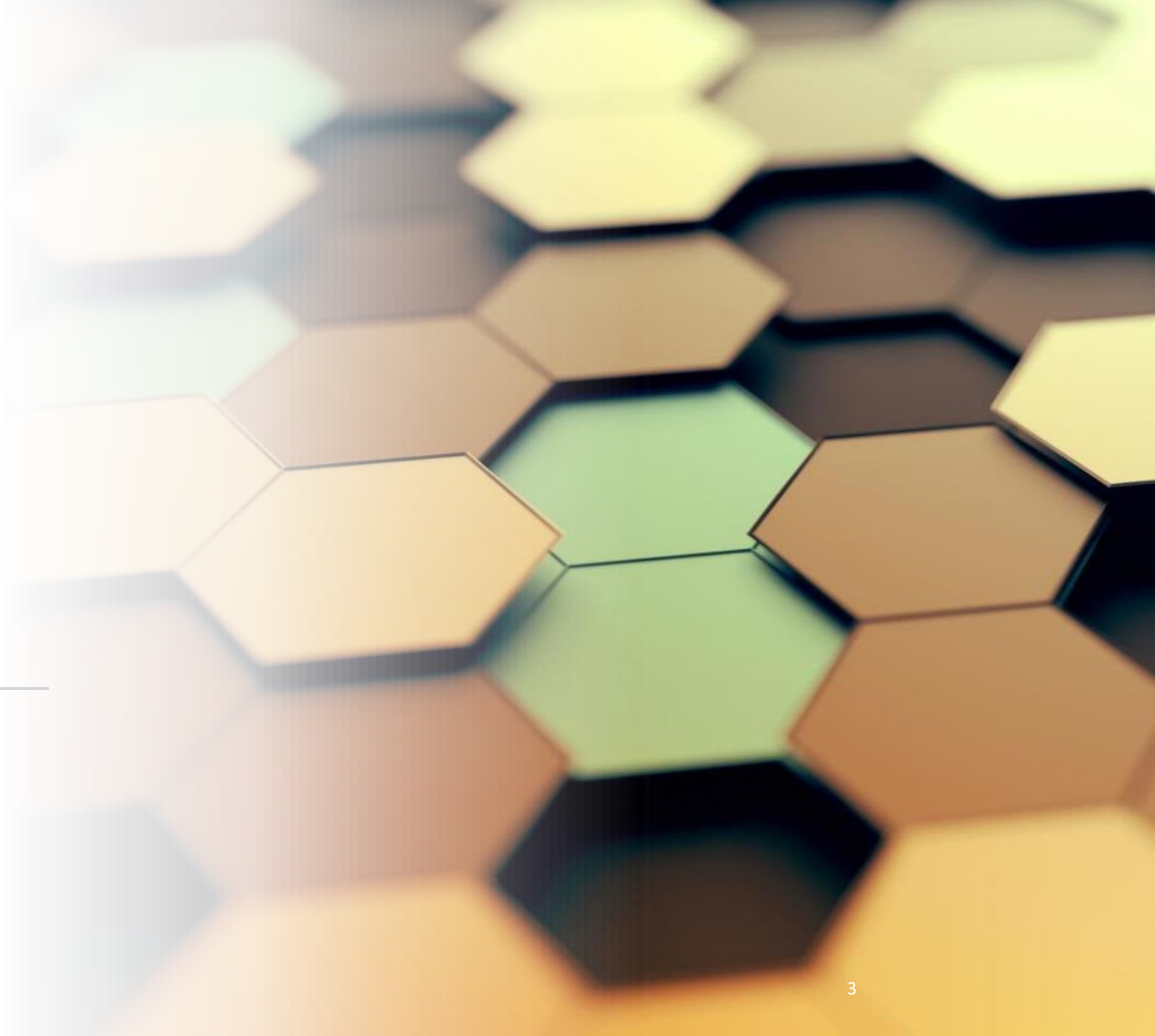
Introduction to Disaster Risk Financing and CCRIF Parametric Insurance

Introduction to Disaster Risk Financing

Prepared by: CCRIF SPC

Introduction to Disaster Risk Financing

Economics: The Basics



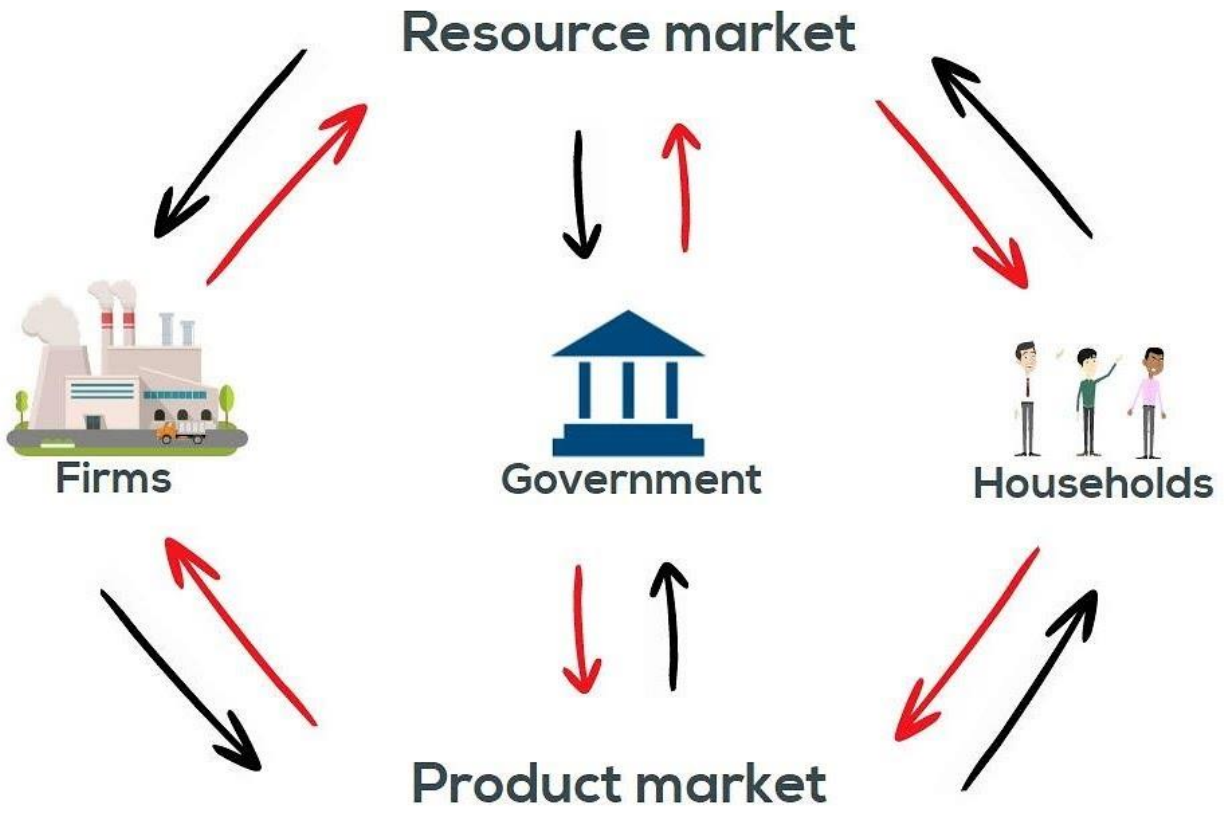
Economics

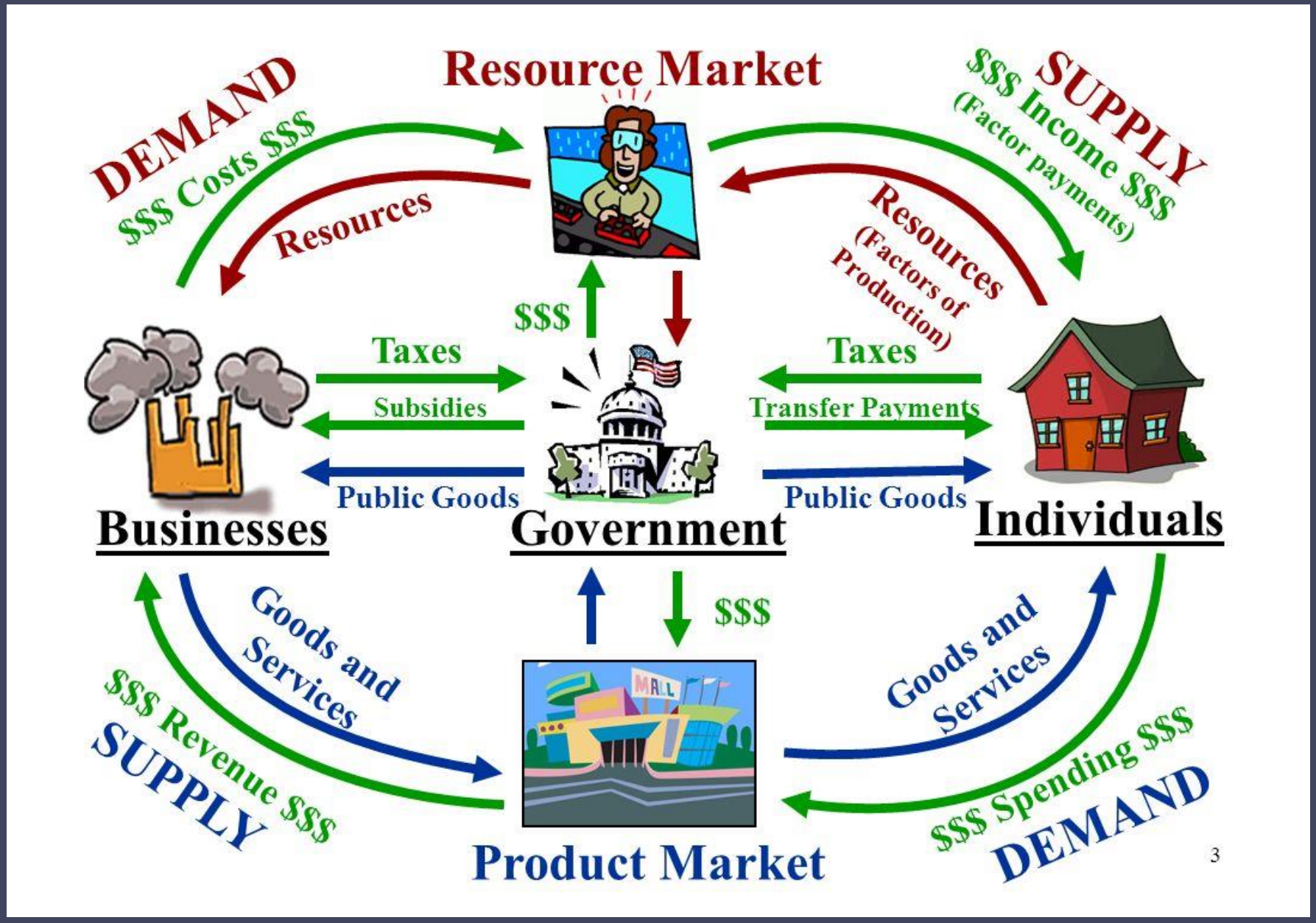
- Simple Definition: The study of how people make choices under conditions of scarcity and the results of those choices for society
- A social science concerned with the production, distribution, and consumption of goods and services.
- Economics evolved from the need to address the problem of scarcity.
- Scarcity is a fundamental fact of life—**Never enough time, money or energy to do everything we want to do or have everything we would like**

Economic Systems

- An economic system is the decision-making structure of a nation's economy, characterized by the entities and policies that shape it.
- An economic system may involve production, allocation of economic inputs, distribution of economic outputs, firms, and the government to answer the economic problem of resource allocation.
- There are two general subtypes of economic systems: **free market systems** and **planned systems**.
- A country may have some elements of both systems, and this type of economy is known as a **mixed economy**.

