

PROTECTING DEVELOPMENT GAINS, ON COUNTRIES' TERMS THE FUTURE OF PRE-ARRANGED CRISIS FINANCE IN IDA



 IDA Technical
Working Group

REPORT

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Date: October 2026



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About the IDA Technical Working Group

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Citation

Clarke, D., & Mustapha, S. (2026).
Protecting development gains, on countries' terms: the future of pre-arranged crisis finance in IDA.
Centre for Disaster Protection.

Acknowledgements

The authors are grateful to Reda Aboutajdine, Lucy Barnett, Matthieu Boussichas, Evie Calcutt, Caroline Cerruti, Kimberly Gire, Lawrie Harper-Simmonds, Chris Humphrey, Chris Kiggell, Kipkorir Koskei, Victoria Kwakwa, Kathryn Rhiannon Mason, Adam McVie, Conor Meenan, Amar Patel, Annalisa Prizzon, Sumati Rajput, Cristina Stefan, Rachel Turner and Ye Yu, and to the members of the IDA Technical Working Group, for peer review. They also thank Sergio Salinas Meza and Zulfiqar Younas for useful discussions that informed the paper, and Diana Thomas for editing and John McGill for design. This paper was commissioned and facilitated by ODI Global through the IDA Technical Working Group, with financial support from Coefficient Giving and additional financial support from UK aid.

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This publication reflects the views of the author and not necessarily the views of the Centre for Disaster Protection (or the authors' respective organisations). This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.

AI use

AI tools (Anthropic's Claude models) were used in this work for coding, analysis and first-pass editing support, under the direction of the authors. All judgements and choices are the authors'.

Data and code availability

The data compiled for this paper, the code for every figure and table, and the run logs that reproduce them are available from the authors on request.

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ACRONYMS

ARC	African Risk Capacity (ARC Ltd, its insurance affiliate)
Cat DDO	Catastrophe Deferred Drawdown Option
CERC	Contingent Emergency Response Component
CERP	Contingent Emergency Response Project
COVID-19	coronavirus disease 2019
CPIA	Country Policy and Institutional Assessment
CRDC	Climate Resilient Debt Clause
CRW	Crisis Response Window
CV	coefficient of variation
DPF	Development Policy Financing
DRM	disaster risk management
DRTT	Disaster Risk Transfer Transaction
DSC	Deployable Strategic Capital
G20	Group of Twenty
GDP	gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion and Results (Report)
IDA	International Development Association
IDA18, IDA20, IDA21, IDA22	the 18th, 20th, 21st and 22nd replenishments of IDA
IEG	Independent Evaluation Group (of the World Bank Group)
IFC	International Finance Corporation
IFRC	International Federation of Red Cross and Red Crescent Societies
IPF	Investment Project Financing
MDB	multilateral development bank
MIGA	Multilateral Investment Guarantee Agency
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PHCSP	Pakistan Hydromet and Climate Services Project
RCRF	Regional Climate Risk Fund
REPAIR	Regional Emergency Preparedness and Access to Inclusive Recovery (programme)
RRO	Rapid Response Option
SDR	Special Drawing Rights
SWAT	Sindh Water and Agriculture Transformation Project
V20	Vulnerable Twenty Group
WGI	Worldwide Governance Indicators



EXECUTIVE SUMMARY

Countries are not powerless in the face of natural hazards and health emergencies. Across the world, governments large and small, rich and poor, stable and fragile, are taking steps to build their resilience to climate and disaster risk. When a hurricane, pandemic or extreme heat hits, workers lose income, governments lose revenue, investment stalls and the living standards of the poorest suffer. If financing is deployed quickly and effectively for response and recovery, governments can better maintain essential services and stabilise the economy, protecting development gains.

Building resilience to shocks is no longer peripheral to development; it is essential to sustaining development gains and securing long-term prosperity, particularly in countries where shocks hit hardest.

The World Bank (hereafter ‘the Bank’) has increasingly embraced this vision of development, expanding and enhancing its Crisis Preparedness and Response Toolkit for client countries over the past five years. A key element of the Toolkit is pre-arranged crisis financing, with preparedness at its centre (International Development Association, 2025). Pre-arranged financing – agreed before a crisis, with clear disbursement rules and delivery channels – provides crisis finance that governments can plan, budget and own.

