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Impact of Climate Change on the Banking Sector

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Abstract: *The banking sector remains particularly vulnerable to the additional risks resulting from global warming and anthropogenic climate change. The effects of climate change on may be felt not only as environmental destruction and loss of biodiversity but also as scarcity of vital resources such as clean water and the degradation of socio-economic systems including agriculture, access to healthcare (UNFCCC, 2007). The new climate regime poses diverse risks to the stability of financial systems in general and specifically for the insurance and banking sectors. The exposure of banks to climate related risks is relatively high as they are intimately linked a number of market sectors and are nodal agencies facilitating economic activity. The increasing physical impacts of climate change, such as warmer temperatures, increased water scarcity and more frequent droughts and floods in different parts of the world may pose serious threats to banking operations. This paper is a qualitative study which discusses the effect of climate change on banking and the different types of risks associated with it. The paper also highlights the different measures to be adopted to offset the potentially destructive effects that climate change may have on global financial systems.*
Keywords: Climate change, Banks, Risks, Liability, Initiatives

Anthropogenic climate change has been established through global scientific consensus as one of the gravest threats facing the planet in the twenty first century. Climate change manifests predominantly as a marked increase in the average global temperature including ocean temperature (the phenomenon commonly ascribed as “global warming”), changes in precipitation patterns and cloud cover, the shrinking of polar icecaps and glaciers across the planet, and the acidification of the oceans as increasing amounts of carbon dioxide is dissolved in sea water. It is expected that the pervasive effects of climate change will be markedly observed in all aspects of life on Earth. It severely endangers the ecological diversity of the environment and also circumscribes the scope for the continued development of the global ecology as well as the economy. Developing countries like India are expected to shoulder the lion’s share of deleterious effects associated with climate change, mainly owing to the paucity of resources (technological, financial and social) that are required to cope with the onslaught of accelerating climate change (UNFCCC, 2007). Predicting and mitigating these effects is a key matter of concern requiring concerted efforts from all epistemological disciplines. Global finance and capital cannot hope to remain immune from the increasingly unpredictable effects of altered climate. In the face of severe material consequences like a global loss of biodiversity through a mass extinction event or scarcity of vital resources like clean water or arable land, the deleterious effects of climate change on the global economy may seem unimportant. However, as part of the global economic and industrial-capitalist machinery which has also contributed to climate change, it is imperative that the banking sector should be prepared for mitigative strategies as well as possible solutions. Global capital itself may have to be radically renegotiated to contain the threat of climate change.

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Climate Change poses unique and unpredictable problems for the banking industry. It also generates economy-wide and societal challenges, requiring decisive interventions orchestrated by the financial system. Financing the transition to a carbon-free society and providing risk cover against climate disasters is a key area where the banking sector comes to the fore (Sandra Batten et.al., 2019). Given its key position, there needs to be greater awareness and preparedness within the financial sector with regards to climate change.

More attention and resources must be devoted to the development of new models for financial risk assessment and planning.

Scope of the study

The scope of the study lies with the fact that it tries to understand the unique risks climate change poses for the banking industry and to highlight the initiatives that needs to be taken to prevent such risks. The paper seeks to draw attention to the worrisome lack of concrete predictive tools in this sector and outlines some of the possible strategies that may be adopted within the sector for greater preparedness.

Major Climate-Change associated Risks for the Banking Sector

According to Bank of England, there are two primary financial risks posed by climate change. The first category pertains to physical risks that are associated with the deleterious effects of climate change on physical infrastructure and the second category is that of transition risks that are encountered if a change to a new carbon-neutral or non-carbon economy is mandated.