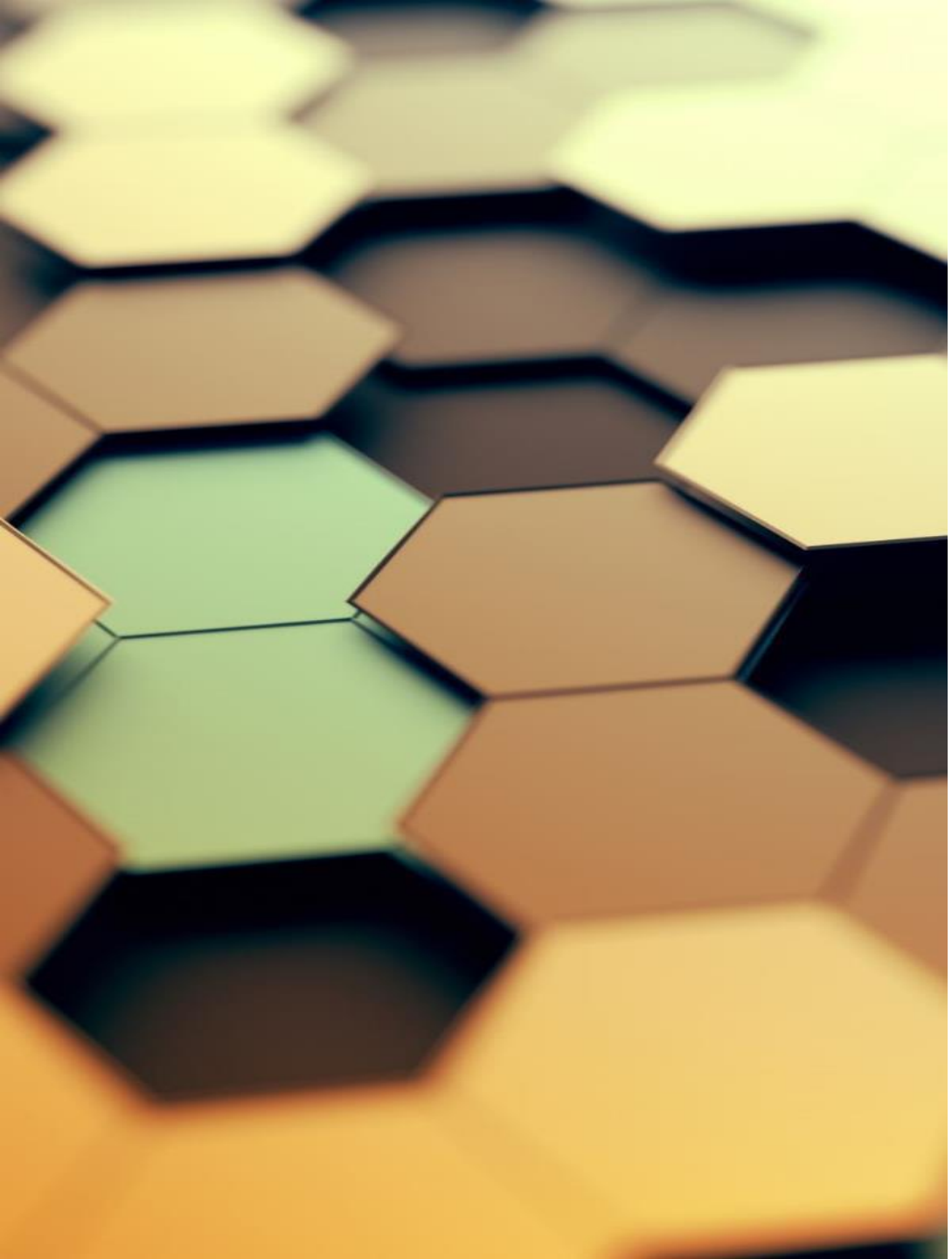
Circular flow model




Resource Market
DEMAND
$$$ Costs $$$
Resources
SUPPLY
$$$ Income $$$
(Factor payments)
Resources
(Factors of Production)
$$$
Taxes
Subsidies
Public Goods
Taxes
Transfer Payments
Public Goods
Businesses
Government
Individuals
Goods and Services
$$$ Revenue $$$
SUPPLY
$$$
Goods and Services
$$$ Spending $$$
DEMAND
MALL
Product Market

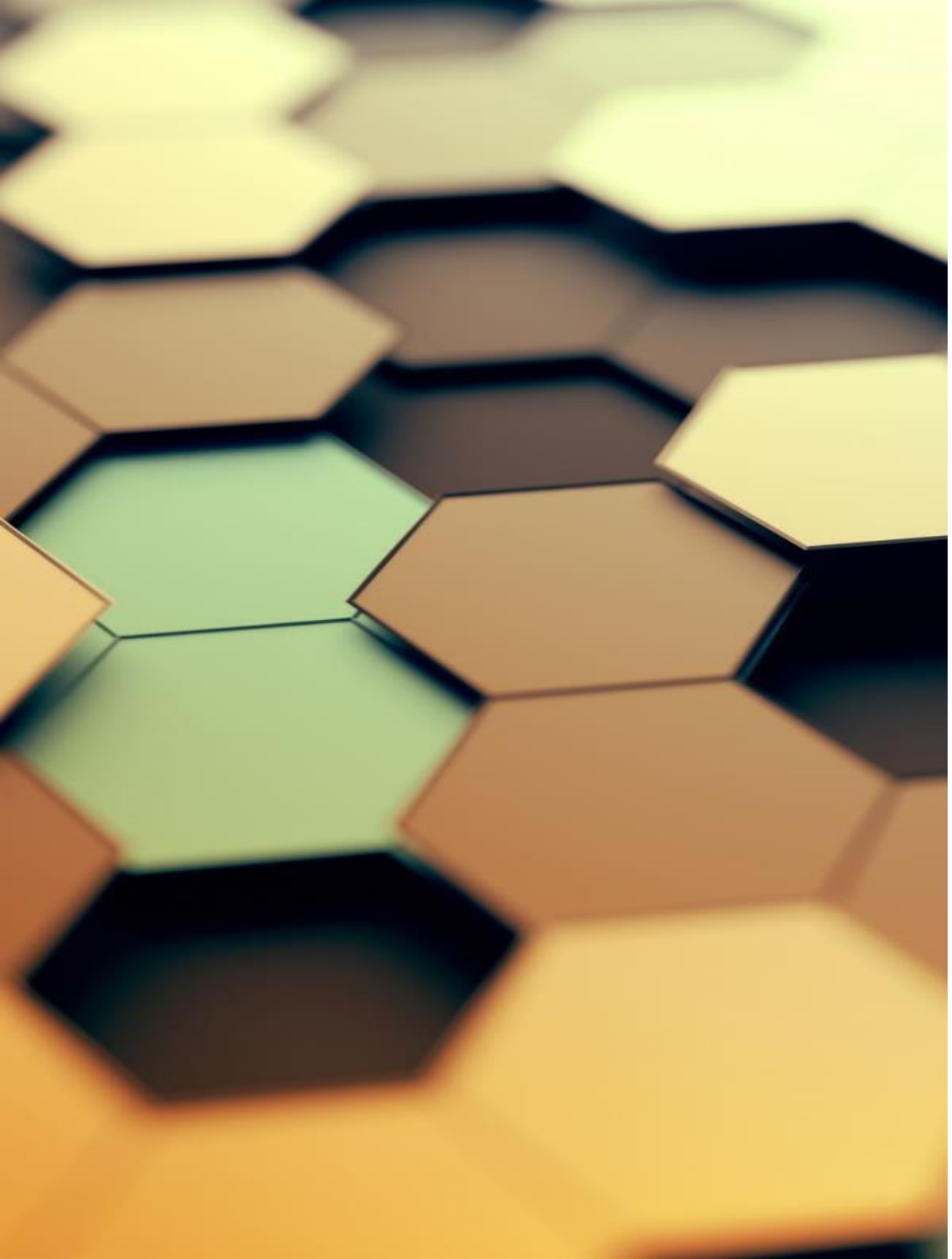
Economics: Macro and Micro

- Economics can be split between analysis of how the overall economy works (Macro) and how single markets function (Micro)
- **Microeconomics** is the study of individual choice under scarcity and its implications for the behavior of prices and quantities in individual markets.
- It is concerned with how supply and demand interact in individual markets for goods and services. For example, microeconomic looks at whether price rises in the automobile industry.
- **Macroeconomics** is the study of the performance of national economies and the policies that governments use to try to improve the performance.
- It is concerned with the overall economy/the big picture/aggregate economy**.** It focuses on areas such as employment, GDP growth and inflation.



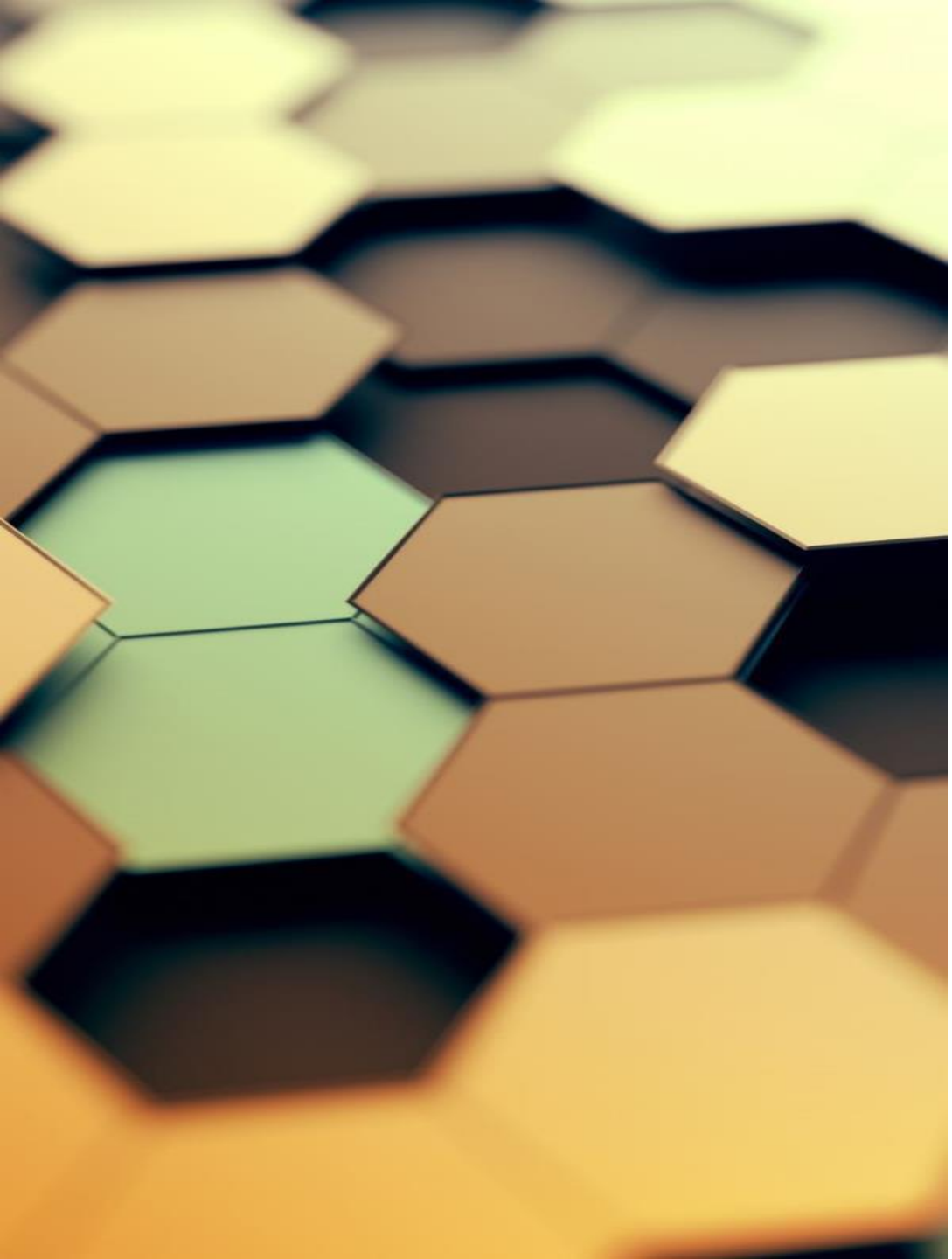
Defining Key Terms and Concepts

- **Gross Domestic Product (GDP)**: the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. Considered as a broad measure of overall domestic production
- **Economic growth**: an increase in the production of goods and services in an economy
- **Recession:** two consecutive quarters of economic decline



Defining Key Terms and Concepts

- **Fiscal Policy**: the use of government spending and taxation to influence the economy. Governments typically use fiscal policy to promote strong and sustainable growth and reduce poverty.
- **Public Debt**: outstanding financial liabilities arising from past borrowing. Debt may be owed to external or domestic creditors and typically, debt financing is in the form of loans or bonds. The debtor may be either a public (government) or private sector entity.
- **Debt-to-GDP Ratio:** the ratio of the money a country owes to the money it earns – dictates how strong a country's economy is and how likely it is that it will pay off its debt



