2° Investing Initiative

A PRIMER ON LONG-TERM FINANCIAL SUPERVISION

METHODS TO SUPERVISE THE FUTURE

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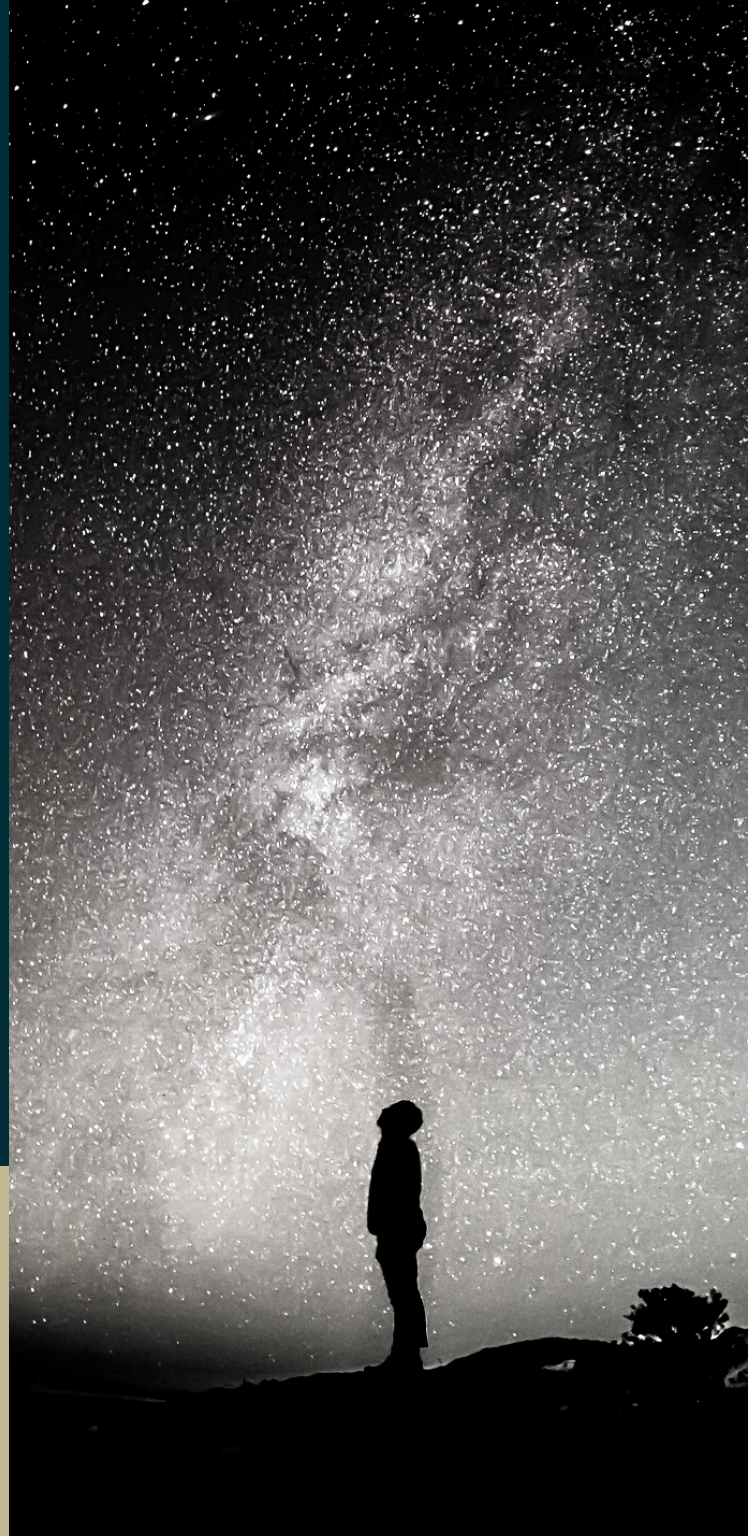

SUMMARY

10+ years after the global financial crisis, financial supervisors are still struggling on ways to integrate “long-term risks” into short-term supervisory mandates. Currently, financial markets are still poorly prepared for ‘break the glass’ type scenarios involving a range of systemic economic risks e.g. climate change, pandemics, artificial intelligence.