1. Physical Risks

Sandra Batten has identified physical risks as the hazards that result when vulnerable "human and natural systems" become exposed to dangerous and unpredictable climate conditions which decrease their adaptability (Sandra Batten et.al., 2019). These risks are more or less direct material impacts that climate change has on resources all over the world. They include "changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organizations' premises, operations, supply chain, transport needs, and employee safety" (TCFD). Physical risks may also be more abstract, such as the changes in laws governing land use that may be enforced after extreme climate events. Such legislative changes would affect the operations of various organisations and may even cause loss of assets, disruption of supply chains, or increased liabilities towards providing safe working conditions etc. Through the impact of these risks, the valuations of a company might be adversely affected in addition to deleterious effects on their business, cash flow or profit. Apart from direct losses such as infrastructure damage or property loss due to climate change, physical risks may also be felt indirectly as a depreciation of the creditworthiness of organisations, including banks.

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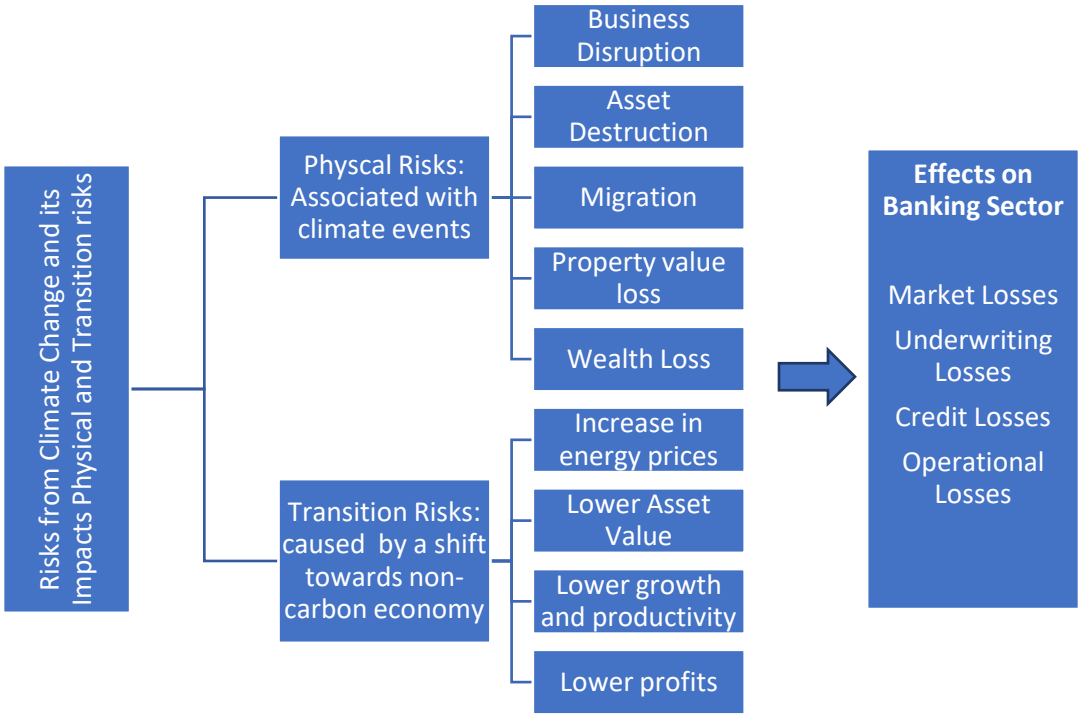
2. Transition Risks

Transition risks are those that an economy encounters when it switches from a carbon-based infrastructure to a low-carbon or carbon-neutral system. According to the TCFD, such risks may involve drastic changes to "policy, legal, technology, and market" practices to contain or remedy the outcomes of climate change. Moving towards an eco-friendly and low-emission practices may be crucial for arresting the long-term consequences of climate change. However, these practices entail risks such as drastic changes in the valuation of assets or increased financial burden of doing business. The existence of transition risks should not discourage the transition to a less polluting economy. Transitioning is essential to maintain viability and relevance in the long term. These transition risks ought to be recognised and managed to ease the switching over to new ways of doing business.

Figure 1 shows the implications of climate change on financial sector. Physical risks include those arising from extreme weather events and gradual changes in climate. Transition risks are primarily due to changes in policy, technology and consumer preferences. These risks can vary from country to country. Low and middle-income economies are more vulnerable to climate risks. The climate related factors intensify traditional varieties of risk such as market risk, credit risk, liability risk and other operational risks.

