MANAGING FLOOD RISKS

Leveraging Finance for Business Resilience in Malaysia

Joint World Bank and Bank Negara Malaysia Report



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Inclusive Growth & Sustainable Finance Hub in Malaysia

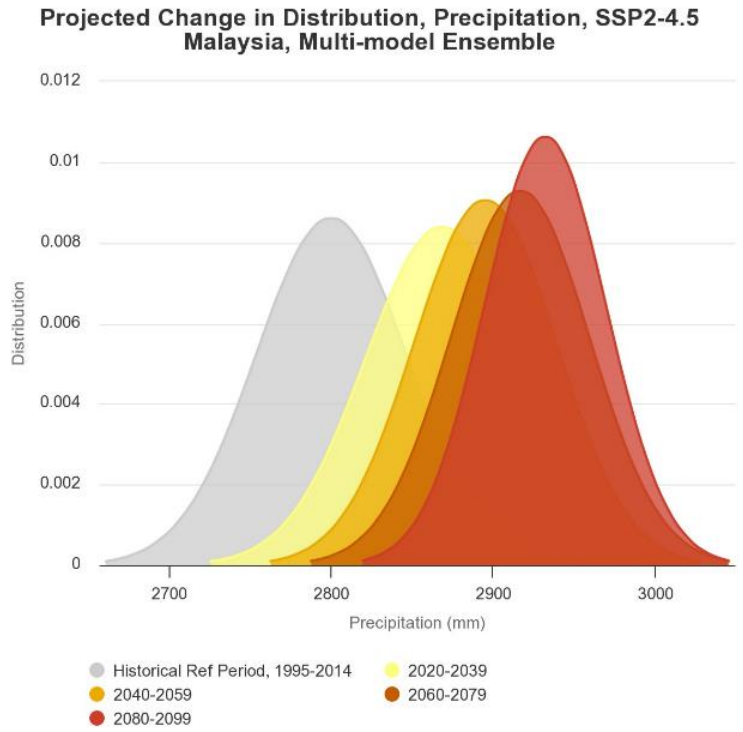
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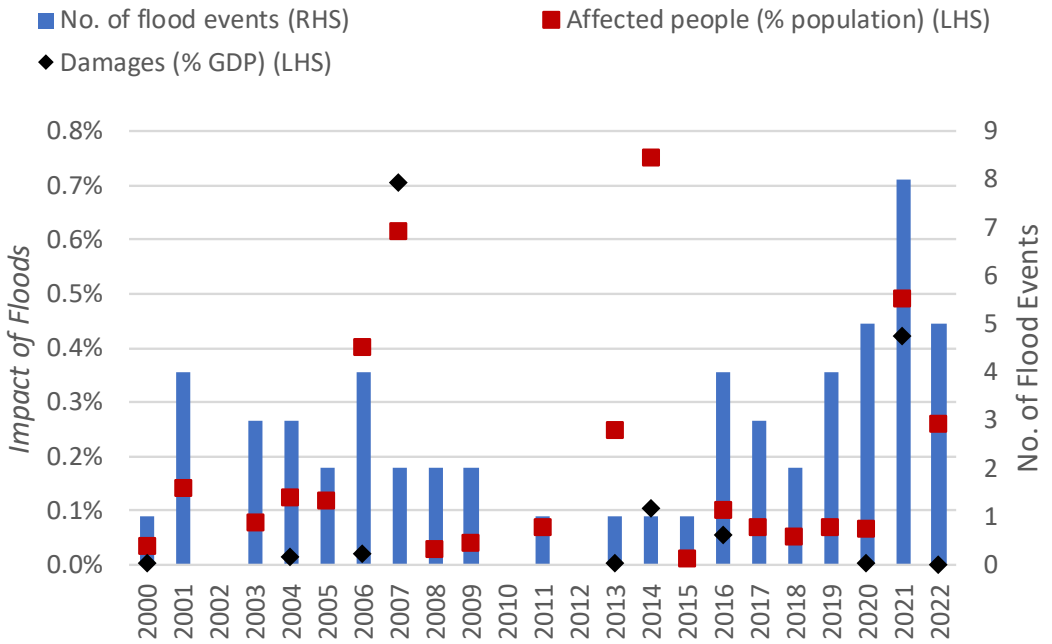
14th ASEAN Insurance Congress

November 25, 2024

Floods are Malaysia's most frequent natural disaster

- Floods account for 85 percent of all natural disasters since 2000
- Projections indicate increases in precipitation in Malaysia, leading to more frequent floods
- Malaysia ranks 12th in the world in terms of the frequency of floods, but 78th in terms of the avg. annual damages