There are two key challenges in this regard:

a) Developing modelling frameworks that meaningfully capture and create transparency on the scale and nature of long-term risks for financial markets and institutions;

b) Developing responses to long-term risks in the context of short-term cyclical management of financial market stability.

DEFINITION OF LONG-TERM RISKS

Long-term risks are a category of risks that are highly predictable and likely to materialize in a time horizon beyond 3-5 years (e.g. ambitious decarbonization) or low probability events that turn into high-probability risks over longer time horizons (e.g. pandemics, nuclear catastrophes)

CONCLUSION

Financial supervisors can monitor long-term risks through a combination of scenario analysis identifying materiality, ensuring long-term risk management, and developing supervisory responses that support risk mitigation and adaptation.

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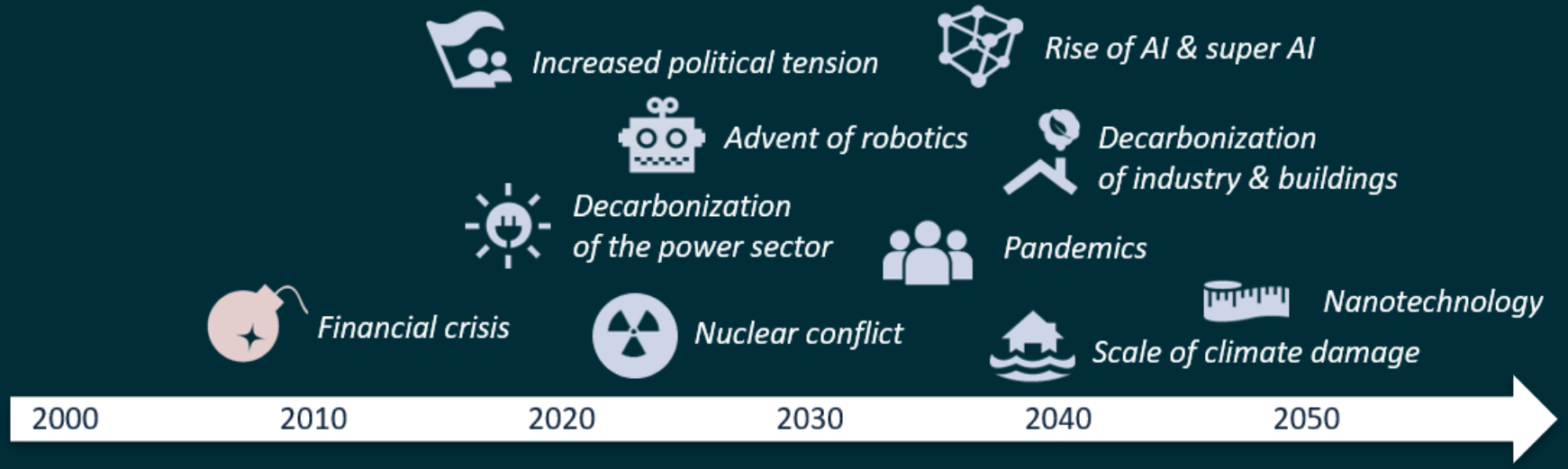
WHAT IS THE MATERIALITY OF LONG-TERM RISKS?

Long-term risks can create significant financial stability risks to financial markets, while being outside the time horizon of financial supervision.