The reality, however, is that most World Bank crisis financing is still arranged after the shock: over World Bank FY18 to FY25, the Crisis Response Window (CRW) committed roughly nine times what the pre-arranged instruments paid out, and it arrived more slowly, with no preparedness incentive attached. This understates the share arranged after the shock, since it excludes response and reconstruction projects financed from country allocations. Moreover, the money was slow: the median CRW-financed operation approved between FY21 and FY25 made its first disbursement about seven months after Board approval, whereas deferred drawdown options (DDOs) have disbursed within days of a country’s request. As shareholders negotiate the twenty-second replenishment of the International Development Association (IDA22), the largest source of concessional finance for the world’s poorest countries, this paper takes stock of the World Bank’s crisis financing toolkit and identifies the changes needed to scale up pre-arranged crisis financing for its poorest and most fragile member countries.

The paper's vision has three parts:

- **Scale:** as an illustration, if every IDA country held pre-arranged finance cover of around 1% of GDP (the country limit for the Bank's main pre-arranged instrument, with its US\$500 million cap and US\$40 million floor), standing coverage would be about US\$16.7 billion across 78 countries, compared with US\$1.42 billion across 27 countries today. Coverage is not cost: that portfolio would disburse about US\$4.0 billion in an average year and about US\$14.4 billion in a one-in-twenty year, compared with about US\$0.3 billion and US\$1.0 billion from today's portfolio.
- **Access:** every member should have access to at least one instrument that pre-arranges new financing and suits its circumstances. Today, members in fragile situations rely mainly on instruments that reallocate undisbursed funds from existing World Bank projects. Eligibility rules, access criteria, and the opportunity cost of instruments that provide new financing keep these instruments out of those members' reach. Uptake of Development Policy Financing with a Catastrophe Deferred Drawdown Option (the DPF Cat DDO) among IDA countries is about 40%, and only six fragile countries have ever held one, five of them small states.
- **Effectiveness:** pre-arranged finance can only protect people and accelerate recovery if delivery systems are able to absorb and deploy funds quickly. Expanding it must therefore go hand in hand with investments in preparedness, including shock-responsive social protection systems, contingency planning, targeting mechanisms, and payment infrastructure.

The vision raises a concern about capital. Pre-arranged finance ties up IDA's capital, and capital held back for tomorrow's crises cannot fund development today. On today's small portfolio, the cost is not material. At the scale we describe, or as IDA's headroom declines, it would be material, and the solutions take years to implement, so the work should start now.

Our solution has two parts. First, IDA should measure the risk in its pre-arranged portfolio as it already measures the rest of its balance sheet, on a solvency basis, as the Multilateral Investment Guarantee Agency (MIGA) does for its guarantees; to the best of our knowledge, it does not yet do so. Second, once it does, IDA should consider

insuring the grant component of that risk in bad years, while keeping all the credit risk on its books. IDA's comparative advantage is to design, fund and deliver the cover; it does not have to hold all of the risk itself. The strongest case for doing so is that transferring a portion of disaster risk allows IDA to finance more than it otherwise could. Insurance costs more than it pays back in an average year: on our estimates, the capital it releases would need to deliver about 7.5% in development impact annually to justify it, a low bar for IDA, whose donors expect each dollar they contribute to achieve far more, provided the released capital is put to work. The break-even return would be lower than 7.5% if IDA Deputies valued not being asked, as they were after COVID-19, to refill IDA in the worst year.

In essence, we propose that IDA apply to its own balance sheet the layered approach the World Bank already recommends to its clients as they plan financially for potential crises. This means matching different financing instruments to different levels of risk, reserving the most costly forms of protection, usually risk transfer, for the least frequent yet most damaging shocks.

To realise this vision, we propose a combination of short- and medium-term actions. We urge IDA Deputies to request:

Pre-arranging a larger share of IDA's crisis financing, particularly for shocks that can be modelled:

1. That IDA sets an ambition for the share of its crisis-response financing that is pre-arranged and proposes how the larger volume would be funded.
2. That IDA considers developing instruments that cover countries' most extreme shocks, with higher triggering thresholds than those of today's pre-arranged loans and grants.