Floods can have a sizable impact on the economy by 2030

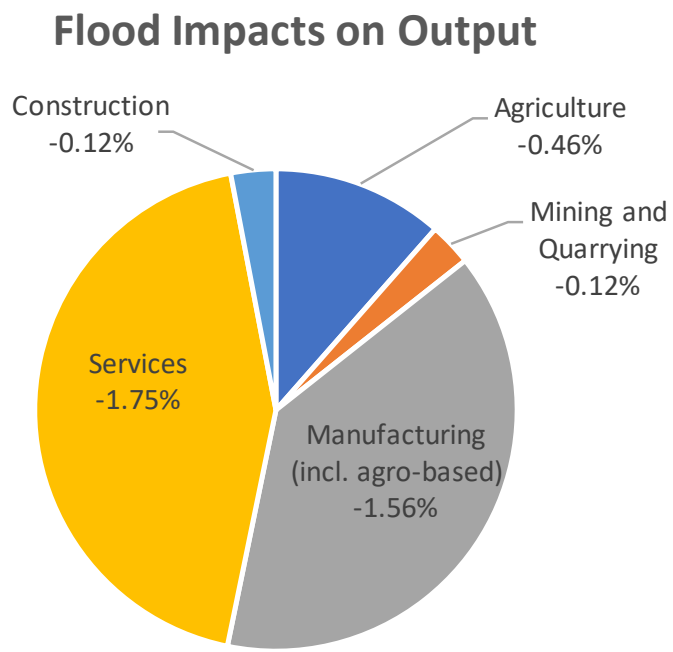
- Two stage approach to estimate the aggregate impact of future floods
  - 1st stage: hazard data and geographical distribution of assets to estimate exposures
  - 2nd stage: input-output model to estimate sectoral impacts

➢ A hypothetical 1-in-20-year flood can cost Malaysia up to 4.1 percent of GDP in 2030

➢ It could also lead to up to a 2.2 percentage point increase in Malaysia's unemployment rate

Estimated Asset Exposures to a 1-in-20-year Flood Event

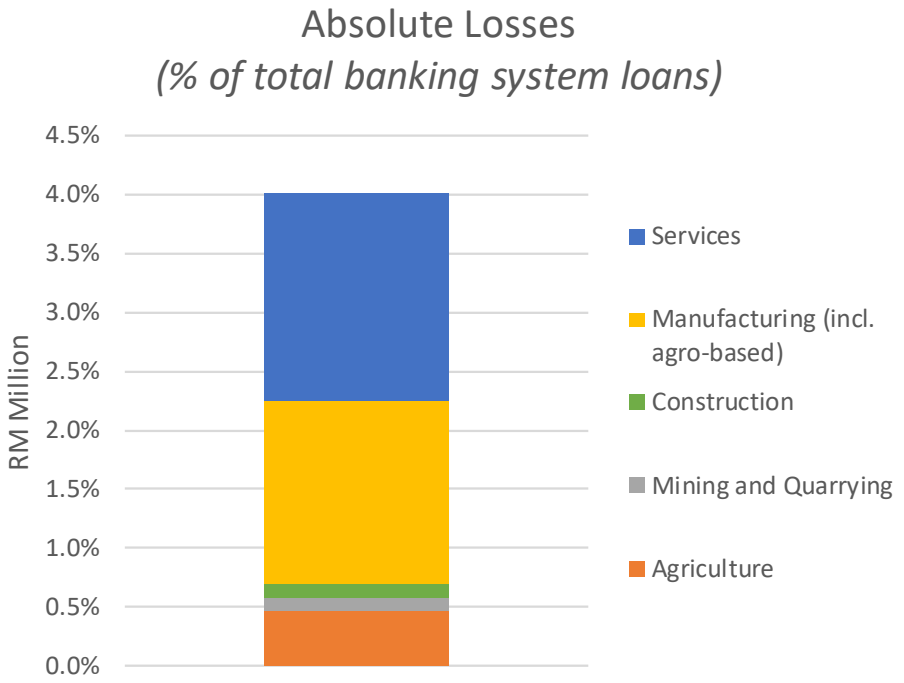
Sectors	Share of Assets Exposed to Flooding (%)	Average Depth of Flooding for Exposed Assets (meters)
Services	8.7	2.0
Retail	9.6	1.6
Health	8.8	1.3
Industry	7.1	1.3
Education	8.6	2.4
Tourism	7.9	4.3
Transportation	32.1	2.3
Agriculture	28.6	3.9