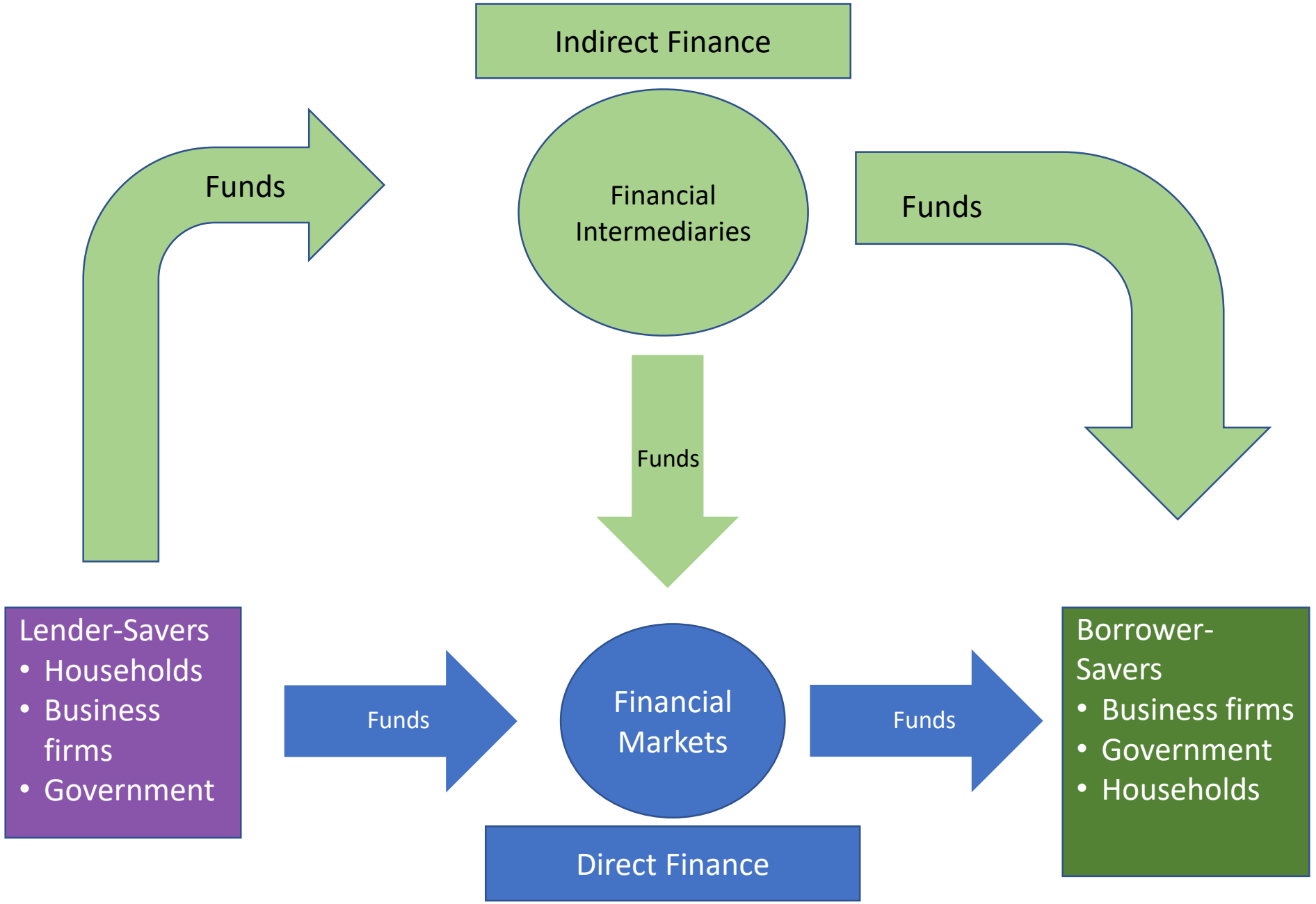
Defining Key Terms and Concepts

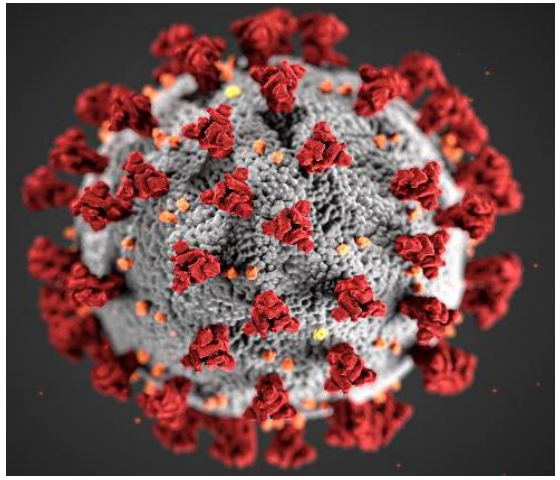
Monetary Policy: the actions undertaken by a nation's central bank to control money supply to achieve sustainable economic growth

Inflation: a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over some period.

Interest Rate: the rate charged by a lender of money or credit to a borrower

Financial Markets and Institutions





Exogenous Events

Impact

- **Tax Revenues**
- **GDP**
  - Key industries
- **National Budget**
- **Public Debt**
- **Inflation**
- **Poverty**
  - Most vulnerable

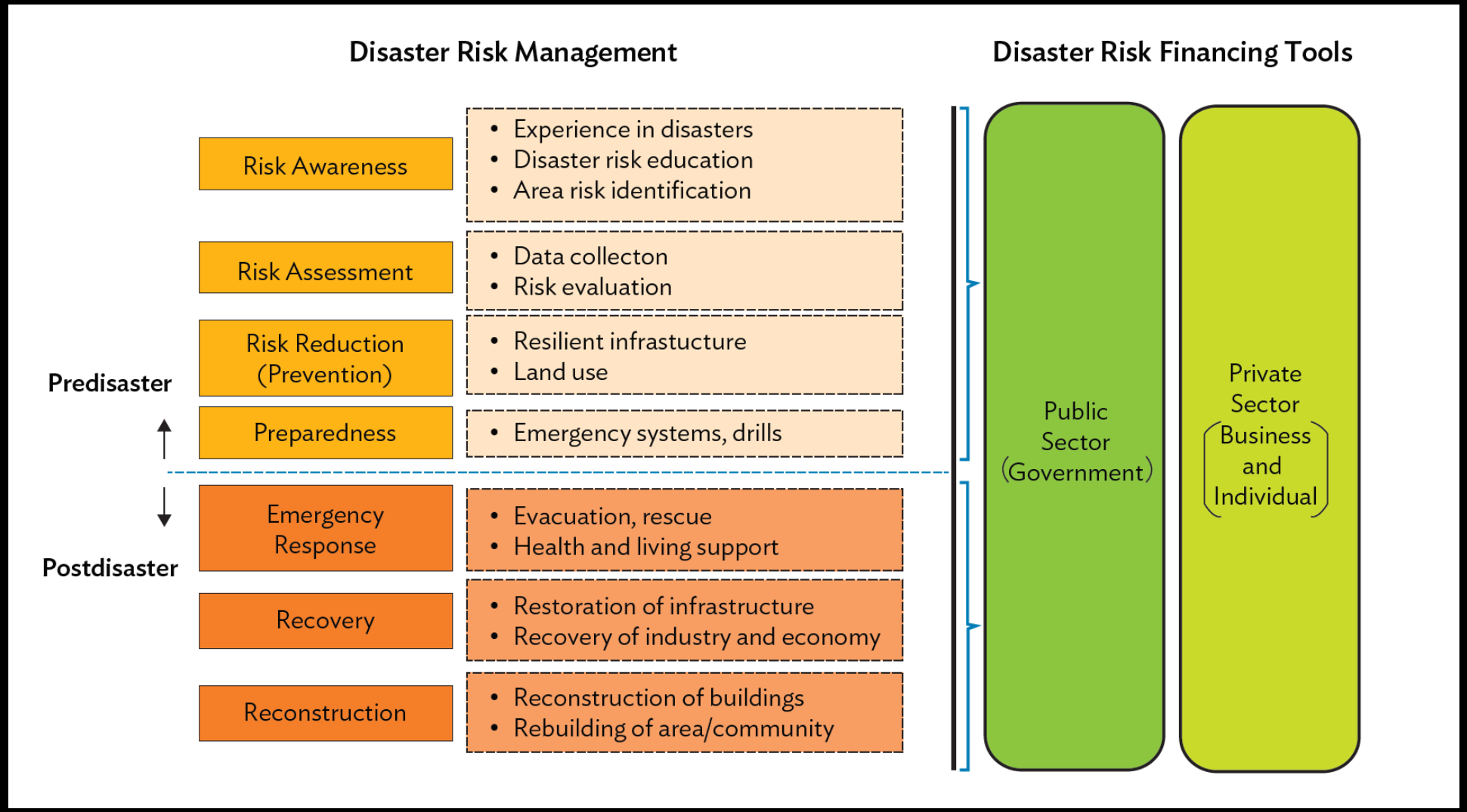
Impact and Response

Impact

- Revenues—Lower than planned revenues (reduction in tax revenues) due to an increase in unemployment and lower demand
- GDP—Slowdown in economic activity leading to economic contraction
- Budget—Budget volatility resulting in critical areas such as security and safety and education being underfunded.

Response

- Redirecting expenditures to address the problem and recovery efforts
- There may be a need for borrowing, at possibly high rates, to acquire much needed funds
- Increase in taxes

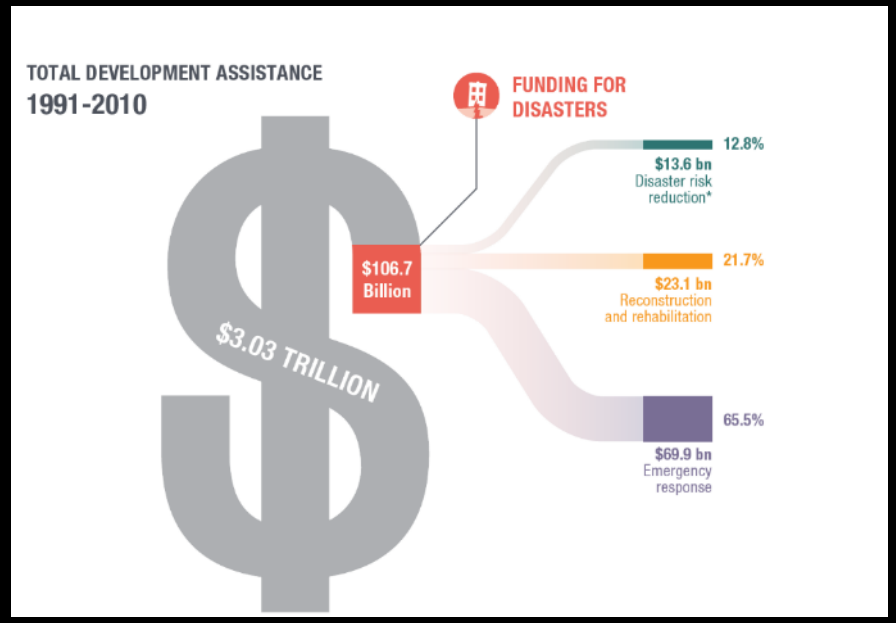

Disaster Risk Management
Disaster Risk Financing Tools
Predisaster
Postdisaster
Risk Awareness
Experience in disasters
Disaster risk education
Area risk identification
Risk Assessment
Data collecton
Risk evaluation
Risk Reduction (Prevention)
Resilient infrastucture
Land use
Preparedness
Emergency systems, drills
Emergency Response
Evacuation, rescue
Health and living support
Recovery
Restoration of infrastructure
Recovery of industry and economy
Reconstruction
Reconstruction of buildings
Rebuilding of area/community
Public Sector (Government)
Private Sector (Business and Individual)

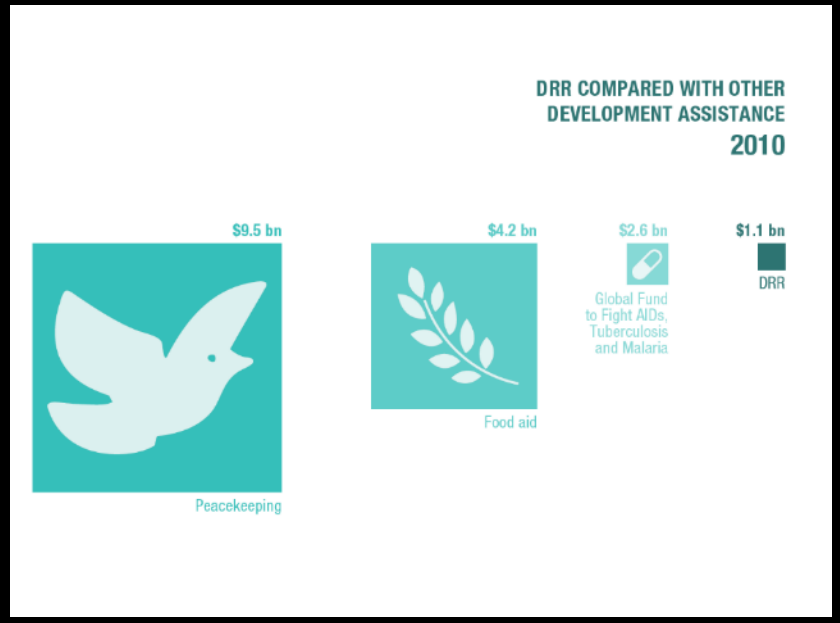
Disaster Risk Financing and Financing DRR

Same or different?