Reaching the most fragile countries:

3. That IDA develops a contingent investment project financing instrument (an IPF Cat DDO) with the same 4-for-1 incentive and country coverage limits as the existing DPF Cat DDO, building on the experience of the Regional Emergency Preparedness and Access to Inclusive Recovery (REPAIR) programme, to pre-arrange finance for specific response needs, ranging from rebuilding critical infrastructure after an earthquake to buying medical countermeasures during a pandemic.

4. That IDA works with its client countries to diagnose where existing and new instruments fall short. Particular attention should be paid to the preparation and approval process, more reliable triggers, more comprehensive protection, and a workable balance between flexibility and accountability in how payouts are used.

Embedding preparedness in planned response:

5. That IDA embeds upstream preparedness and prevention in each pre-arranged instrument and regularly monitors and evaluates the impact of preparedness requirements and investments.

Reducing the capital cost:

6. That IDA explains how contingent crisis financing enters its deployable strategic capital today and explores how to measure that risk on a solvency basis before the portfolio grows.

7. That IDA asks the World Bank Treasury and MIGA to assess the feasibility and cost of transferring the grant component of the risk in its existing DDO portfolio, and to recommend any standardisation of triggering conditions that would reduce that cost.

Ultimately, as crises become more frequent, interconnected and costly, managing risk and strengthening resilience must become fundamental objectives of development. Countries increasingly recognise that they must be at the centre of crisis preparedness and response: leading and coordinating efforts to plan for shocks before they arrive, and owning solutions that they can integrate into their budgets, systems, and long-term development strategies. The job of the World Bank and the other development banks is to reinforce that country ownership with pre-arranged financing that countries can access, and to do so at the lowest cost to the capital shareholders entrust to them, so that every dollar held against tomorrow's crisis is put to work rather than left idle.



INTRODUCTION: CRISIS RISK IS DEVELOPMENT BUSINESS

1.1 Why the World Bank must be in this business

Crises are a development problem. Recent experiences from the COVID-19 pandemic, Pakistan's devastating 2022 floods and Cyclone Freddy in Mozambique in 2023 show that disasters can destroy in days and months what development finance builds over decades, and that the costs fall hardest on the countries and communities least able to absorb them. Protecting development gains is therefore development work.

Pre-arranged financing is central to the solution because it changes how a crisis response is organised and how quickly it arrives. Money agreed before the event can be planned and budgeted by the government, enabling critical preparedness measures to be done in advance such as linking the finance to shock-responsive social protection systems and setting up protocols and coordination mechanisms within government and with humanitarian partners. Appeals and ad hoc allocations arranged after a shock allow none of this.

For risks that can be modelled and planned for, such as geophysical hazards, climate shocks and public health crises, the welfare benefits of preparedness and rapid response far outweigh the cost of financing the response. Evidence is growing that vulnerable households receiving timely cash transfers have greater food security, preserve their human capital, and are less likely to resort to negative coping strategies (Pople et al., 2026).

Timely response also boosts economic growth following an event, and firms that receive help recover their profits before other damaged firms (Del Valle et al., 2020; Collier et al., 2024). Arranging financing ahead of shocks can also improve investor perceptions of a climate vulnerable country and protect its debt trajectory by breaking the cycle of expensive emergency borrowing (GFDRR, 2026; Moody's Ratings, 2025). Given these benefits, disaster-response finance should be pre-positioned as far in advance as possible rather than left to slow and unpredictable sources that aid cuts are making even more volatile. As the largest source of concessional finance for the world's poorest and most vulnerable countries, IDA needs to expand and evolve its role in crisis protection as aid budgets shrink.

As a recent World Bank evaluation notes, "The next pandemic is a question of when, not if, and the cost of inaction dwarfs the cost of preparation" (Independent Evaluation Group, 2026). Another pandemic on the scale of COVID-19 is estimated to have nearly a 70% chance of occurring within the next 25 years. COVID-19 imposed global costs above US\$13 trillion and cost the World Bank US\$53.5 billion for IDA countries alone, many times the estimated investment required to build robust preparedness and response systems. The same applies to climate shocks and other natural hazards, which

cause around US\$300 billion in asset losses worldwide each year, although their development cost is higher still because poor households bear a disproportionate share of the welfare consequences (Hallegatte et al., 2017). Investing in preparedness is prudent risk management, and it is one of the most cost-effective ways to protect development progress against shocks that advances in science and technology now allow countries to anticipate and plan for.