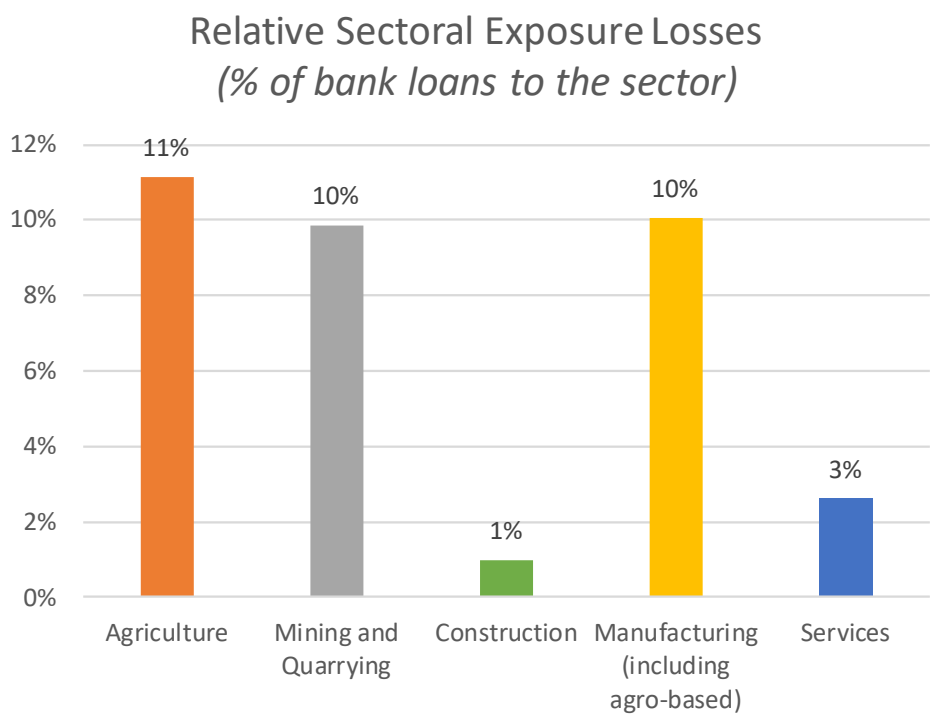




Floods can also have an impact on the financial sector

- Estimations for the banking sector show markedly different impacts, reflecting the sectoral composition of bank loans
- Rough, first estimates due to lack of granular data

