

Finance and Insurance

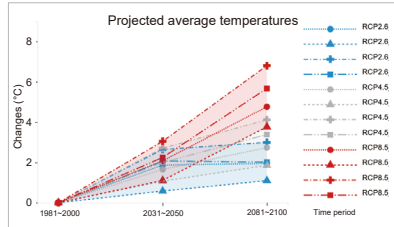
Major Factors of Impacts

Rising temperatures, increased heavy rainfall and large typhoons

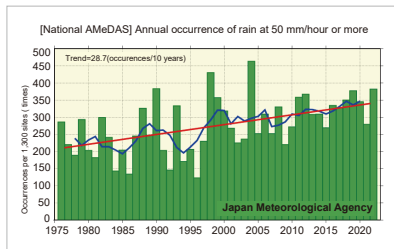


Current Situation and Future Projections

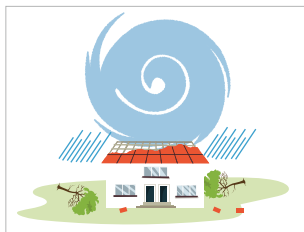
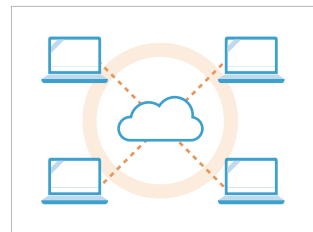
Average temperature in Japan is increasing at a rate of 1.24°C /100 years, and the annual number of waterfall-like rainfall events of 50 mm or more/hour is also increasing. Further increased temperature and heavy rainfall are predicted in the future. Increased heavy rains and large typhoons are expected to cause damage to businesses (e.g., operational risk*1), increased insurance claim payments and greater impact on debtors' credit-related expenses*2.



Projected average temperatures (annual average temperature projections based on emission scenarios and climate models (difference from standard period))Source: A-PLAT



Changes in the annual occurrence of precipitation of 50 mm/hour or more in Japan
Source: Japan Meteorological Agency website (translated by NIES)



Adaptation

The risks of climate change in financial and insurance industries are inherent in the risks institutional investors face and require adaptation measures that are more focused on changes in social conditions.

Factors	Rising temperatures, increased heavy rainfall and large typhoons				
	Core business	Markets/Customers	Adaptation business		
Management resources	Increased extreme weather and disasters <ul style="list-style-type: none"> Increased risk of greater damage to the company's buildings, computer systems, etc. Increased insurance claim payments due to increase of disasters, etc. 	Risk arising from future scenario <ul style="list-style-type: none"> Impediments to business planning due to future uncertainties, increased risk of adapting to changing social and economic conditions 	Decrease or changes in demand <ul style="list-style-type: none"> Changes in customer demands and trading conditions Shrinking markets 	Product /Service development <ul style="list-style-type: none"> Growing consumer demand for products and services that respond to climate change and environmental considerations Increasing development needs for corporate climate change countermeasure methods and tools 	
Impacts					
Adaptation measures	<ul style="list-style-type: none"> Management of operational risk Respond to increased insurance underwriting risk Management of credit-related expenses 	<ul style="list-style-type: none"> Develop and manage appropriate strategies and future plans 	<ul style="list-style-type: none"> Analyse market changes 	<ul style="list-style-type: none"> Develop new products and services 	

*1: Risks posed to the original business process by exogenous factors.

*2: Expenses of "allowance for doubtful accounts," which is a provision in case loans and other receivables become irrecoverable in the future, and expenses of "write-offs of receivables," which are losses determined to be uncollectible due to the bankruptcy of the lender or other reasons.



Finance and Insurance

The finance and insurance industry refers to businesses exclusively engaged in the business of finance or insurance.

Back

Businesses engaged in social insurance business are not included.

Factors

Rising temperatures, increased heavy rainfall and large typhoons

Management resources

Core business

Markets/Customers

Adaptation business

Increased extreme weather and disasters

Risk arising from future scenarios

Decrease or changes in demand

Product /Service development

[Increased operational risk]

Increased risk of greater damage to the company's buildings, computer systems, etc. (losses due to increased operating expenses, suspension of online transactions, etc. due to impact on real estate including branches and office buildings, computer systems and equipment, etc.)