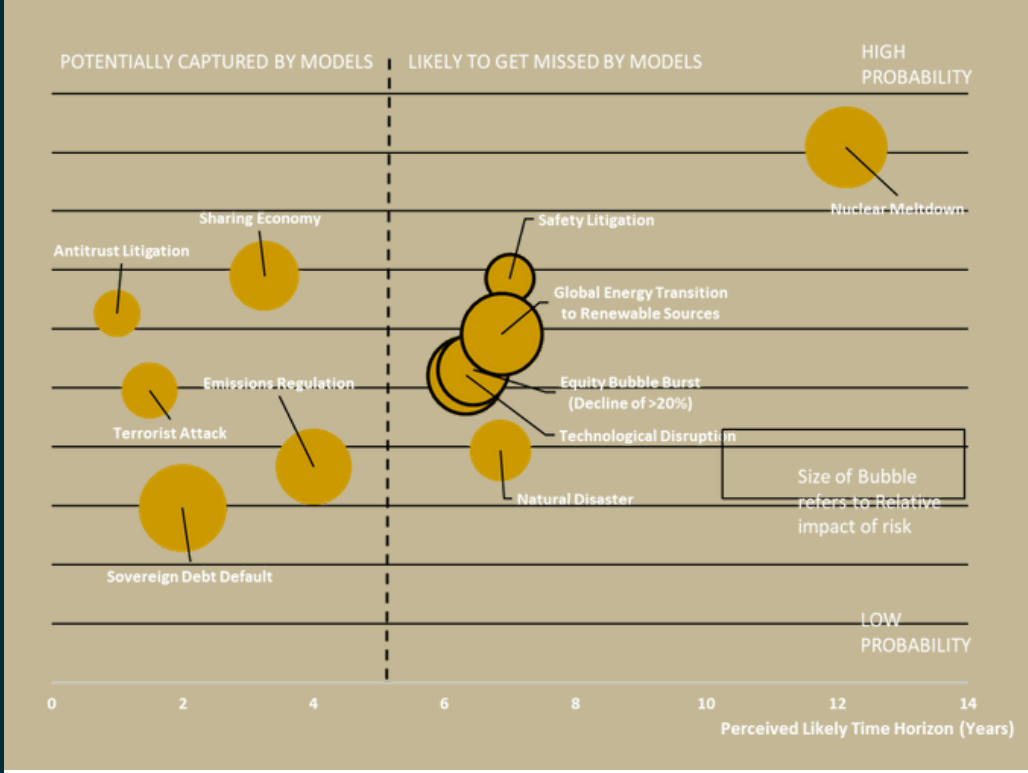


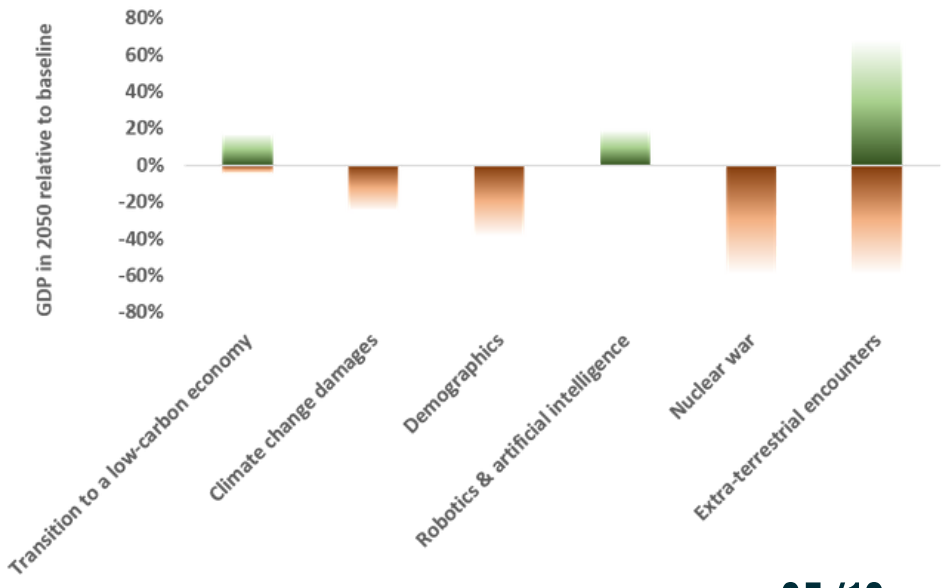
THE RISK ANALYSIS VALLEY OF DEATH

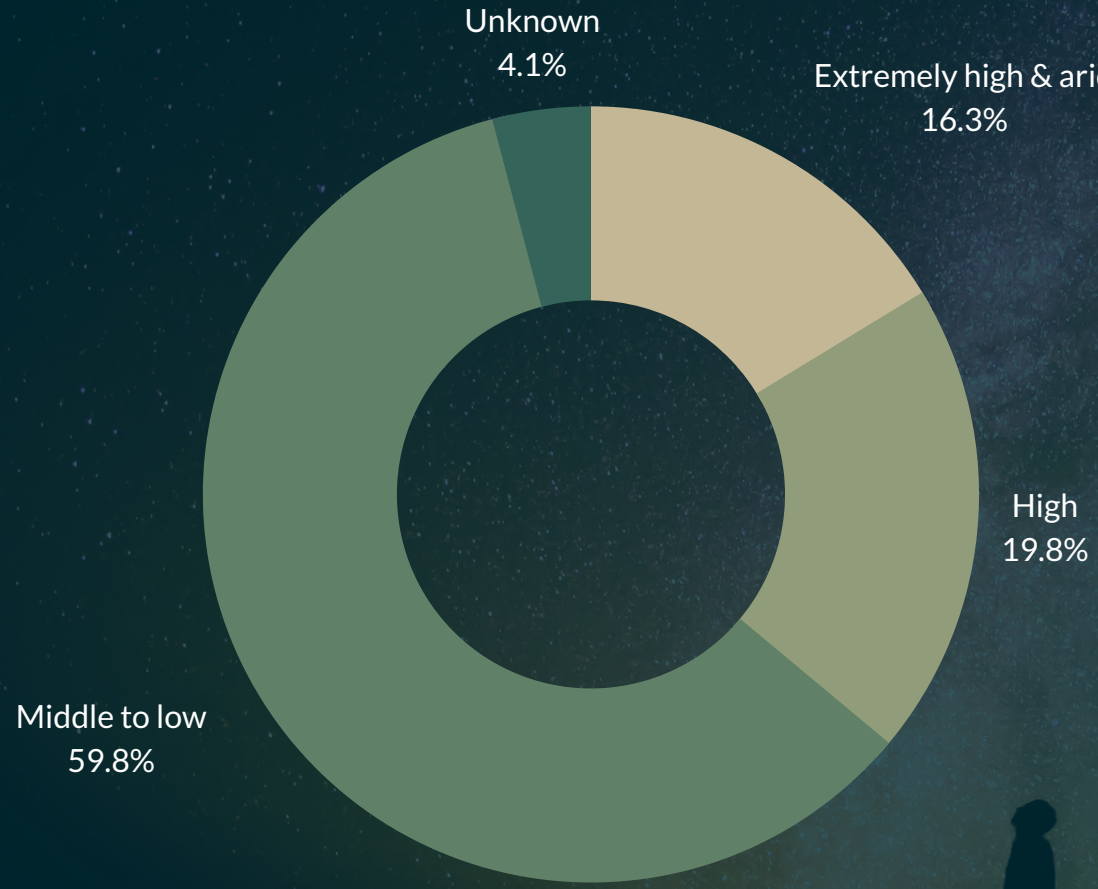
Many 'long-term risks' are outside of the time horizon of current supervisory models and those used by financial analysts. Climate change is the most prominent example, but other risks like pandemics, demographic changes, and even (nuclear) war or a nuclear catastrophe fall in this category (Fig. on right).This creates two challenges for financial supervisors:

1) Potentially systemic risks are not accounted for and monitored in the context of traditional stress-tests

2) Capital allocation focusing on short-term risks and opportunities may lead to mispricing and less efficient intermediation of capital - both from a societal and pure economic perspective.







The share of thermal power plant assets in bond' portfolios of insurance companies operating in California exposed to water stress.

CLIMATE CHANGE

Estimates by Aviva and the Economics Intelligence Unit (2015) suggest physical climate risks can reduce 10% of global stock market capitalization.

Analysis by the California Insurance Commissioner (2018) suggest that upwards of 30% of thermal power plant exposure of the bonds' portfolios of insurance companies operating in California is exposed to high or extremely high water risk (see figure on right).

Extreme climate events can reduce GDP by up to 8% or more in key regions (2ii 2019).

Lesson #1: Financial supervision should involve long-term scenario analysis and stress-tests of systemic risks.