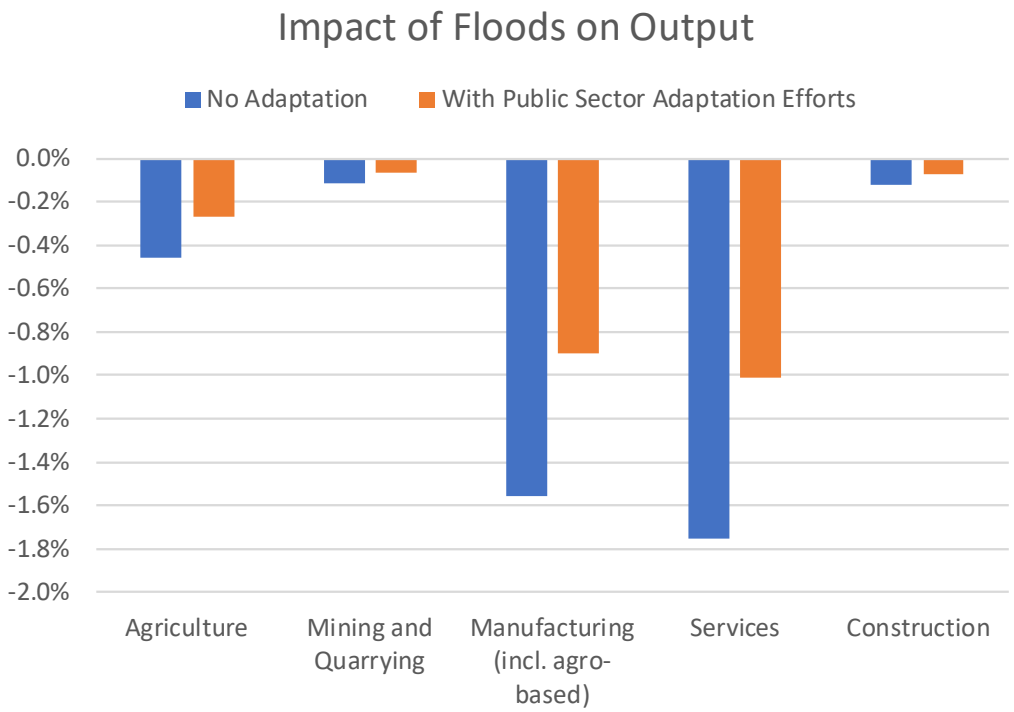




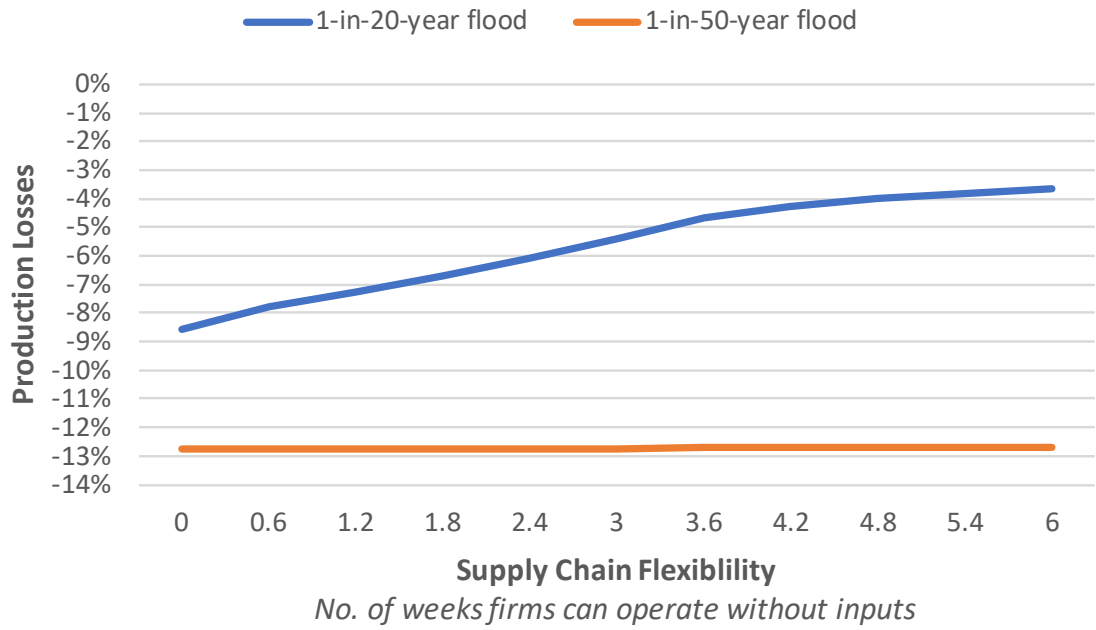


Adaptation efforts could reduce significantly the impact of floods

Public Sector: a combination of regulatory measures, climate resilient infrastructure investments, and ecosystem improvements could reduce the impact by more than 40 percent

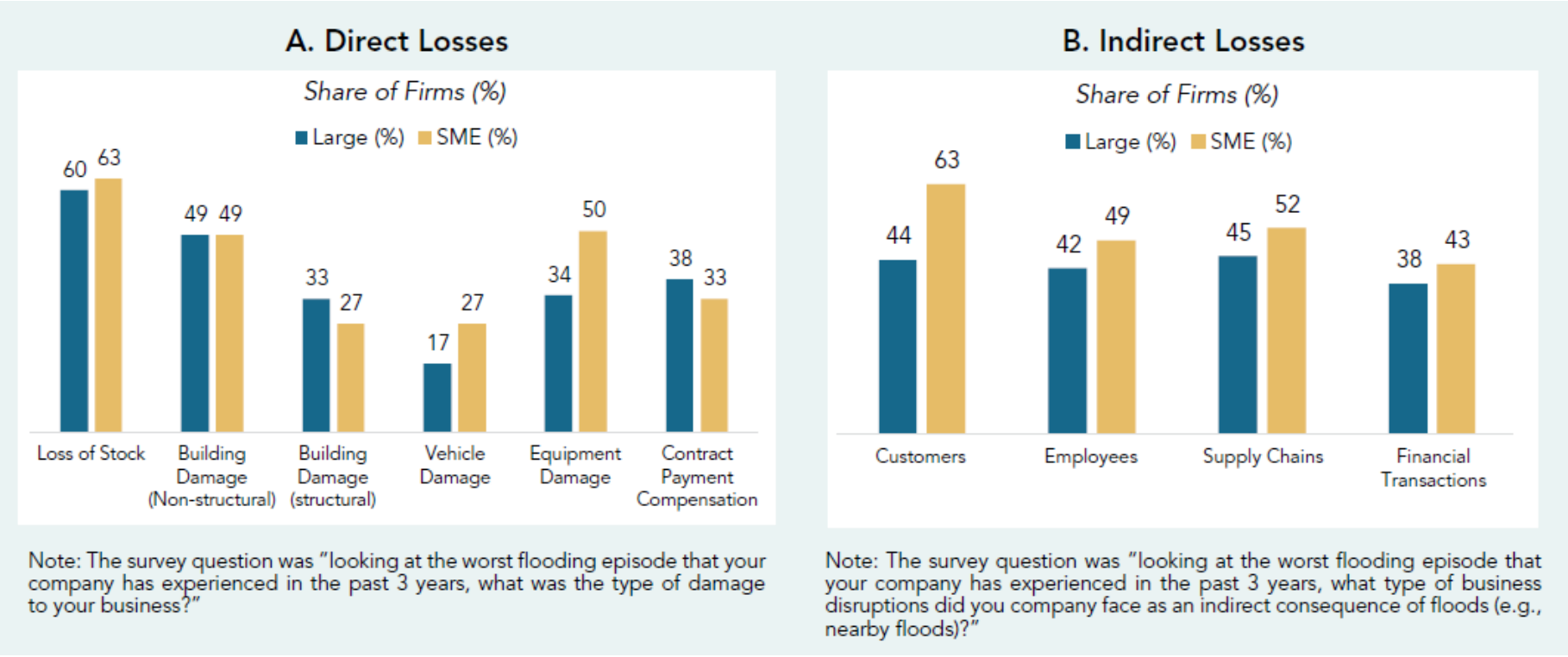


Private Sector: supply chain resilience can reduce the potential impact of floods by more than 50 percent for less severe events, but it has a more limited role during severe floods