Most importantly, demand is building at the country level and below, as governments increasingly seek larger, more predictable, and more accessible pre-arranged financing to manage climate, disaster, and other crisis risks. The V20 group of climate-vulnerable finance ministries has called for pre-arranged financing to grow from around 2% of international crisis finance today towards 20% by 2035, against roughly 35% of crises that can be modelled in advance (Climate Vulnerable Forum and V20, 2025; High-Level Panel on Closing the Crisis Protection Gap, 2025). Several countries have requested support from development partners, including through the Global Shield against Climate Risks¹, to adopt more

and better pre-arranged financing for climate and disaster risks, and many are integrating disaster risk into their fiscal frameworks and development strategies. Countries are also setting up or enlarging national disaster funds from their own resources despite limited fiscal space (Mustapha et al., 2026). This paper asks what this shift at the national level should mean for the largest provider of concessional financing to the world's poorest and most fragile countries: the World Bank's International Development Association (IDA).

The primary audiences for the paper are IDA's Deputies, who negotiate the replenishment and to whom its recommendations are addressed; the World Bank Group's Board of Executive Directors, which sets and approves the Bank's policies and strategic direction; the Chief Risk Officer, who manages the Bank's balance sheet; and managers and operational staff supporting crisis preparedness and response. Secondary audiences include client countries seeking to strengthen their fiscal resilience to shocks, as well as development partners and practitioners engaged with the Bank Group to support client countries on this agenda.

1.2 Scope and structure of paper

The international system finances three categories of crises: predictable needs, which require sustained and flexible funding; modellable risk, such as climate-related and seismic hazards, or disease outbreaks and pandemics, which is best met by risk-based finance, arranged before the event; and unknown risk, which will always need discretionary money after the event (Poole et al., 2020). This paper's scope is the middle segment, the class of risk that can be modelled and paid for in advance, and the instruments built for it.

Two factors keep a risk within that segment, both concerning what can be written into a contract rather than about anyone's good faith. The first is that it must be non-malicious. Some risks arise from nature or accident; others are inflicted deliberately, by someone who means harm. Conflict is the second kind, and this paper excludes it because pre-arranged financing for malicious risks can introduce unintended incentives. Whether it happens turns on an opponent's intent and capability, both of which respond to circumstance.

The second factor is that the borrower must not create the risk, even when it controls the claim. Although disaster risks in this middle segment are not fully exogenous, the affected party has substantially less influence over the triggering event than in the case of macro-fiscal crises, which are jointly influenced by global conditions and domestic policy. This reduces, though does not eliminate, problems of moral hazard and adverse selection.

The rest of the paper is structured as follows. Section 2 outlines IDA's crisis financing offer as it stands and who it reaches. Section 3 sets out the vision: scale, access and effectiveness. Section 4 examines what scaling would mean for IDA's balance sheet and how the capital cost could be reduced. While capital is not a binding constraint today, it could become one as ambition grows, and the analysis suggests the challenge is manageable. Section 5 concludes with the decisions IDA22 could take to realise a more ambitious vision of pre-arranged crisis financing.

1 The Global Shield is currently active in Bangladesh, Costa Rica, The Gambia, Ghana, Madagascar, Malawi, Pakistan, Peru, The Philippines, Rwanda, Senegal, Somalia and the Pacific region.



HOW IDA FINANCES CRISES TODAY

Over successive replenishment cycles, IDA has developed an extensive crisis financing toolkit, reflecting its growing emphasis on crisis preparedness and response. As part of IDA21, Management committed to supporting greater uptake of the enhanced Toolkit, approved in February 2024 (International Development Association, 2025). The enhanced Toolkit aims to address persistent gaps in financial preparedness by helping IDA countries integrate a wider range of pre-arranged and risk-based financing instruments into their fiscal planning and crisis preparedness strategies.