- The number of disasters is increasing
- The cost of disasters is increasing
- Disaster mortality is concentrated in developing countries
- Growth in development assistance in DRR has been moderate

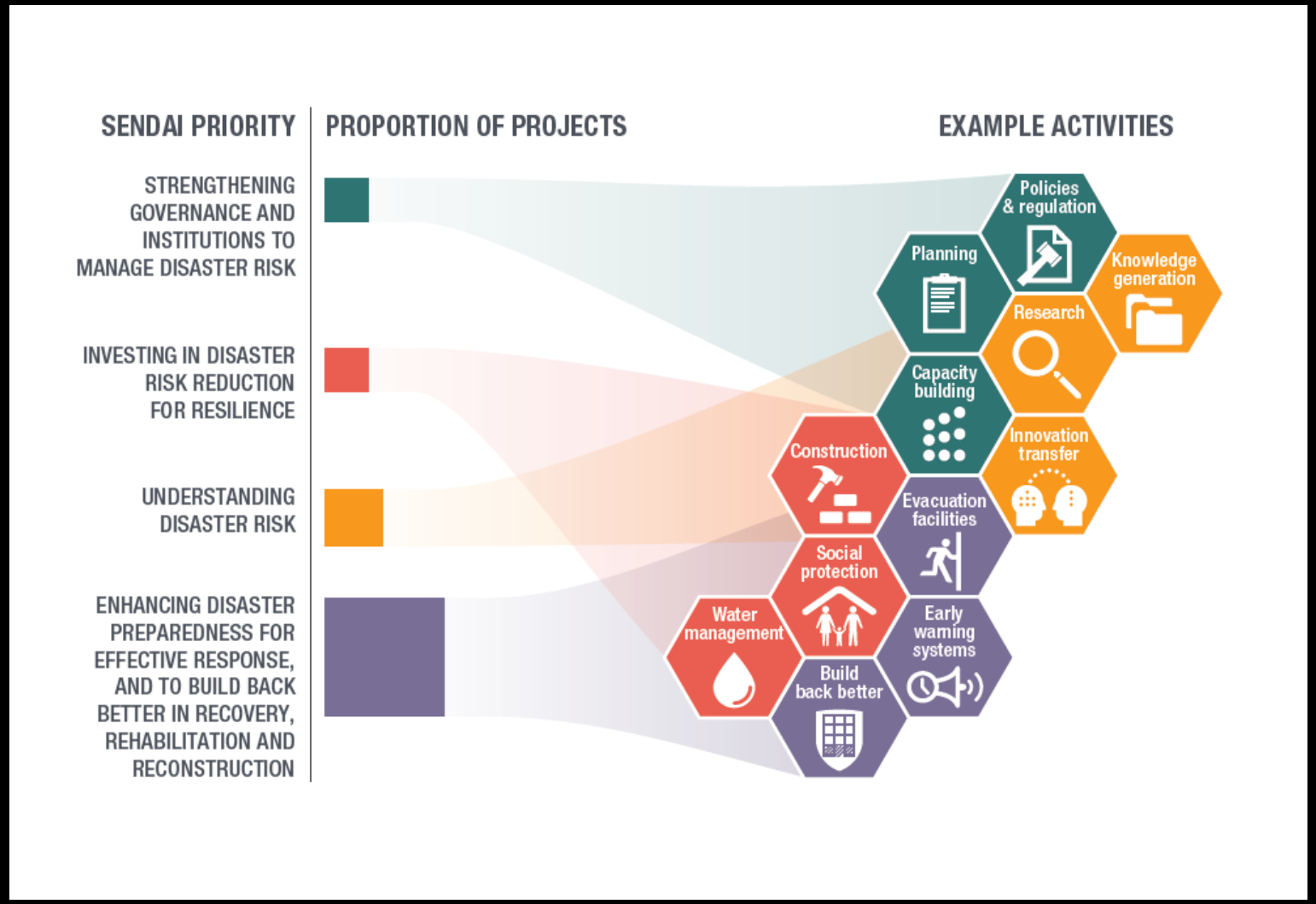
Financing DRR





- Development assistance for DRR is a small fraction of overall development assistance
- Spending on disasters is largely ex-post
- No robust conclusion on how much a dollar spent on DRR can save – e,g. the cost benefit analysis for early warning systems

DRR Financing by Sendai Priority Areas



More is done to support preparedness and recovery than to understand the underlying vulnerabilities that lead to disasters

Post-2015 Framework Priority	Exemplary activities
1. *Understanding disaster risk*	Knowledge and information generation and management (including risk and vulnerability assessments, cost-benefit analysis, and information systems), research, innovation and technology transfer.
2. *Strengthening governance/ institutional arrangements/ organizational, legal and policy frameworks to manage disaster risk*	Institutional capacity building, planning (ex-ante and ex-post), coordination, management, policies and regulation
3. *Investing in disaster risk reduction for resilience*	Hard and soft investment, land use and water management, infrastructure conservation (including natural), construction, reconstruction and retrofitting for economic, social, cultural and environmental resilience (including poverty alleviation programmes, social protection and basic service provision)
4. *Enhancing disaster preparedness for effective response, and to Build Back Better in recovery, rehabilitation and reconstruction*	Evacuation facilities, retrofitting schools, hospitals and other public buildings, training and contingency plans (including early warning systems)

Sendai Priorities for Action and Examples of Activities

- The increasing frequency and severity of climate extremes has forced governments to consider new ways of meeting the financial consequences of natural disasters, and there is a growing interest **in implementing sovereign Disaster Risk Financing and Insurance (DRFI) programmes** in an attempt by governments to be financially prepared for when disasters occur.

- This has resulted in tremendous growth in the number and type of financial and budgetary instruments available, ranging from disaster reserve funds and lines of contingent credit to insurance instruments

Disaster Risk Financing Strategies – aka Financial Protection Strategies

- It is often argued that financial protection strategies treat the symptoms but not the cause of disasters
- Good strategies can help governments cope with the financial impact of calamities but do little to shelter populations and assets from the destruction of cyclones and earthquakes. Financial protection is only one component of a comprehensive disaster risk management strategy.
- Financial protection will help governments mobilize resources in the immediate aftermath of a disaster, while buffering the long-term fiscal impact of disasters.
- Clearly, well-designed disaster risk financing strategies can create financial incentives for governments and/or households to further mitigate their risks.
- When a Ministry of Finance is sensitized to a country's exposure it can help mobilize resources beyond disaster response in support of risk mitigation.

Disaster Risk Financing

- Disaster Risk Financing (DRF) is a growing discipline that addresses the fiscal impacts and economic losses caused by natural hazards (e.g. cyclones, droughts, earthquakes, floods) and supports countries to increase their financial resilience to natural disasters.
- The objective of disaster risk financing is to help minimize the cost and optimize the timing of meeting post-disaster funding needs without compromising development goals, fiscal stability, or wellbeing.
- DRF promotes comprehensive financial protection strategies to ensure that governments, homeowners, small and medium-sized enterprises, agricultural producers, and the most vulnerable populations can meet post-disaster funding needs as they arrive.

Disaster Risk Financing

- **Disaster risk financing is gaining more recognition as it is enabling:**
  - Improvements in risk assessments and awareness
  - Facilitating the development of coordinated and pre-agreed post-disaster plans
  - Implementation of effective financial protection strategies

Nexus between DRF and Government Policy Practices

4 areas of policy practice:

- **disaster risk management**, in terms of how it contributes to building resilience
- **public financial management**, in terms of how it addresses the impact of shocks on public finances
- **financial sector development**, in terms of how it builds a strong financial sector for risk transfer
- **social protection**, in terms of how it supports financing to reach the poorest and most vulnerable

Reasons for Government Employing DRF

Three reasons governments should pursue ex-ante financing strategies

Governments are typically responsible for large portfolios of public infrastructure assets subject to risk

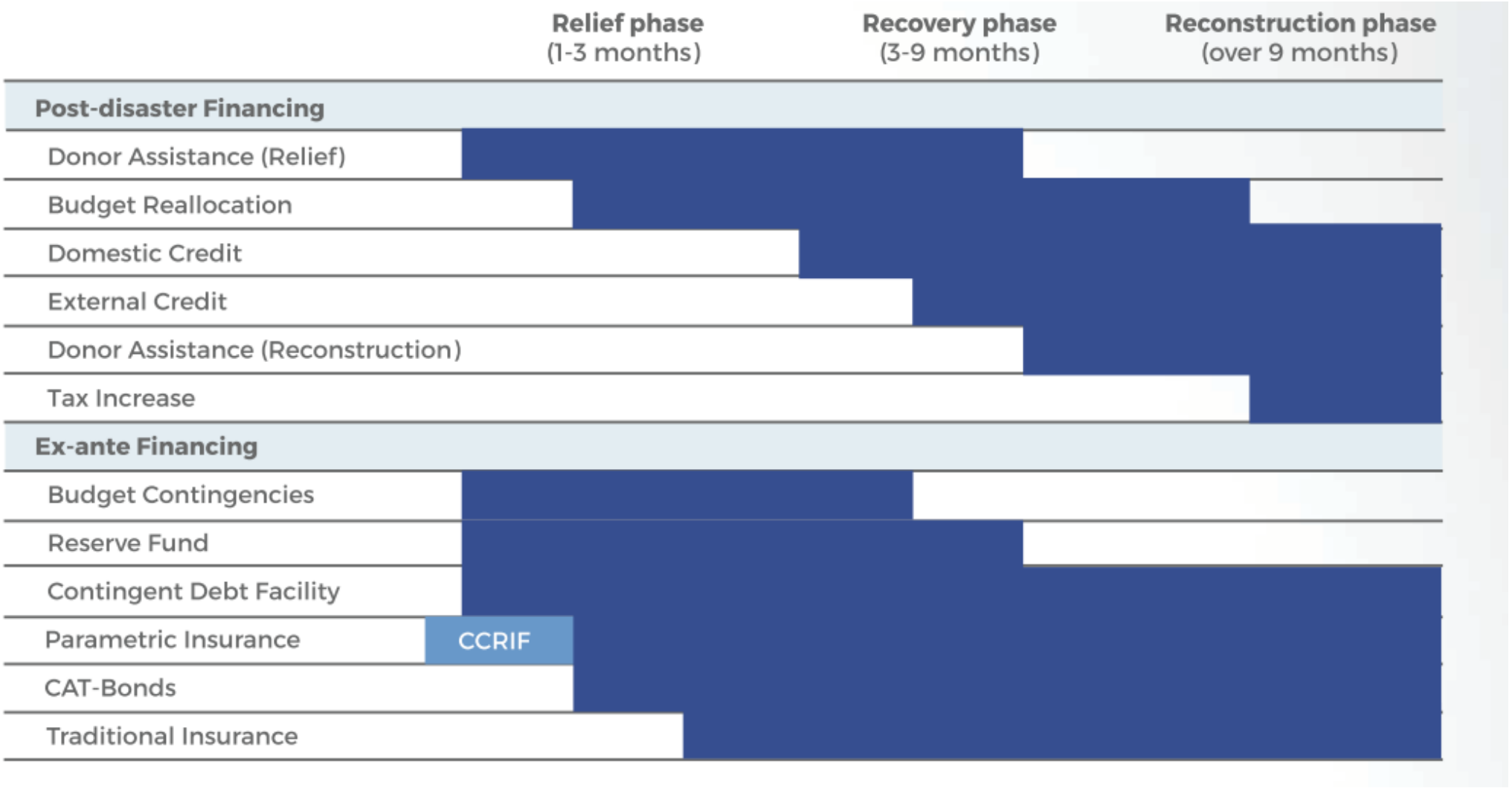
To guarantee capital for emergency relief and assistance to affected households, businesses and communities. If governments lack the necessary infusion of post-disaster capital to rebuild critical infrastructure, restore homes and provide humanitarian assistance, indirect costs can greatly surpass the direct losses of a disaster

Developing countries have a higher propensity for post-disaster resource deficits. Governments of developing countries typically must divert from their budgets or from already disbursed development loans to finance post-disaster expenses, also relying on new loans and donations from the international community

Disasters have a much more disruptive impact on the economy of less advanced economies. Although they still catch the attention of the general public, major disasters rarely impact the economy (and budgets) of advanced economies

Examples of Disaster Risk Financing Instruments

Managing this risk requires a multifaceted approach



Assessing a Government's Financial Exposure – A Critical Component of DRF

- Assessing a government's financial exposure is different from a macro-economic analysis of the impact of disasters
- A macro-economic analysis aims to identify and to quantify the economic impact of natural disasters in terms of direct and indirect losses borne by an economy.
- A fiscal analysis aims to assess the impact of potential disaster events on the government finances, both in terms of additional expenditures and foregone fiscal revenues borne by the government.
- The analysis of financial exposure is a subset of the overall macro-economic analysis.