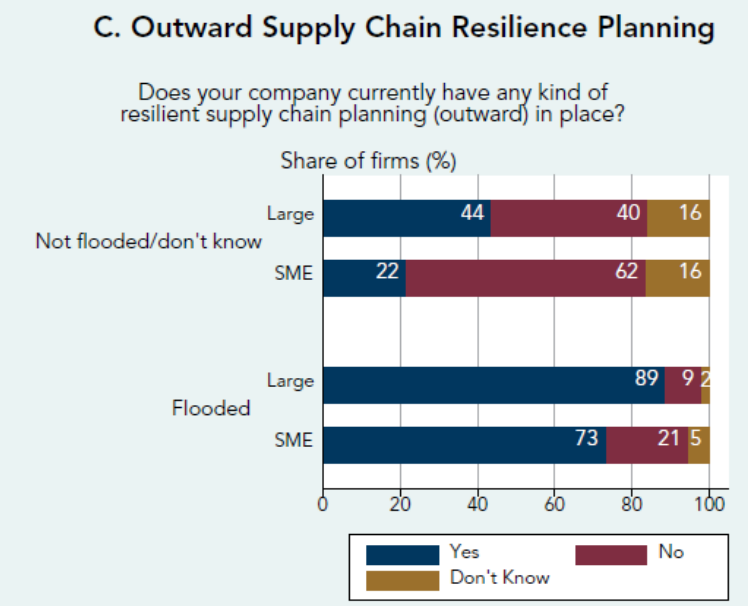
Zooming in on the challenges of flood risk management: Which are the most vulnerable businesses and why?

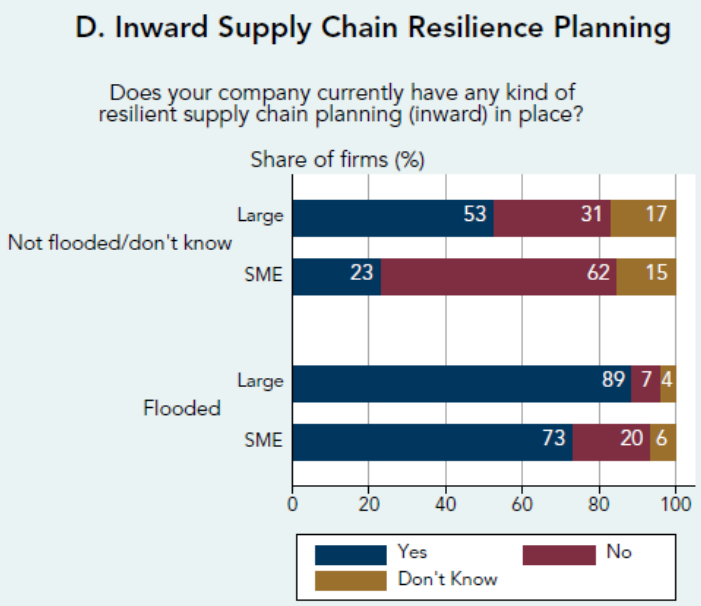
- **Stylized Fact 1.** ***SMEs are particularly vulnerable to floods in Malaysia, through both direct and indirect impacts***
- Although flood impacts over the past three years were more prevalent among large businesses, SMEs were more likely to experience direct damages and indirect disruptions in business operations
- About 75 percent of small businesses stated that supply chain bottlenecks led to delays in return to operations