[Increased insurance underwriting risk]

Increased insurance claim payments due to increase of disasters (increase in the accumulation risk of large-scale disasters in Japan and hurricanes that occur overseas, increase in expenses for the development of a structure (staffing, systems, facilities, etc.) for prompt payment of claims due to an increase in the number of claim cases

[Increased credit-related expenses]

Increase in credit risk due to damage to the assets (real estate collateral, etc.) of investee customers and increase in credit-related expenses due to deterioration of customers' finances

Impediments to business planning due to future uncertainties, increased risk of adapting to changing social and economic conditions

- Failure to respond to changes in customer demands and changing terms and conditions of business
- Reduced availability of insurance for consumers due to shrinking market caused by rising insurance premiums

[Development of new products and services]

- Develop preferential interest rate products for companies that focus on environmental friendliness and environmental loan products that utilize government support programs to reduce interest burdens
- Develop and provide new products and services with cost-effective risk reduction measures by developing original analytical models and quantitatively assessing typhoon risk, etc.
- Develop a "weather index insurance" service to avoid economic losses due to climate change

Impacts

[Management of operational risk]

- Appropriate staffing and simulations for disaster situations
- Set up a system backup site
- Remote and distributed storage of programs, data, etc.
- Conduct training on operation procedure in the event of a disaster

[Respond to increased insurance underwriting risk]

- Review premiums in accordance with changes in risk and the amount of insurance paid
- Provision of catastrophic loss reserves*3
- Arrangement of reinsurance*4
- Implement risk management to prepare for large insurance payouts

[Management of credit-related expenses]

- Implement more suitable credit management for investment and loan clients
- Facilitate adaptation measures for investment and loan customers through engagement
- Conduct climate change risk scenario analysis
- Quantify, analyze, and determine risk

[Development and management of appropriate strategies and future plans]

Collect appropriate information on external environment and risk events, conduct accurate analysis, and update information accordingly

[Analysis of market changes]

Conduct risk analysis of social impacts of climate change on financial businesses and various industries

Adaptation measures

Effect

Medium ~ High

Medium ~ High

Medium ~ High

Medium ~ High

Cost

Medium

Low

Low

Medium

Time span

Medium (within five years)

Medium (within five years)

Short ~ Medium (within one ~ five years)

Medium (within five years)

※3: A reserve fund set aside for catastrophic events that cannot be absorbed by premium income in a single year.

※4: To prepare for large payouts, insurance companies should diversify risks by having other insurance companies assume partial or entire liability.

How to proceed with adaptation measures

[Current approach] Climate-related risks that emerge in financial markets are due to risks in various sectors in which they are invested and financed, so it is necessary to carefully monitor the latest developments.

[Climate change-aware approach] From an institutional investor's perspective, in the short term, transition risk will be one of the factors affecting the value of assets, but in the medium to long term, physical risk will have a greater impact on asset value and economic performance.

[Preparing and planning for climate change] Since the investee companies need to consider impact of climate change, finance and insurance industry should not only disclose their own climate change-related information, but also require their investees to disclose climate-related information, and use this information to evaluate and make decisions for investments and loans, and to promote corporate value enhancement through engagement and other means.

[Reference] Ministry of the Environment (2019) "Climate Change Adaptation Guide for Private Sector (Reference Materials)" https://adaptation-platform.nies.go.jp/private_sector/guide/pdf/minkan_tekiou_guide_sankoshiryou.pdf, Japan Meteorological Agency "[National AMeDAS] Annual occurrence of rain at 50 mm/hour or more" https://www.data.jma.go.jp/cpdinfo/extreme/extreme_p.html, Japan Meteorological Agency (2020) "Climate Change Monitoring Report 2019" https://www.data.jma.go.jp/cpdinfo/monitor/2019/pdf/ccmr2019_all.pdf, The Life Insurance Association of Japan (2019) "Climate Change Starter's Guide: Impacts and the Key Considerations for the Life Insurance Industry" [https://www.seiho.or.jp/activity/sdgs/climate/pdf/handbook\(en\).pdf](https://www.seiho.or.jp/activity/sdgs/climate/pdf/handbook(en).pdf)