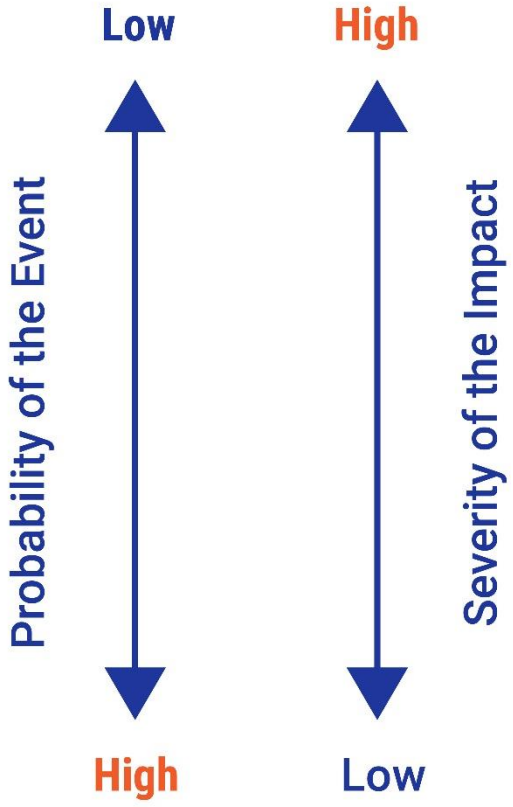
- **Countries that engage in pre-event planning are less likely to need large quantities of debt relief when disasters strike.**

- **Debt relief usually is in the form of loans and rarely grants. This type of post disaster assistance typically adds to the debt stock of countries.**

A Look at Countries and Regions Employing DRF

- The pioneers have included Mexico with both a national strategy for financing the reconstruction of disaster-affected public assets, FONDEN, and a scheme specifically targeted at protecting smallholder farmers from yield losses due to drought, CADENA.
- Smaller countries have collaborated in regional risk pooling through such institutions as CCRIF SPC (the first multi-country risk pool), the African Risk Capacity for East and West Africa, and the Pacific Catastrophe Risk Insurance Pilot – the latter two being adapted off the CCRIF model
- Pools such as CCRIF enable governments to make regular payments in good years in return for financial protection in bad years, making financial resources more readily available when natural catastrophes occur and at a lower long-term cost.
- The programmes typically combine access to funding through different instruments according to the magnitude of the shock and the country capacity: accumulated reserves and precautionary savings, contingent credit, risk transfer through index-based insurance and re-insurance, post-disaster budget reallocations, and post-disaster borrowing.
- **How to optimally layer these sources of financial liquidity is critical**

Disaster Risk Financing Layering Approach

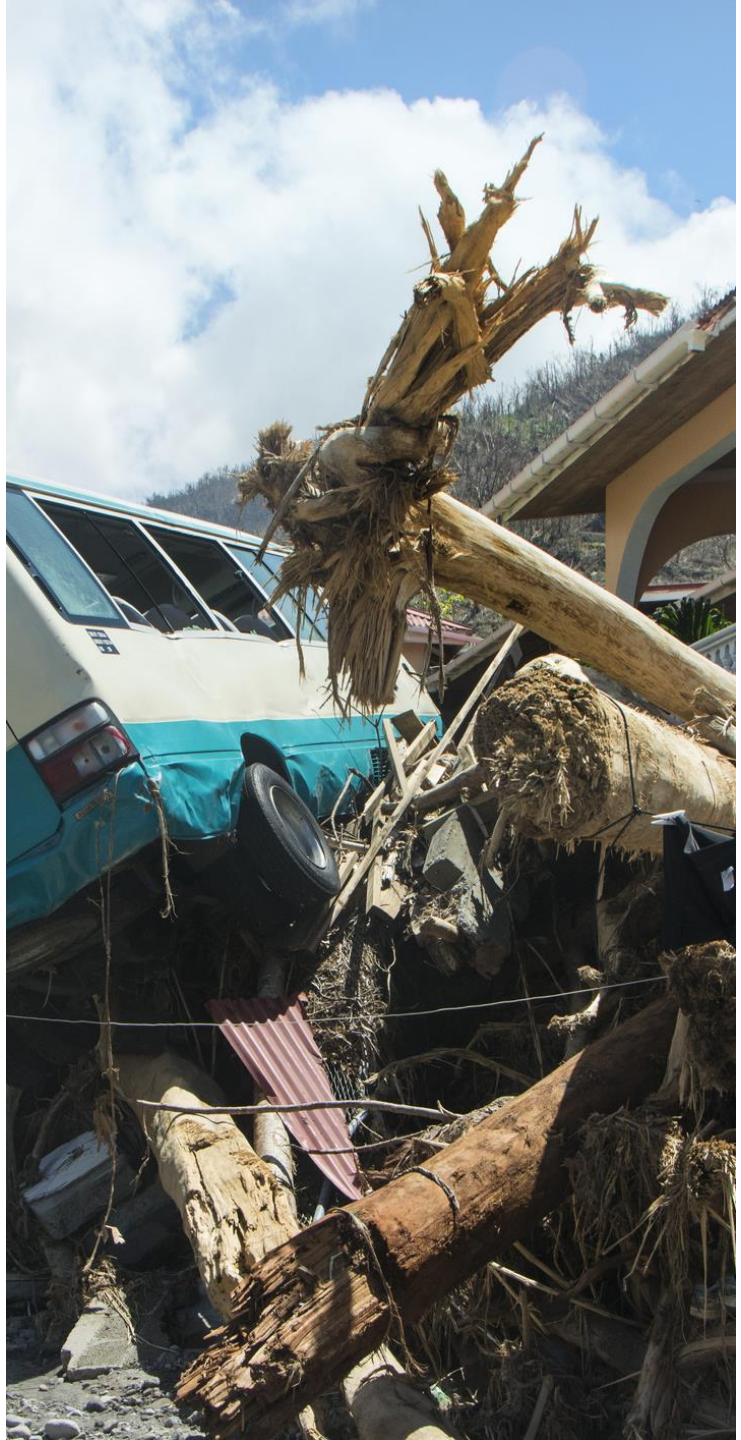


DISASTER RISK	FINANCIAL INSTRUMENTS TO MANAGE DISASTER RISK
High Risk Layer (e.g. high intensity earthquakes, tropical storms, hurricanes, severe weather troughs)	**Disaster Risk Insurance** (e.g. parametric insurance, indemnity insurance, catastrophe bonds, insurance-linked securities) **Emergency Loans** (debt relief)
Medium Risk Layer (e.g. minor earthquakes, small tropical storms, floods)	**Contingent Credit/ Debt Facility**
Low Risk Layer (e.g. local floods, flash floods, landslides)	**Contingent Budgets, National Reserves/ Dedicated Reserve Funds, Annual Budget Allocations**

Governments should build a financial protection strategy that combines a number of instruments that address different layers or types of risk.

An introduction to some DRF Tools

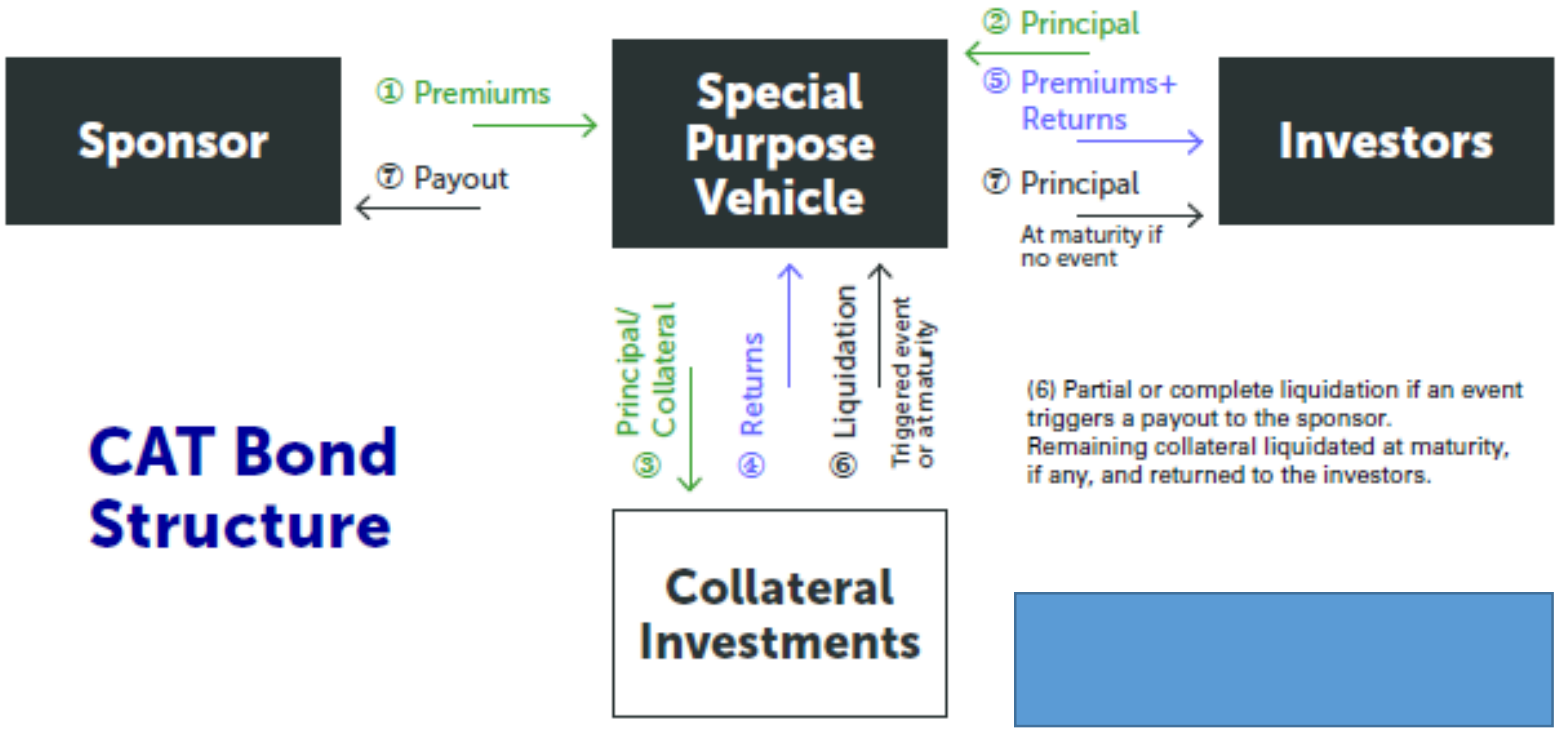
- Parametric Insurance
- Catastrophe (Cat) Bonds
- Contingent Lines of Credit
- Cat DDOs