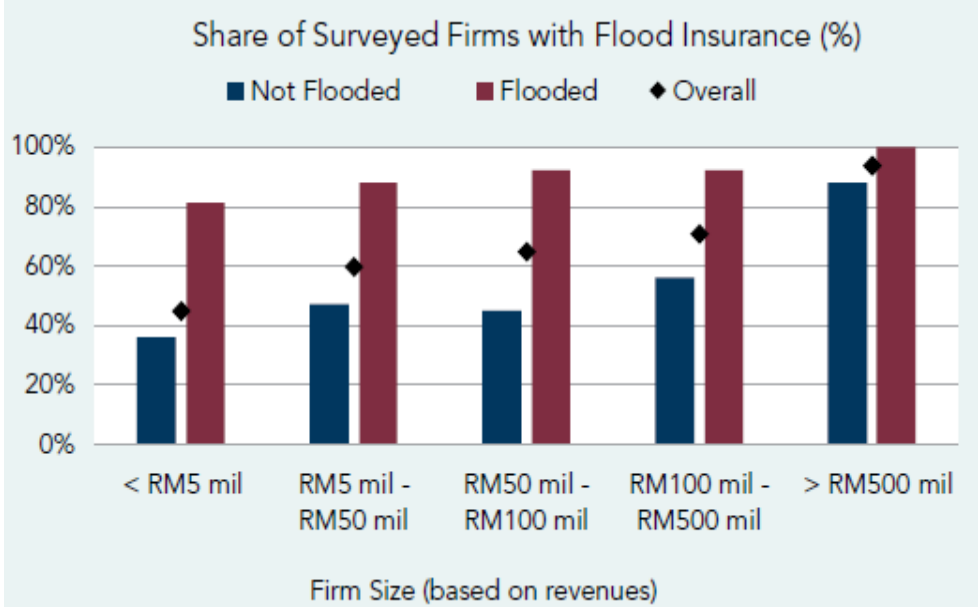


SMEs tend to have less developed coping mechanisms

- SMEs are less likely to have disaster preparedness strategies than large businesses
- SMEs are less likely to have insurance
- Even after considering differences in risk exposure and risk perceptions…