This section outlines what the Toolkit offers, sets out who is eligible for each instrument and who actually uses it, and compares the resulting flows with the financing IDA arranges after a shock. It does not assess the capital consequences of the instruments, which are covered in Section 4.

The Toolkit comprises four categories of pre-arranged crisis financing instruments, distinguished by what each one pre-arranges.

1. Instruments that **pre-arrange new financing from the World Bank** for pre-defined disasters.
 - **Development Policy Financing with a Catastrophe Deferred Drawdown Option (DPF Cat DDO)** is a contingent financing line approved before a disaster, providing immediate liquidity to address shocks from natural hazards and public health emergencies caused by a biological event. It provides budget support quickly once the event occurs and the drawdown trigger is met, provided programme implementation remains satisfactory. The DPF Cat DDO was initially offered only to International Bank for Reconstruction and Development (IBRD) countries and was extended to IDA countries in 2018 (World Bank, 2024c). There is no upfront or stand-by fee for this instrument for IDA countries.
 - **Investment Project Financing with a Deferred Drawdown Option (IPF DDO)** is a contingent financing line approved before a disaster, providing immediate funding for specific project or public institution expenditures when an unforeseen shock occurs. Not all IPF DDOs are designed with a crisis or emergency preparedness objective; this paper considers only those that are. The IPF DDO was formalised as part of the Toolkit in 2024 (World Bank, 2026b). As with the DPF Cat DDO, there is no upfront or stand-by fee for IDA countries.

2. Instruments that **pre-arrange the reallocation of existing resources**, allowing countries to redirect resources already allocated to them towards disaster response and recovery.
 - **The Rapid Response Option (RRO)** allows a country to repurpose up to 10% of its unused Bank financing across its portfolio to address emergency needs when a crisis arises in a financial year, either through a Contingent Emergency Response Project (CERP) or by topping up an existing DPF Cat DDO.
3. Instruments that **pre-arrange a deferral of repayments**.
 - **The Climate Resilient Debt Clause (CRDC)** allows a country to defer debt service payments on Bank loans for up to two years following an eligible disaster, creating fiscal space to respond to the shock (World Bank, 2024b). A CRDC does not reallocate resources; it changes their timing. For IDA CRDCs, deferred payments are capitalised and repaid in full, so the economic value of the original loan and payments remains unchanged. The World Bank charges five basis points per year for a CRDC, but this charge is not passed on to the borrower; it is met from other resources, such as donor-funded trust funds.
4. Instruments that **pre-arrange new financing by mobilising private capital**, transferring disaster risk to the private sector through Disaster Risk Transfer Transactions (DRTTs). The Bank intermediates transactions with the market on behalf of the client, in forms ranging from catastrophe bonds to derivatives and insurance and reinsurance arrangements, which can then be embedded in Bank financing operations. To date, the Bank has not intermediated a risk transfer transaction for any individual IDA country², so these instruments are not discussed further.

These instruments form part of a broader crisis management toolkit, with the Crisis Response Window (CRW) serving as the other dedicated crisis financing mechanism. The CRW provides additional financing beyond country allocations to (a) respond to severe natural hazards, public health emergencies, and economic crises; and (b) respond earlier to slower-onset crises, namely disease outbreaks and food insecurity. The remainder of this section assesses how IDA countries are using the pre-arranged instruments and the CRW to manage disaster risk, focusing on eligibility and access criteria, patterns of uptake, and use in real-world crisis situations.

2.1 Eligibility, access and uptake of pre-arranged crisis financing

Uptake of an instrument depends on two factors. **Eligibility** determines which countries may, in principle, hold it. **Access criteria** determine whether an eligible country can obtain it in practice. The Bank distinguishes the two, and that distinction governs how to read the figures in this section: an eligible country may want an instrument but be unable to meet its access criteria. Low uptake among eligible countries therefore does not automatically equate to low demand.

In principle, all IDA countries are eligible for most instruments in the Toolkit. The CRDC is the exception: it is currently limited to 45 small states and small island economies (henceforth ‘small states’) (World Bank, 2024b). As shown in Figure 2.1, uptake has been uneven, and the pattern largely reflects ease of access rather than

eligibility rules. Instruments that reallocate or reprofile a country’s existing resources and impose no additional access criteria have been adopted much more widely: the RRO and the CRDC each have uptake exceeding 50% among the countries eligible for them. Fewer than half of eligible IDA countries held either DDO instrument as of 30 June 2026. The RRO and the CRDC are relatively quick to prepare and approve, which has helped their uptake; the DPF Cat DDO’s longer preparation and its access criteria have slowed its uptake.