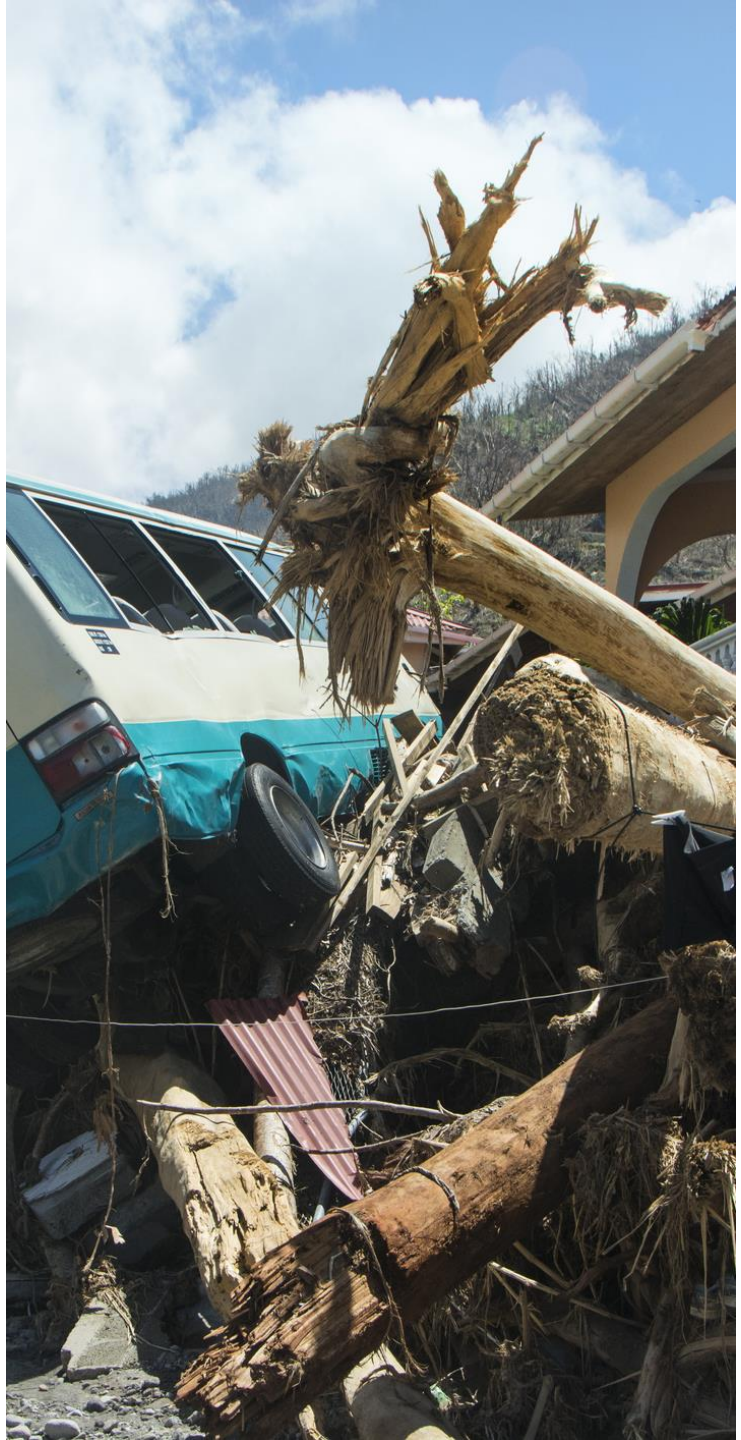
Catastrophe (CAT) Bonds

- First introduced in the mid-1990s
- A financial instrument to help governments finance disaster relief and post-disaster reconstruction without over-stressing their fiscal budgets
- A debt instrument that allows governments to tap the capital market and raise money from investors willing to bet against the likelihood of a disaster occurring in a particular place during a particular time period.
- Are an example of insurance securitization, creating risk-linked securities which transfer a specific set of risks (typically catastrophe and natural disaster risks) from an issuer or sponsor (ceding company/development partner such as World Bank) to capital market investors.
- Cat bonds, allows the transfer of risks to bond investors. For the issuer—typically governments, insurers, and reinsurers—cat bonds signify financial protection in case of a major natural catastrophe, such as a hurricane or an earthquake. For the investor, buying the bonds means they may get high returns for their investment, which is not subject to financial market fluctuations.

Catastrophe (CAT) Bonds Structure

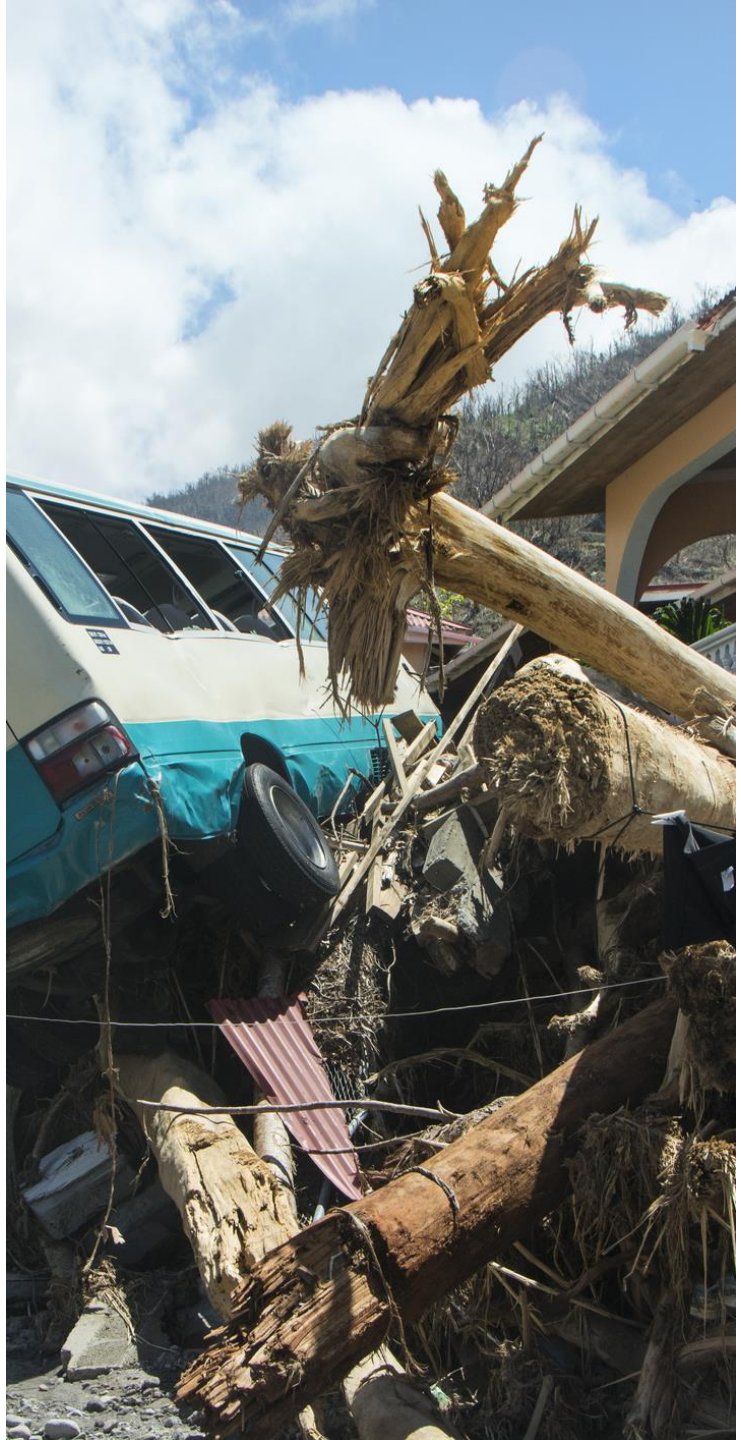


CAT Bond Structure



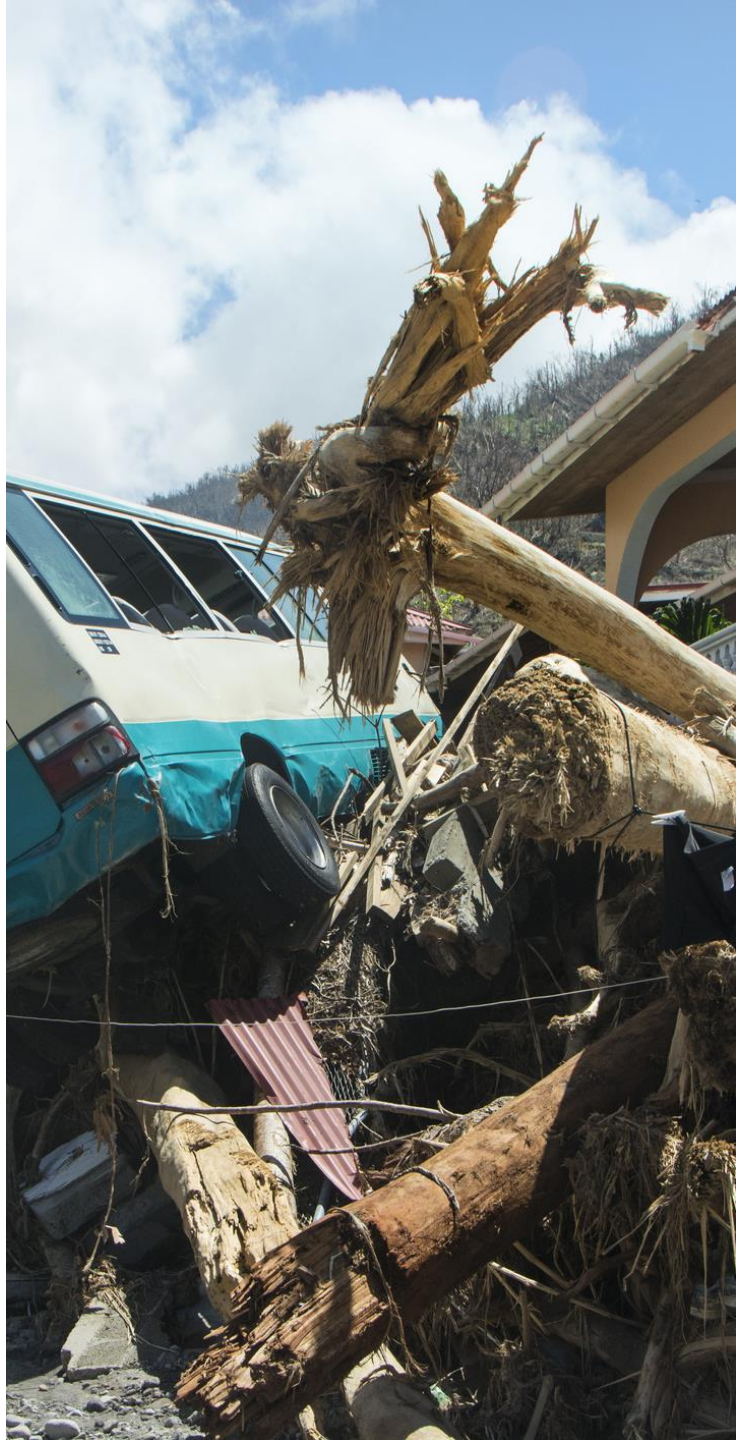
Catastrophe (CAT) Bonds

- Cat bonds are also a type of insurance-linked securities. Cat bonds were originally designed to help insurance and reinsurance companies manage their risks. It is now used by governments seeking to reduce their financial burden in the event of a catastrophe. Over the years, countries from the Caribbean and Africa have issued cat bonds. WB also issued a CAT bond on behalf of CCRIF in 2014.
- In issuing a CAT Bond, governments need to set up a special purpose vehicle (SPV) to facilitate the transaction. The SPV invests the money from investors and pay coupons or interests to them. At the end of the term, the SPV will return the investors' money if a disaster does not happen.
- A payout is made to the issuer upon the occurrence of a specified climate event, which typically involves a parametric trigger, such as a pre-defined hurricane wind speed or earthquake intensity.
- In this way, the investors take on the risks of a catastrophe loss or named peril event occurring in return for attractive rates of investment return.
- Should a qualifying catastrophe or named peril event occur, the investors will lose some or all of the principal they invested and the issuer (usually an insurance or reinsurance company, but sometimes a corporate or sovereign entity) will receive that money to cover their losses.



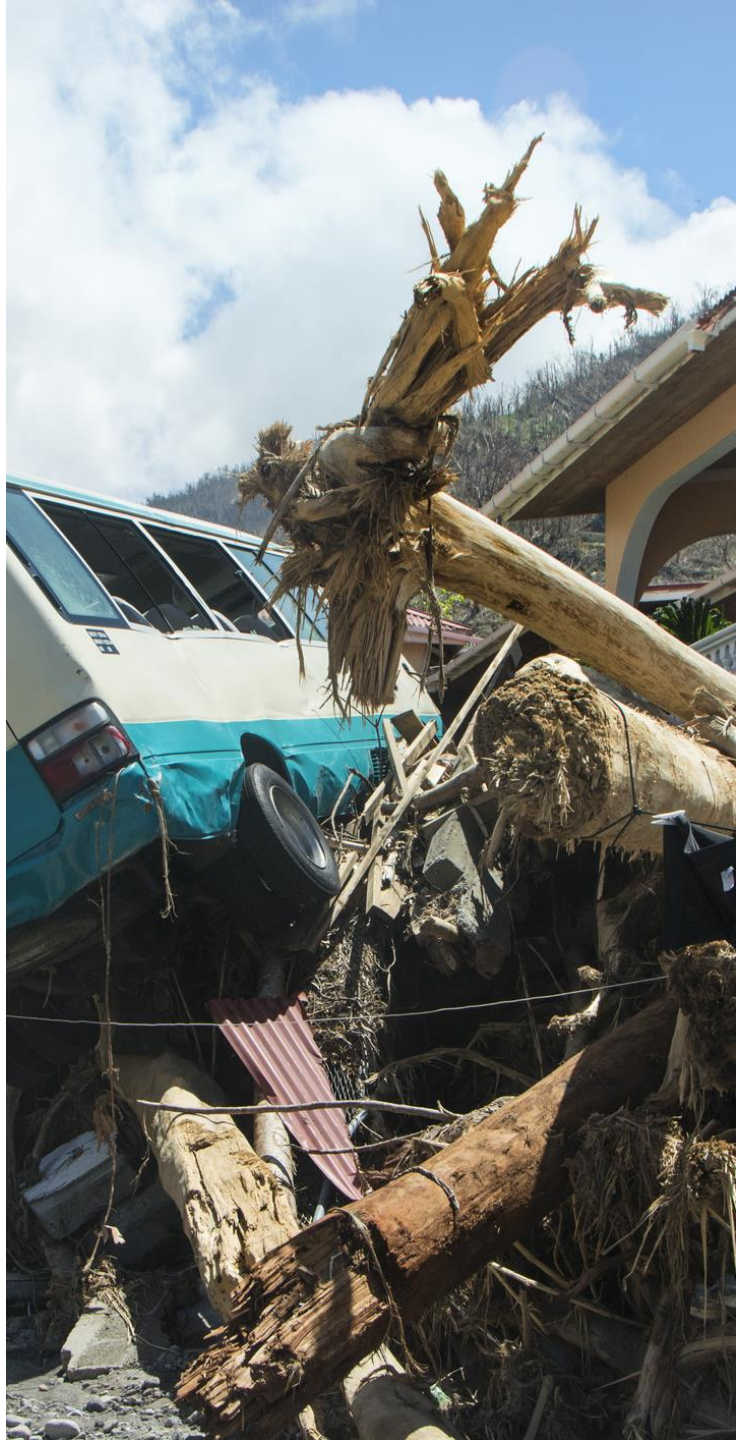
Catastrophe (CAT) Bonds

- Under the special purpose vehicle enter into a reinsurance agreement with a sponsor (or counterparty), receiving premiums from the sponsor in exchange for providing the coverage via the issued securities.
- The SPV issues the securities to investors and receives principal amounts in return. The principal is then deposited into a collateral account, where they are typically invested in highly rated money market funds.
- The investors coupon, or interest payments, are made up of interest the SPV makes from the collateral and the premiums the sponsor pays.
- If a qualifying event occurs which meets the trigger conditions to activate a payout, the SPV will liquidate collateral required to make the payment and reimburse the counterparty according to the terms of the catastrophe bond transaction.
- If no trigger event occurs then the collateral is liquidated at the end of the cat bond term and investors are repaid.