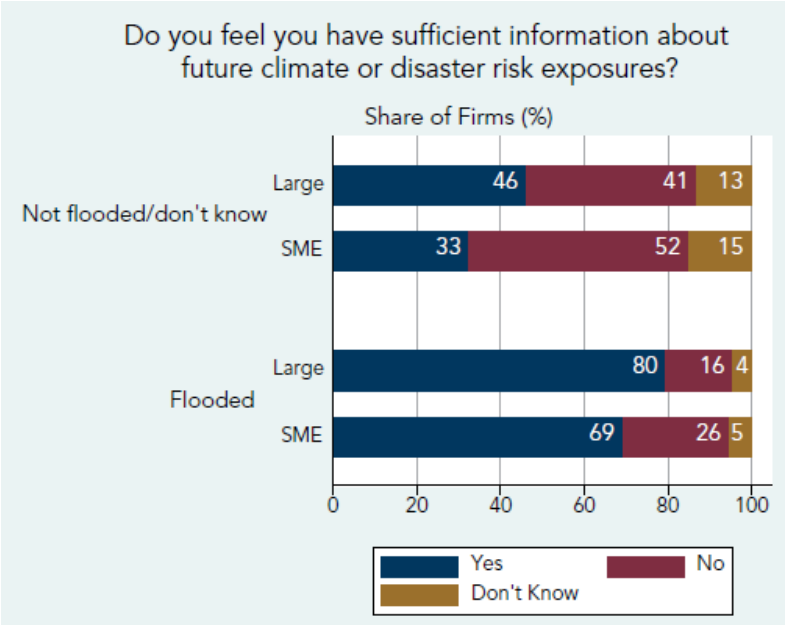


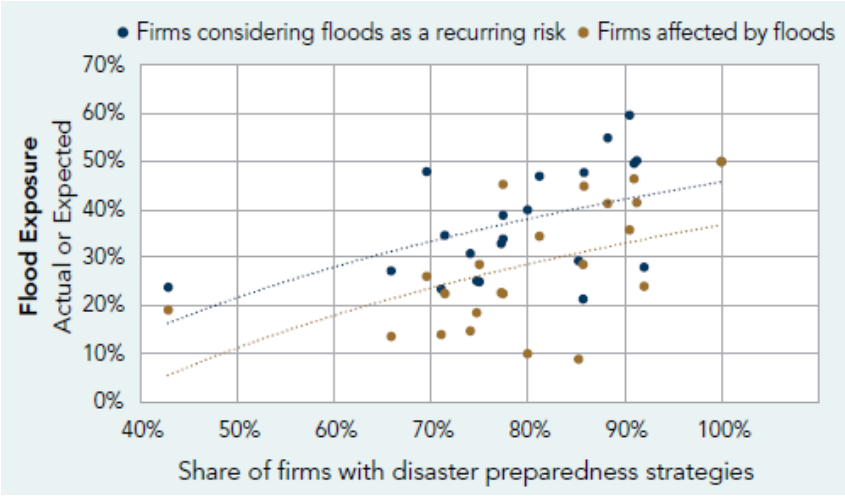


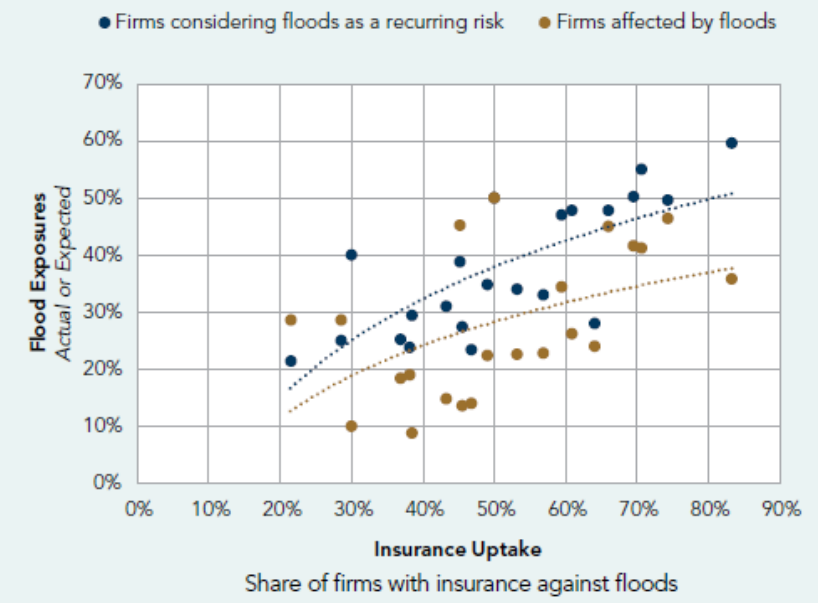


Marked flood risk awareness gaps hinder adaptation and resilience efforts

- **Stylized Fact 2.** ***Flood risk awareness is a crucial factor underlying the extent of preparedness among businesses, but there are marked awareness gaps for SMEs***
- About 80 percent of large businesses stated that they had sufficient information about their future flood risk exposures, whereas only 40 percent of small businesses stated so
- About 1/3 of businesses considering floods a recurring risk mentioned the lack of risk awareness and knowledge among their top-3 barriers hindering the adoption of flood adaptation and resilience practices









Limited access to finance and insurance is a significant barrier for Malaysian businesses

- **Stylized Fact 3.** ***Limited access to finance and insurance is a significant barrier especially SMEs***
  - 3x greater revenue losses in business with limited access to finance
- Limited access to finance: 43 percent of SMEs cited limited A2F as a primary barrier for the implementation of adaptation and resilience efforts (among businesses that consider floods a recurring risk)
- Limited access to insurance: 37 percent of SMEs mentioned insurance payouts as their primary source of funding for recovery and reconstruction

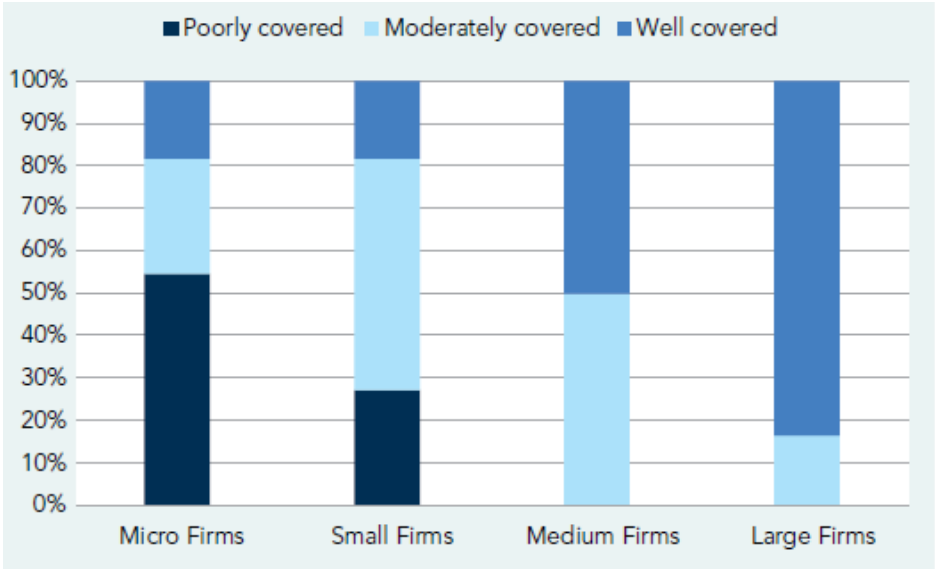
➢ Expanding access to finance for both ex-ante preparedness and ex-post recovery efforts could significantly enhance business resilience and adaptation

Survey of financial institutions indicate limited range of financial products for adaptation and resilience

- Financing, especially emergency financing remains relatively small, with a limited range of financial products
  - About 40 percent of banks stated that they do not provide any emergency support to businesses
  - About 20 percent of banks stated that they have no specific product for the financing of adaptation investments
  - But these are emerging areas of focus for Malaysian banks

- There are also indicates limits in the insurance market
- Financial institutions believe that insurance coverage is skewed toward larger businesses

Perceptions of Flood Insurance Coverage





What Constrains Access to Finance and Insurance? Gaps in flood-related information…

- Significant gaps in flood-related information constrain the effective measurement of flood risks
  - Limited availability and accessibility of flood-related information from public sources
  - Limited reporting on exposures and vulnerabilities to flood risks from businesses
  - Access to proprietary data from private sources can be costly

- Nature of the data gaps on *flood hazards*:
  - Flood risks are inherently difficult to measure and high degree of uncertainty due to climate change
  - Partial coverage of certain floods –e.g., flash floods are not tracked by the public sector
  - Limited temporal relevance –e.g., short historical information and lack of projections
  - Lack of spatial granularity –e.g., information only available at the postal code level
  - Restrictive data gatekeeping –e.g., tight constraints in access to information collected by public sector