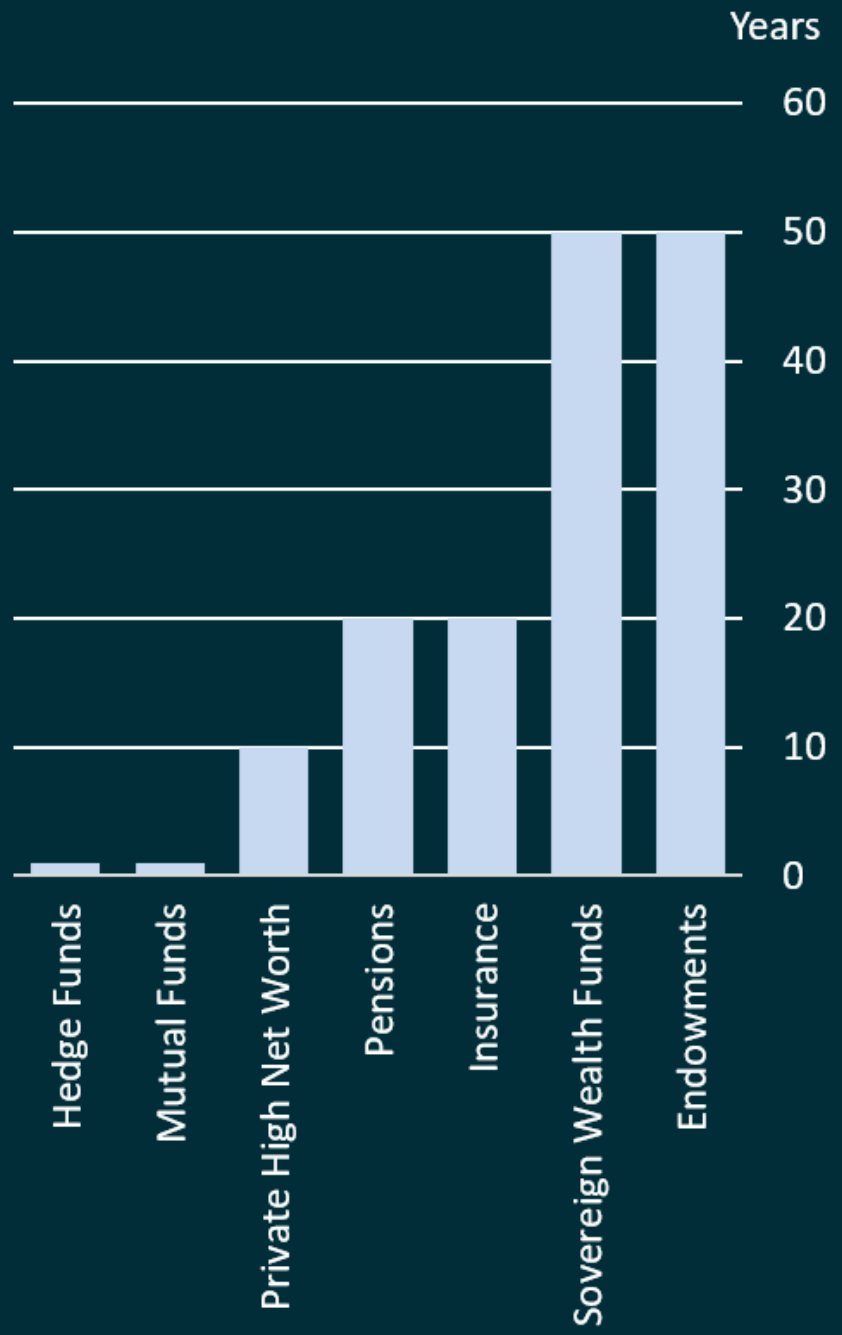
WHAT IS THE EXPOSURE OF CURRENT ASSETS TO THESE RISKS?

