, 2007). The involvement of a micro-credit base in Bangladesh could present an alternative to government responsibility for flood risk protection through extending micro-insurance by using micro-credit organizations (Akter *et al.*, 2011).

However, proponents of the ‘climate justice’ argument assert that developed nations, responsible to a large degree for climate change, should share the financial burden for adaptation by their developing counterparts (while pursuing mitigation strategies) (Tola & Verheyen, 2004). Based on this argument, climate insurance in Bangladesh through public-private partnership could be underwritten from the compensation received from historical polluter countries as identified in UNFCCC where the government requires to take the role of policy holder on behalf of affected people. However, from an insurance sector perspective, the lack of a viable customer base in Bangladesh would remain an issue. Any compensation from the government could be considered as aid from the government. Without any risk sharing arrangements with affected people and the insurance sector, any such government initiatives are likely to overburden the government and should be discouraged.

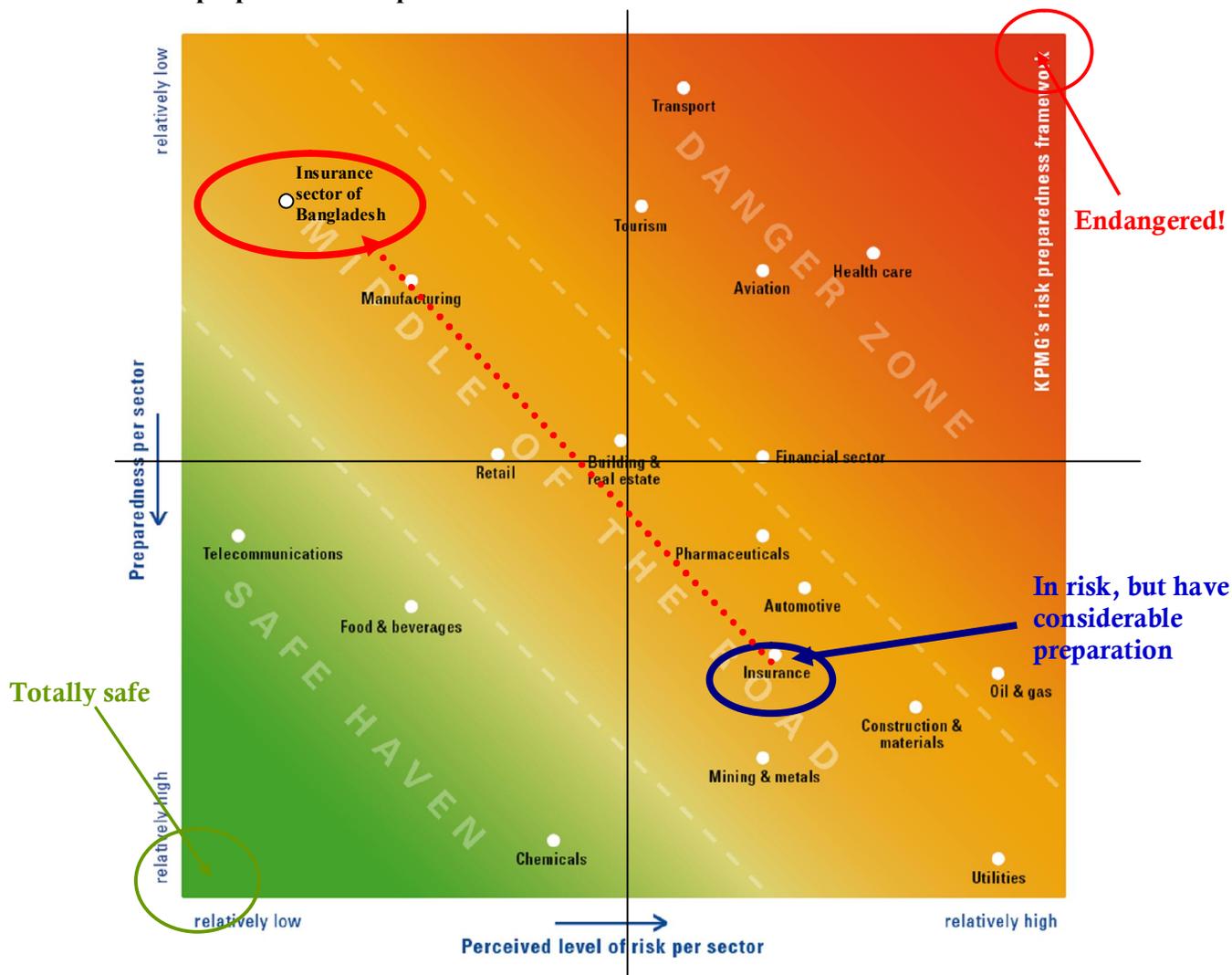
Moreover, because of the dominance of government ownership in life and non-life insurance schemes in Bangladesh, competition within the private sector has not been developed and global reinsurers are not attracted to the insurance market of Bangladesh. In 2008, per capita premium for insurance in Bangladesh was only US\$ 4.4 compared to the global per capita premium of US\$634 and of the Australian per capita premium of US\$3386 (Kwon, 2010; Khanal, 2007; Swiss Re, 2009). This indicates that the insurance sector in Bangladesh seriously lacks the capacity and confidence to develop climate insurance schemes.