What Constrains Access to Finance and Insurance? Gaps in flood-related information…

- Other sources of *uncertainty* relevant for flood risk management:
  - Technologies –e.g., technical feasibility and effectiveness of new technologies
  - Markets –e.g., uncertainty about competitiveness in the marketplace due to the growing impact of floods
  - Policies and regulations –e.g., lack of clarity, predictability, coherence, and coordination in government policies and investments

- The *underdevelopment of financial infrastructure* adds another layer of uncertainty for financial institutions
- Taxonomies and disclosure and reporting requirements focus primarily on climate change mitigation
  - Despite extensive efforts by financial sector regulators, there is still a lack of clarity around standards and definitions for adaptation and resilience investments



… and challenges in monitoring, pricing, transferring and diversifying risks limits outreach to high-risk businesses

- Financial institutions in Malaysia face challenges in
  - Adequately quantify flood risks, partly due to the data gaps
  - Monitoring and managing flood risks: risk management practices are not widespread, esp. among banks
  - Pricing of flood risks into financial service –even insurance still operates in a *de facto* tariff pricing
  - There are also limits to potential flood risk diversification—e.g., lack of a large and diverse client base for ITOs
  - And some constraints in the scope of risk transfers—e.g., limits imposed by re-insurance treaties
- Limited capabilities to assess and manage flood risks seem to compound these challenges

➢ FIs do not serve Malaysian businesses adequately, especially high-risk ones

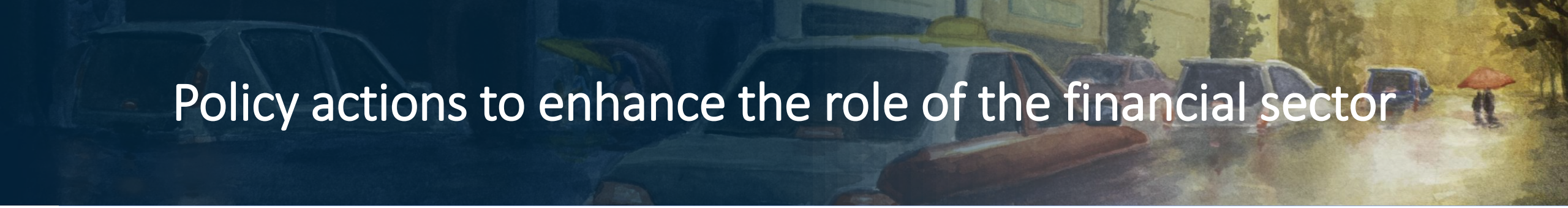
- The evidence points toward a de facto exclusion of a set of high-risk, vulnerable businesses
- 17 percent of the surveyed SMEs affected by floods were refused insurance quotes
- 32 percent of the surveyed SMEs were asked to retrofit their premises to obtain further insurance coverage, which can be difficult due to constraints in access to finance for adaptation and resilience



Strong case to enhance policies to support business resilience

- An integrated, coherent, and proactive approach by the public sector, the private sector, and the financial sector is paramount in building a flood-resilient economy

- Public Sector has a crucial role to play as the primary provider of large-scale flood control infrastructure as well as ensuring that critical infrastructure and service delivery are resilient to floods, among other responsibilities
  - In doing so, the public sector can reduce businesses' exposures and mitigate their vulnerabilities to floods
  - But residual risks would remain…
- Private sector resilience ultimately hinges on their capacity to adapt
  - Efforts should build on and complement those of the public sector, which puts a premium on transparency about public sector policy priorities and strategies
  - But there are constraints on the extent of private sector efforts in Malaysia
- Financial sector can be an important enabler
  - Access to financial products can support businesses in coping with floods by financing ex-ante adaptation efforts and enabling ex-post financial resilience
  - But there are constraints in access to finance



Policy actions to enhance the role of the financial sector

1. **Enhance data availability, accessibility, and affordability** to support flood risk assessments, which are vital for risk management, informed investment decisions, and the development of financial markets
2. **Develop a long-term flood risk adaptation strategy** that would establish the level of risk retention by the public sector, reducing policy uncertainty and facilitating the assessment of flood risks for the private and financial sectors
3. **Strengthen the enabling environment for the financial sector** to enhance accountability and ensure adequate risk management, and foster financing toward adaptation and resilience
4. **Targeted support to expand access to finance** for adaptation and recovery, especially targeting the most vulnerable businesses, such as SMEs
5. **Deepen the insurance market** to enhance the range of financial instruments that can support the financial resilience
6. **Enhance flood risk awareness and build capabilities** to foster greater efforts toward adaptation and resilience

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Managing Flood Risk Leveraging Finance for Business Resilience in Malaysia (2024)

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