~80%

of the value of stocks is beyond 5 years
(Source: 2°ii 2017)

+50%

of the debt of companies in the S&P500 matures after 5 years
(Source: 2°ii 2017)



LONG-TERM INVESTORS HAVE LONG-TERM LIABILITIES

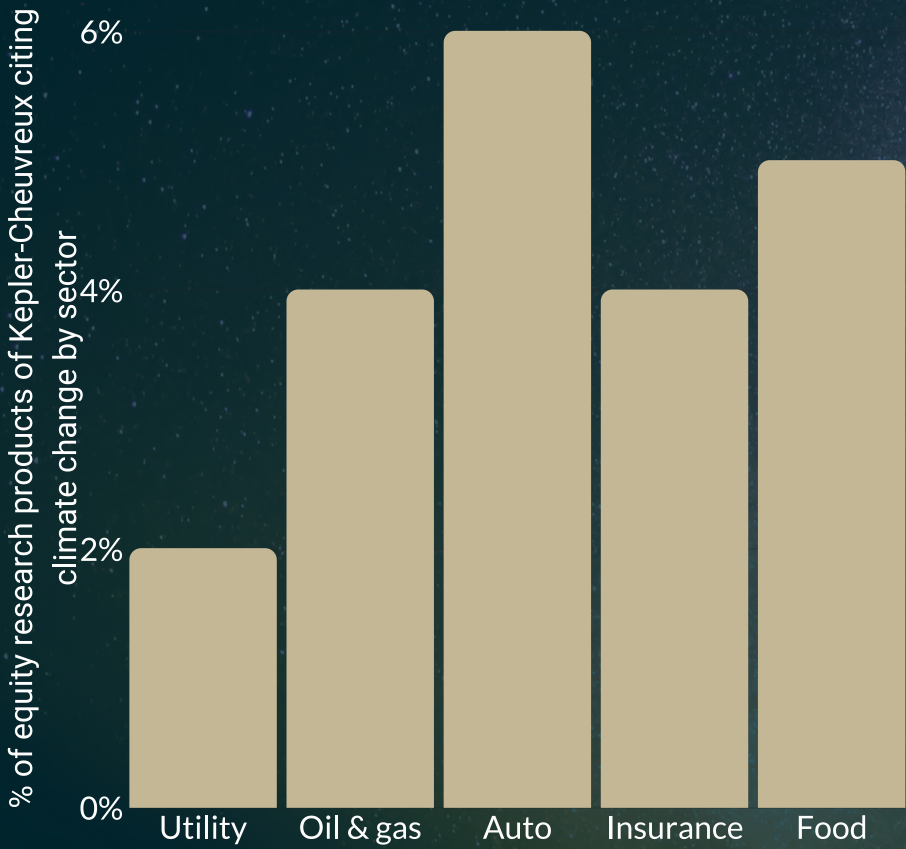
Not only do many institutional investors in particular hold assets whose cash flows are highly exposed to long-term risks. Their liabilities are equally long-term. This applies in particular for pension funds and insurance companies, but also sovereign wealth funds and endowments, who have liabilities of 20 years or more (see figure on right).

Even banks, who generally carry short-term loans, will have client relationships that span decades and represent a core source of revenue and significant part of their lending exposures