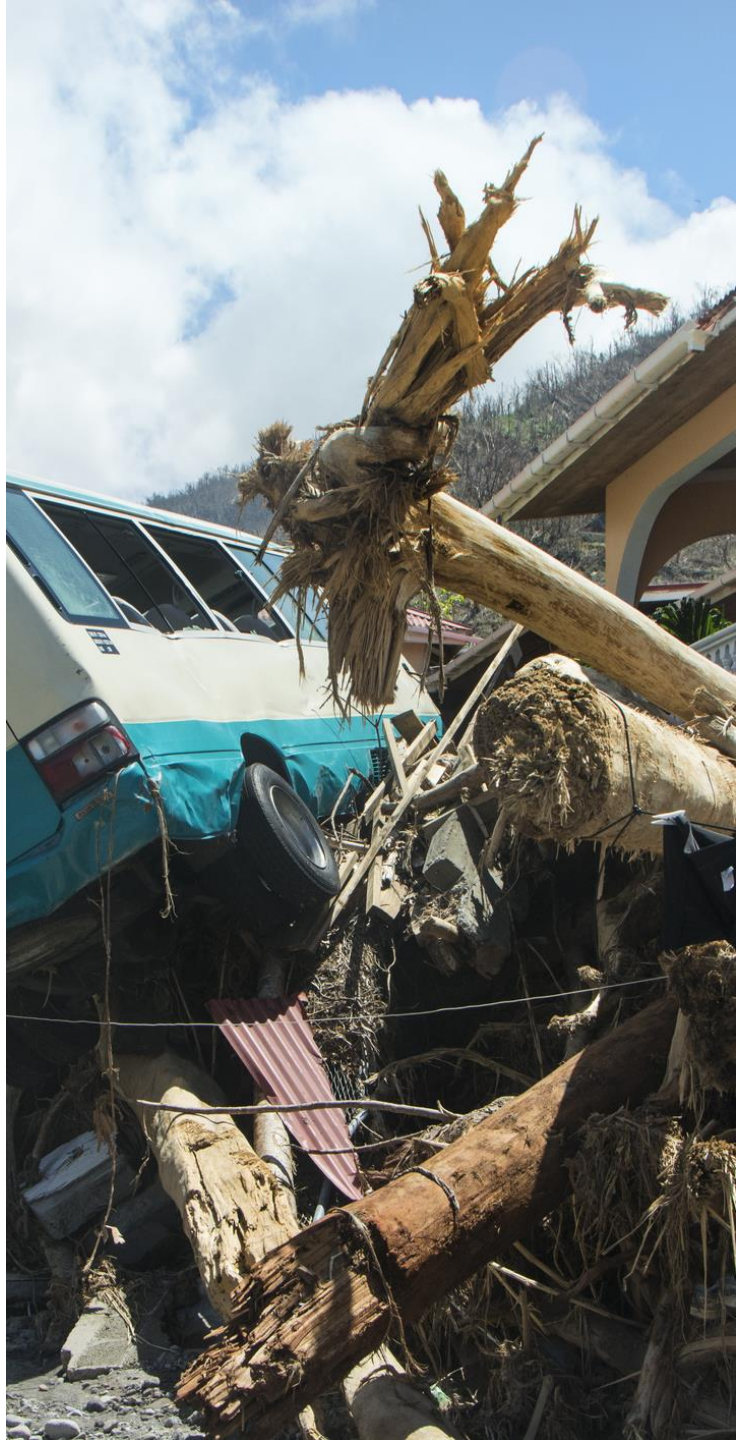
Catastrophe (CAT) Bonds

- Catastrophe bonds utilize triggers with defined parameters which have to be met to start accumulating losses.
- Only when these specific conditions are met do investors begin to lose their investment.
- Triggers can be structured in many ways – in the case of from a sliding scale of actual losses experienced by the issuer (indemnity) to a trigger which is activated when industry wide losses from an event hit a certain point (industry loss trigger) to an index of weather or disaster conditions which means actual catastrophe conditions above a certain severity trigger a loss (parametric index trigger).



Catastrophe (CAT) Bonds – Advantages

- Effective tool to address the risk of loss and damage from climate change as it allows countries to raise capital that can be disbursed quickly in the event of a catastrophe.
- Cat bonds can be structured to allow payouts as soon as pre-defined trigger events occur.
- Cat bonds can also provide multi-year coverage to the issuing governments.
- Provide another dimension to diversify and manage catastrophe risk



Catastrophe (CAT) Bonds – Disadvantages

- High transaction costs, long structuring period that can take months, and strict terms and conditions compared with traditional risk financing, such as insurance.
- Cat bonds do not always meet countries' needs, as governments may prefer longer term protection, while investors tend to prefer shorter term bonds.

Contingent Credit Facilities

- The Contingent Credit Facility is a DRF tools to help countries develop effective strategies for natural disaster financial risk management.
- The CCF offers contingent loans that are prepared in advance but are disbursed after the entity providing the loan has verified the occurrence of a disaster event in terms of type, location, and intensity
- The CCF's objective is to provide countries with cash following a natural disaster of severe to catastrophic proportions for humanitarian relief and to restore basic services.
- Proceeds from CCF Loans are used to cover extraordinary government expenditures incurred six months after the disaster. Examples of eligible expenditures include emergency sanitation equipment, medications and vaccines, temporary shelter equipment and installations, water and foodstuffs for displaced or distressed populations, and debris removal, among others.

Contingent Credit Facility

- **What is the amount of the CCF?**
  - The coverage limit of the CCF per country is up to US$300 million or 2% of the borrowing member country's GDP, whichever is less.
- **How is a CCF loan triggered?**
  - The country, through the project executing agency, submits to the IDB a Request for Verification of Eligibility of the disaster event. The IDB will then apply a previously agreed calculation methodology to produce an Eligibility Verification Report. If the assessment concludes the event is eligible for disbursement, the IDB will include in the Eligibility Verification Report the maximum disbursement amount. The borrowing country must confirm in writing its intention to disburse.
- **What is the cost for the Borrower if the CCF loan is never triggered?**
  - There is no cost for the Borrower if there is no disbursement of funds.
- **What are the terms of the CCF?**
  - The same as an Investment Loan. Typically, these loans have a maturity period of 25 years, a grace period of 5.5 years and an interest rate based on LIBOR.

Deferred Drawdown Option

- A CAT DDO is a contingent financing line that provides immediate liquidity to address shocks related to natural disasters and/or health-related events.
- It serves as early financing while funds from other sources such as bilateral aid or reconstruction loans are being mobilized.
- Cat DDOs enhance countries' capacity to plan for and manage crises by securing access to financing before disaster strikes. It is approved prior to the disaster and disburses quickly once the event occurs and the drawdown trigger is met.

Key Features of DDOs

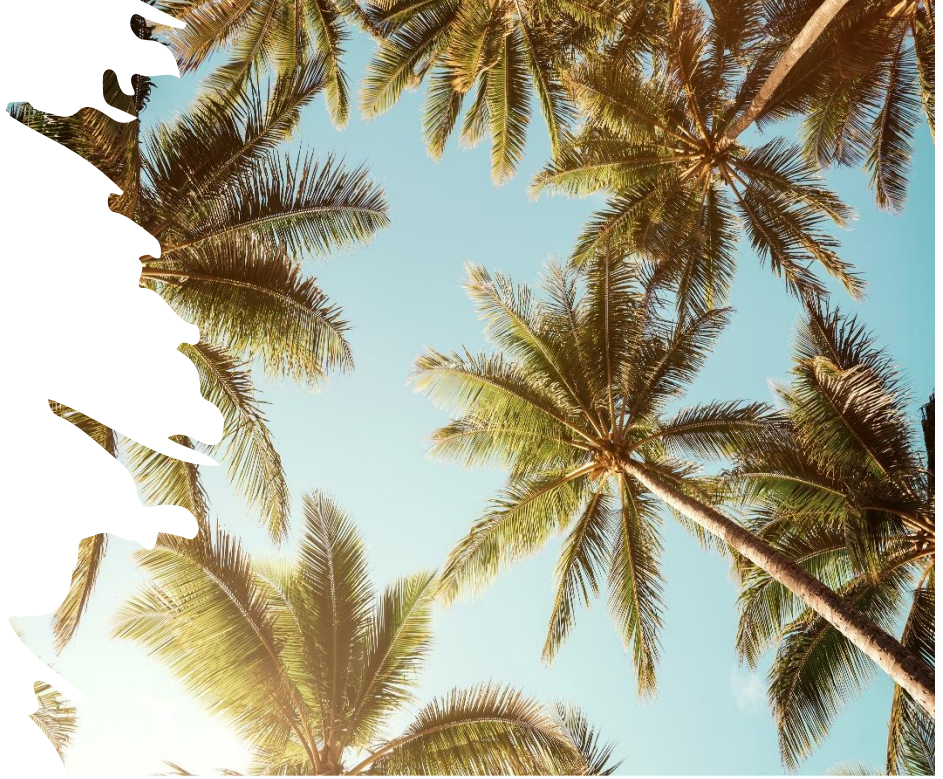
- Approval criteria: In order to gain access to the Cat DDO, the recipient must (i) have an adequate macroeconomic policy framework; and (ii) be preparing, or already have, a satisfactory disaster risk management programme in place
- Country limit: The country limit is set at US$500 million or 0.25% of GDP (whichever is less).
- Drawdown trigger: The Cat DDO has a pre-specified drawdown trigger, typically the member country's declaration of a state of emergency.
- Drawdown: The three-year drawdown period may be renewed (with a fee) up to four times, for a maximum of 15 years in total.

Key Features of CAT DDOs

- Revolving feature: The Cat DDO also has a revolving feature, which means that amounts repaid during the drawdown period are available for subsequent withdrawal.
- Pricing - The Cat DDO provides an affordable source of contingent credit for governments to finance recurrent losses caused by natural disasters. It has a LIBOR-based interest rate that is charged on disbursed on outstanding amounts.
- The calculation of the average repayment maturity begins at loan effectiveness for the determination of the applicable maturity premium, but at withdrawal for the remaining components.
- In addition, there is a front-end fee of 0.50% on the loan amount and a renewal fee of 0.25%