Despite this predicament, Swiss Re (2010a) considers that the growth of microfinance markets present insurance opportunities for low income populations. Regarding climate insurance, Swiss Re (2010b) suggests that a public-private partnership can easily make the climate insurance viable in vulnerable low-income countries like Bangladesh. In the Bangladesh Climate Change Strategy and Action Plan, the Bangladesh Government has a programme on ‘Risk Management against Loss of Income and Poverty’ under the ‘Comprehensive Disaster Management Theme’. In this programme, a partnership among responsible agencies including the Ministry of Finance, the insurance sector and non-government organizations has been proposed to provide insurance support to individuals and businesses affected by any such natural disaster. Considering the

underdeveloped status of the insurance sector in Bangladesh, this programme is focused on developing and piloting insurance schemes to address the losses of property and income due to climate change related disasters (MoEF, 2009:45).

Based on the discussion above, we therefore argue that the position of insurance sector in Bangladesh would be at the 'Middle of the Road'. However, it may differ from KPMG in its positioning of global insurance sector. As shown in figure 3, although the perceived risk for Bangladesh is extreme and the country is in 'Danger Zone', the insurance sector does not perceive any major risk to their existing business operations. Moreover, as the sector has hardly dealt with climate insurance including disaster insurance or crop insurance, its level of preparedness is also low. As both perceived risk and preparedness are lower for the insurance sector in Bangladesh compared with the global insurance industry, using the original sector-wise perceived risk versus preparedness map in KPMG's analysis, the insurance sector in Bangladesh is still in the 'Middle of the Road' but in a different quadrant. Consequently, development of a business strategy for the insurance sector in Bangladesh would be more towards 'learning' and 'opportunity utilization' in relation to climate change adaptation, exploration of opportunities and the level of preparedness.

Figure 3. Probable Positioning of Bangladesh Insurance Industry in terms of perceived risk versus preparedness map of KPMG



Source: Adapted from KPMG (2008:48)

Conclusions

In this paper we suggest that the development of a viable strategy for the insurance sector depends on proper identification of current as well as foreseeable impacts of climate change on this sector. For any business sector, the perceived risks range from physical to reputation-related and from regulatory to financial risks. The level of preparedness associated with a perceived level of risk is closely linked with the overall capacity of risk aversion by a sector. In this regard, the perceived level of risk versus level of preparedness framework suggested by KPMG has provided a useful tool to evaluate business strategy adaptation in response to climate change.

However, we argue that for business strategy adaptation for a particular business sector in a particular country, the aggregate approach at a global scale (as followed by KPMG) for each sector

would not be viable. In supporting our argument, we have presented the examples of two countries with different development status susceptible to high amount of physical risks due to climate change. Accordingly, we argue that any approach of exploring business strategy adaptation due to climate change must be country-specific, sector-specific and even company-specific.

From the discussion on the nexus between adverse climatic events and insurance sector, it could be further argued that recent adverse climatic events in Australia and in Bangladesh have already started reshaping climate change adaptation strategies of their respective insurance sectors. Such reshaping of business strategies could call for stricter government regulation and policy framework to create a more flexible assessment process and policy payout. It may also demand a better balance across profit, corporate social responsibility and customer satisfaction. Nevertheless, given the increasing severity, unpredictability and complexity of the impact of climate change, it is increasingly becoming difficult for the insurance sector worldwide to cope with the changing circumstances that are threatening its viability and profitability. The insurance sectors in Bangladesh and Australia are no exceptions. However, they significantly vary with each other and the emerging pattern of climate change related risks and opportunities in these two countries somewhat contradict the universality of the model prepared by the KPMG (2008). In this regard, the country or context-specific variables appear to be important in assessing the situation and preparing and implementing climate change-related adaptation strategies.

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