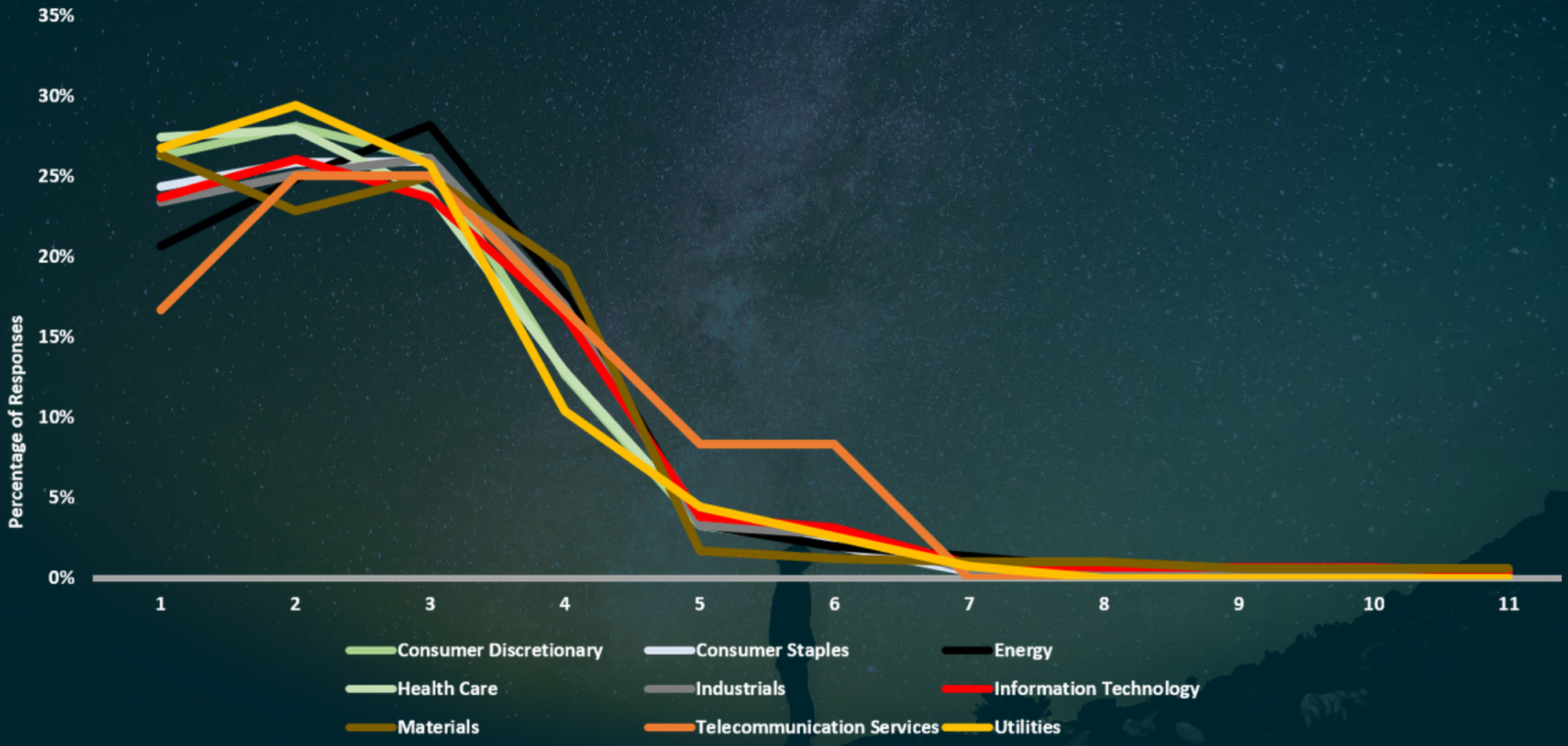
Lesson #2: Financial supervision should involve analyzing the 'risk exposure' of current assets based on maturity and amortization profiles.

TO WHAT EXTENT ARE LONG-TERM RISKS MANAGED?

QUALITATIVE ANALYSIS OF SELL-SIDE RESEARCH



QUANTITATIVE ANALYSIS OF SELL-SIDE RESEARCH



Lesson #3: Financial supervision should involve analyzing the integration of long-term risks into risk manamagent frameworks.

ARE FINANCIAL MARKETS INCREASING OR DECREASING LONG-TERM RISKS?

~7%

loss of market share of utilities in European insurance companies bond' portfolios over the next 5 years under a 2°C transition scenario (Source: 2°ii 2017)

A delayed transition will be exponentially more financially damaging than smooth decarbonization

HOW CAN FINANCIAL SUPERVISORS MITIGATE AND RESPOND TO LONG-TERM RISKS?

ACTIONS FOR SUPERVISION

STRESS-TEST	Conduct long-term stress-tests / scenario analysis to measure materiality.
ANALYTICS	Measure long-term risk management & value exposure.
EARLY WARNING SYSTEMS	Identify early warning signals that may be used to trigger regulatory responses & monitor risk accumulation / trends.
RISK MITIGATION & RESPONSE	Prepare tools that can operate as risk mitigation measures either prior to risk materializing or at point of crisis.

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For Any Comments

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