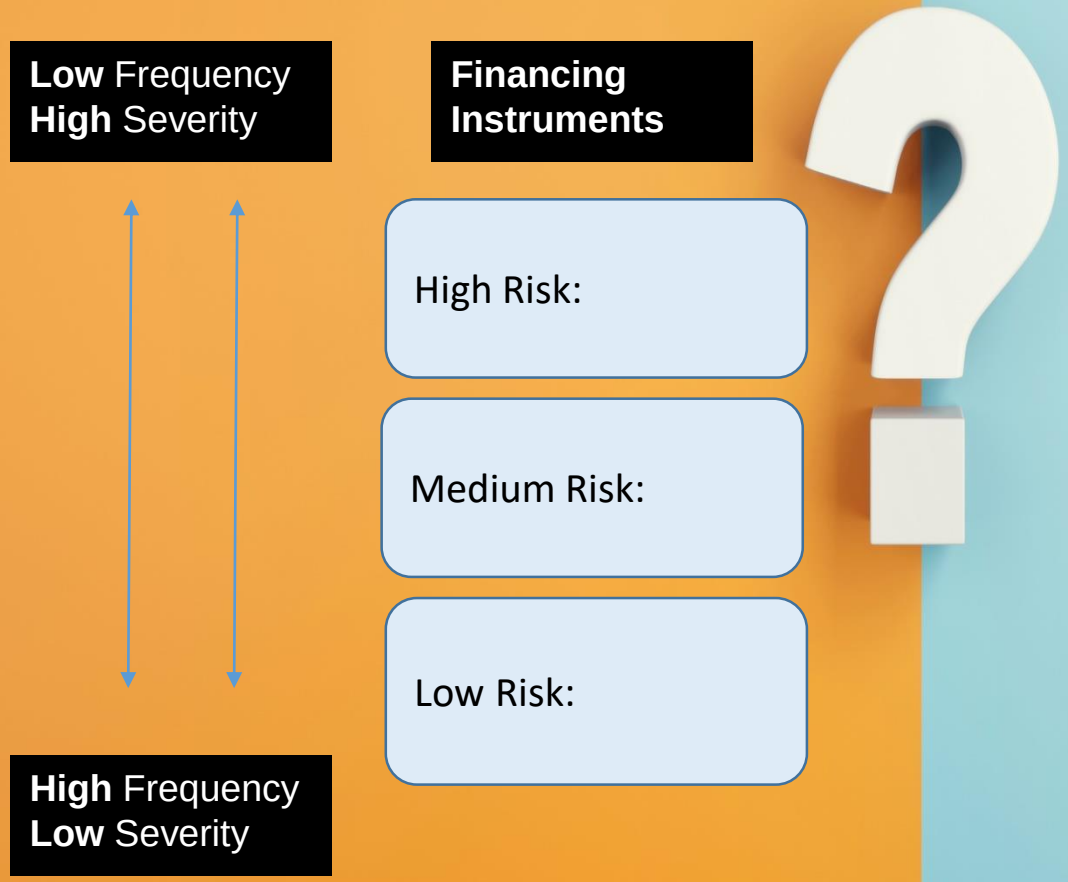
Let's Consider

Country “**AlwaysSummer**” is a small island developing state located in the Caribbean region with a population of about 1.2 million. Like its neighbours, “**AlwaysSummer**” is vulnerable to natural disasters - such as hurricanes and flooding - and the effects of climate change. The macroeconomic profile of the country shows low growth, high public debt, and exposure to external shocks such as rising oil prices. As the country advances beyond the legacies of the global financial crisis it has bolstered international reserves and strengthened its financial sector through legal and regulatory improvements.



Exercise

Using the diagram below, show how different financial instruments may be combined for Country "**AlwaysSummer**"



Financing Instruments

a. Unsecured Bond
b. Contingent Budgets
c. Preference Shares
d. Contingent Credit Line
e. Catastrophe Bonds
f. Taxation
g. Parametric Insurance
h. Stocks
i. Dedicated reserve fund

Jamaica's Contingency Fund – Example of a Dedicated Reserve Fund

- The Government of Jamaica in keeping with the requirement of the Fiscal Responsibility Framework in 2019 transferred funds to the Contingencies Fund to specifically provide for the possibility of natural disaster.
- The Contingencies Fund is provided for in the Jamaican Constitution and was established under Section 13 of the Financial Administration and Audit Act to provide for unforeseen expenditure of any kind. The aggregate ceiling of the Contingencies Fund was raised to J$100 million in 1992 and it has a balance of J$94 million as at March 25, 2019.
- In 2019, GOJ moved a resolution to raise the ceiling of the Contingencies Fund from J$100 million to J$10 billion – US$73.6 to provide space for future transfers related to natural disaster risk coverage
- And in 2019 a transfer J$2 billion (US$15 million) was made to the Contingencies Fund which is seen as be an important layer in our financing of natural disaster risk -– note use of the fund for COVID-19

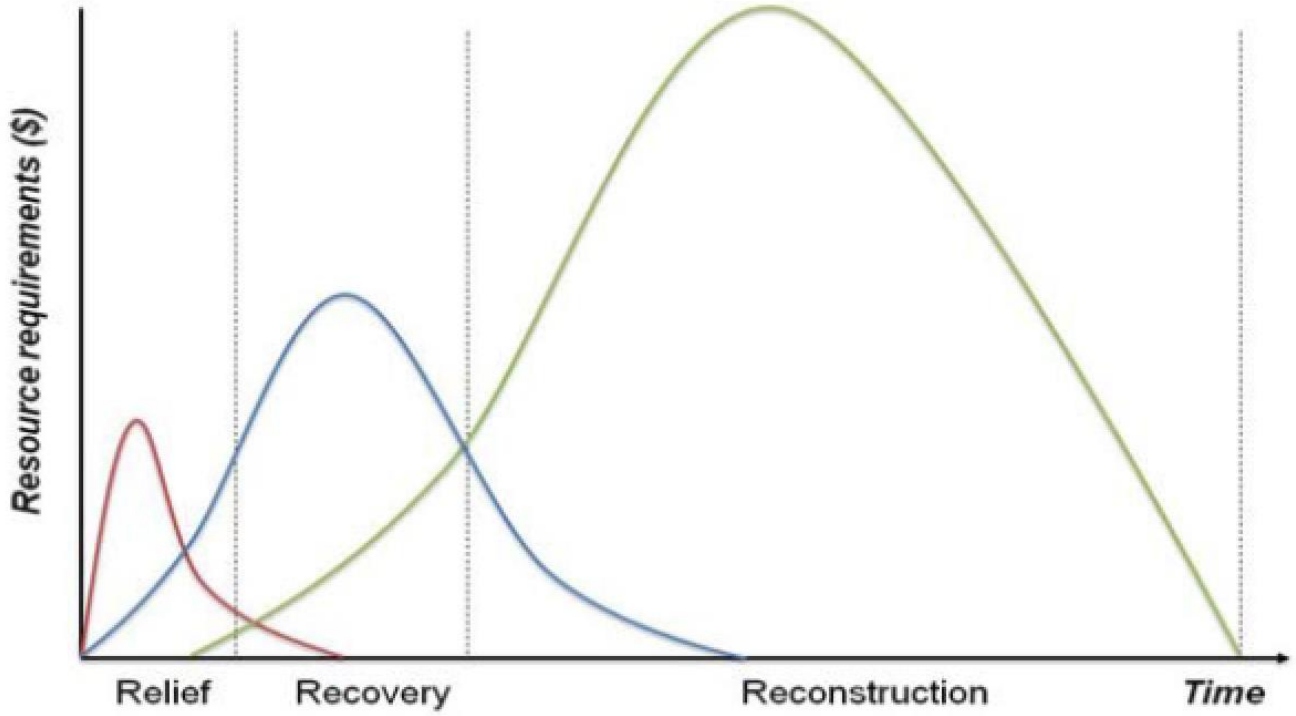
Determining the Cost of DRF Instruments

- **How to optimally layer these sources of financial liquidity is critical**
- Budget contingencies together with reserves are the cheapest source of ex-ante risk financing and will generally be used to cover the recurrent losses.
- A “bottom-up” approach is recommended: the government first secures funds for recurrent disaster events and then increases its post-disaster financial capacity to finance less frequent but more severe events.
- The level of fiscal resilience to natural disasters, which drives the optimal financial strategies against natural disasters, is a decision to be taken by the government based on economic and social considerations.

Determining the Cost of DRF Instruments

- Resource requirements will evolve with time after a disaster.
- **Two important considerations:**
- The first - the need for immediate liquidity or quick liquidity to ensure that relief and recovery are not delayed. **What are some of these needs?**
- The second - the need to mobilize sufficient resources for reconstruction.
- **Amounts needed for reconstruction generally dwarf liquidity needs but are not bound by the same time constraints.**

Main Phases of Post Disaster Funding Needs



The design of an efficient financial protection strategy must consider this time dimension to ensure that funding requirements are matched with the capacity to disburse

Which Instruments to Choose… Developing DRF Policies

- How do governments determine whether the programmes and financial strategies they are employing are appropriate and efficient bearing in mind the risks they face?
- In post-disaster situations, the requirements for critical and rapid expenditures can lead to government using high-cost instruments, such as budget reallocations and borrowing on unfavorable terms
- By comparison, sovereign DRF instruments can protect the national budget and improve the speed at which capital is available and expenditure is undertaken, reducing the economic impact of natural disasters

DRF Policies and Strategies

- Well-designed disaster risk financing strategies are developed *before* a disaster strikes
- They are integrated into core public finance systems and combine risk retention and transfer instruments in the context of an effective legal framework.
- Well designed DRF policies and strategies help countries improve their fiscal resilience to natural disasters.
- Some steps to developing a DRF strategy involves
  - quantifying countries' contingent liabilities to estimate the fiscal risk of natural disasters
  - Reviewing existing systems for public financial management of disasters as well as their legal frameworks for addressing shocks
  - Evaluating the domestic non-life insurance market in each country to determine their capacity to build strong financial sectors for public and private risk transfer
- WB did some work in these areas in countries such as Jamaica, Belize, SLU, SVG
  - *For Jamaica they estimated that the government would need to cover losses of approximately USD 121 million annually, the equivalent of 0.85% of their 2015 GDP, to address the impacts of hurricanes and floods. With a tangible risk level handy, the governments are then better equipped to assess whether existing financial protection instruments are adequate.*

Key Elements of DRF Policies and Strategies

- Strong leadership and led by ministries of finance but which include the active participation of other relevant ministries and agencies - disaster risk management offices, insurance regulators and ministries responsible for public infrastructure and investment, environment and planning.
- Some objectives of DRF policies and strategies should include among others:
  - Risk Layering
  - Establishing and promoting private disaster insurance schemes; and other disaster risk financing instruments … towards increasing the financial response capacity of a government after a natural disaster without compromising fiscal balances and development objectives
  - Deepening insurance penetration and developing regional risk sharing measures
  - Creating the enabling environment for private sector market development that is designed to contribute to greater financial resilience after a natural disaster
  - Developing a roadmap and network of experts for expanding the coverage of micro-insurance and disaster risk finance generally
  - Capacity Building and Analytics within governments – Strengthening the capacity of governments to take informed decisions on disaster risk finance, based on sound financial/actuarial analysis
  - Knowledge Management, Capacity Building, North-North and South-South collaboration – as a means of providing stakeholders with information that will lead to and inform actions in support of building financial resilience.

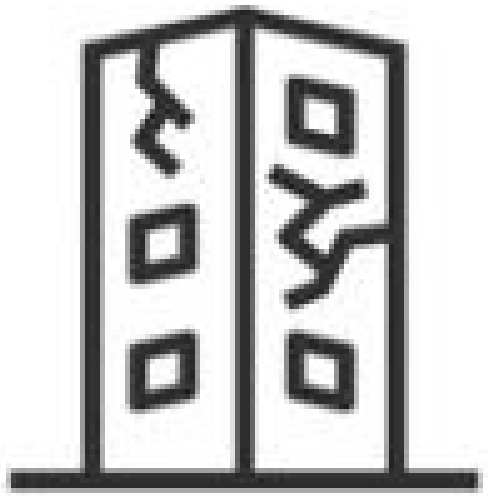
Exercise

Provide 3 strategies/solutions for the medium to long term which could be included in a disaster risk financing policy.

- Here are a few to get things going.
  - Enhance the availability of agricultural insurance. Can you think of other industries that would benefit from a similar type of insurance?
  - Engaging external development partners in establishing contingent financing arrangements. Can you think of a key development partner for your country?
  - Streamlining damage and loss data collection. What type of data would be useful? Do you think the region has the capacity for streamlining damage and loss data collection and analysis?

Examples of Strategies in DRF Policies

- Strategies and solutions for the medium to long term can include among others:
  - Creating an inventory of public assets and streamlining damage and loss data collection
  - Approving a disaster risk financing strategy and streamlining reporting of post-disaster expenditures
  - Establishing a contingency reserves fund, engaging external development partners in establishing contingent financing arrangements, and developing a disaster risk insurance program for key public assets, in partnership with the private insurance industry
  - Promoting government and the private sector partnership to implement flexible Social Protection systems; improve the availability and affordability of private and residential catastrophe insurance; and enhance the availability of agricultural insurance.



Disaster Risk Finance Solutions

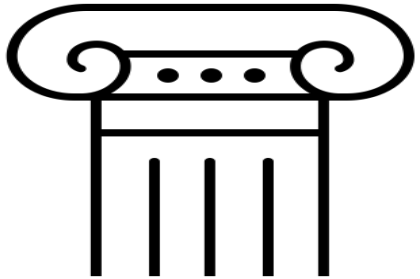
Exercise

Governments normally seek to strengthen the financial resilience of four different groups - national and local governments; homeowners and SMEs; farmers; and the poorest.

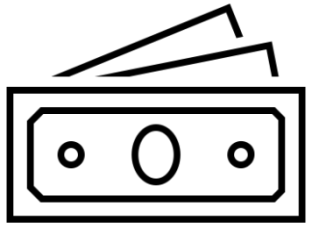
Briefly describe the disaster risk financing instruments best suited to address the challenges faced by each group mentioned above.

Homeowners and Small Businesses

Agriculture



Resilient livelihoods



Response and Budget Protection