Figure 1: Implications of Climate change on financial sector



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The liability risks that may affect the banking sector would come from compensation claims for losses due to climate change. Such claims may be raised by individuals as well as corporate entities or even nations. Both the physical and transition risks may result in such liability claims. For instance, physical damage caused by events attributed to climate change may result in liability cases from people who have suffered from flooding or drought. The quantum of litigation related to climate change has skyrocketed recently. Increasingly clients have sought legal recourse to remedy the losses caused by climate change. Entities contributing directly to climate change through greenhouse gas emissions or exploitation of carbon reserves have had to face legal charges. Apart from targeting direct polluters, there has been an upswing of cases against firms that have failed to take adequate measures to prevent climate change or discourse their exposure to climate related risks. Facing litigation on account of such charges can not only tarnish a company's profile but also adversely affect its market valuation and even expose it to increased expenses on account of assuring insurance. Alternately, companies may be called on to make compensatory investments in green technologies to offset their contribution to climate change. Such claims or stipulations would be directed against companies who are also the largest consumers of the banking industry.

Climate change poses extreme uncertainty. Risk impact may fall outside of current business planning horizons. Financial risk that banks face is due to complex interactions of physical risks and transitions risks that climate change ushers in. How such risks may evolve over the long term is dependent on administrative policies and decisions that are adopted by banks. The effects of physical and transition risk are extensive as it affects virtually all business lines, sectors and geographies. Climate change can have a significant impact on the income of banks if the sectors which contribute interest income are affected. This could include crucial sectors like agriculture and construction and housing. For instance, varying rainfall patterns could have an adverse effect on agricultural income and unpredictable extreme weather phenomena may disrupt physical infrastructure or supply chains, affecting business. Natural disasters will destroy natural assets which in turn reduces tourist income thereby adversely affecting any economy's income.

Initiatives to be taken to Prevent Risks

Climate risk has now become a priority issue for corporate and national administrations. Risk assessors need to have a working knowledge of climate change processes and mitigation strategies to make informed appraisals of financial and other forms of risks that banks may become exposed to in the new climate regime. An introspective or reflexive understanding of climate change is necessary because the processes involved in climate change have feedback effects not only on the parameters being assessed by on the assessment paradigms

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themselves. The relative meaning and values of risks will undergo profound changes in a world going through dramatic climactic upheavals.

1. Climate-related risks should be systematically identified.
2. National systematic observing networks should be promoted.
3. Climate change related data compiled by various national and international bodies should be compiled, collated and made easily accessible.
4. Efforts should be made to develop reliable models predicting climate change. Vulnerable areas and populations which may be affected can thus be identified in advance and the results from such studies should be forwarded to policymakers to take appropriate measures.
5. Approaches based on local coping strategies which will benefit different communities, local institutions, and sectors must be encouraged.
6. Factoring in climate-related risks into existing methods of monitoring financial stability and micro-level supervision of banks.
7. Large gaps currently exist in the data currently available for climate risk assessment. Making such data publicly accessible and free of cost will help anticipate and offset the most damaging effects of climate change.
8. Promote technical assistance and knowledge sharing regarding climate change impacts.
9. Attain internationally accepted standards of data disclosure with regard to how climate change affects various entities and enterprises.
10. Support the development of a methodology and taxonomy that takes climate change into account while describing financial and economic activities.
11. Initiate and develop methods for evaluating financial risks of climate.

Climate change and its associated risk factors has become a focus of attention for governments and other regulatory bodies all over the world. related risk is increasingly an emphasis of governments and regulators across the sphere. Regulatory bodies

have now begun to formulate detailed risk assessment and regulation protocols for dealing with the effects of climate change. Such efforts need to be emulated in growing economies such as India where the exposure to both climate change effects and its associated risks are many magnitudes greater. Though the impact of climate change will not be limited to the financial sector or the economy, being prepared in anticipation for a radical transition to newer ways of doing business would considerably lessen the collateral effects of climate change.

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