Uptake of the DPF Cat DDO among IDA countries stands at roughly 40%, despite the instrument having been available to IDA clients since FY2018 and further incentivised from FY2020 through the 4-for-1 financing offer introduced under IDA20 (International

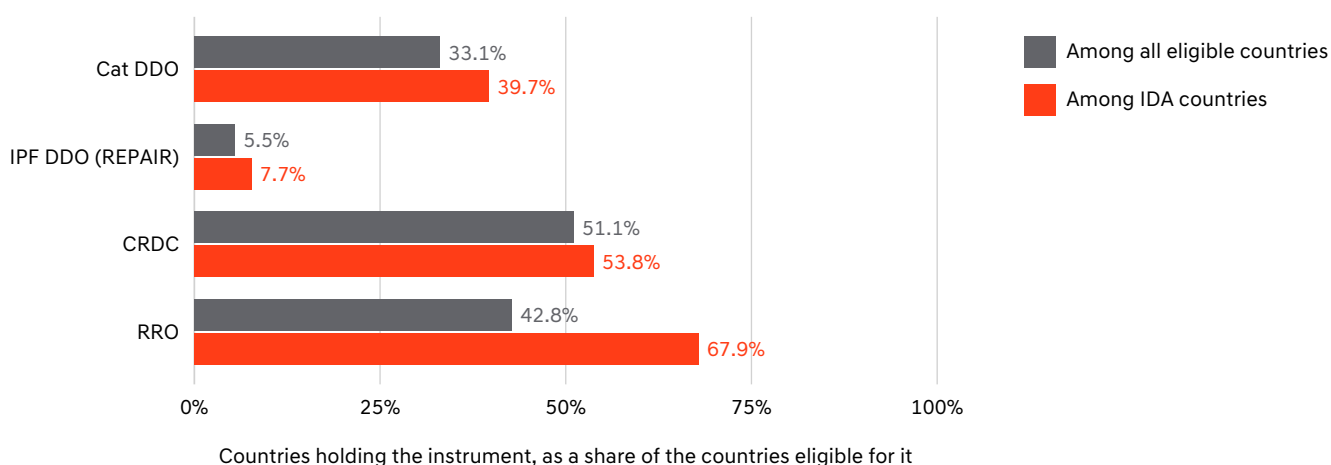
2 The Bank issued pandemic bonds in 2017 under IBRD’s “capital at risk” programme to support the Bank’s Pandemic Emergency Financing Facility, with US\$50m of the premium paid for by IDA. The facility was designed to provide an additional source of financing to help the world’s poorest countries respond to cross-border, large-scale outbreaks and was officially closed in 2021. All other DRTTs intermediated by the Bank were for IBRD countries.

Development Association, 2022). Under that arrangement, the share of a Cat DDO to be met from a country's own core IDA allocation was reduced from 50% to 25%, with a further 25% met from the CRW and the balance topped up by IDA. In effect, IDA subsidises the instrument so that US\$1 of a country's own allocation secures up to US\$4 of contingent cover, making the DPF Cat DDO both one of the longest-standing and the most concessional crisis financing instruments in the Bank's toolkit for IDA countries. As discussed below, its access criteria, which every eligible country must meet, are likely to be one of the main barriers to uptake.

By comparison, the IPF DDO offer was formalised only in 2024, so its lower adoption is less surprising. It is also the less strongly incentivised of the two for an IDA country to hold, with a 2-for-1 financing structure:

50% comes from the country's own allocation and 50% from the IDA General Pool. That was the original financing structure of the DPF Cat DDO, and it was changed because it was recognised as a barrier to uptake (International Development Association, 2022). It is unclear why the incentive differs between the two DDOs, particularly when an IPF DDO is designed for catastrophe risk, as the DPF Cat DDO is. One possible reason is a concern that the IPF DDO's project-specific triggers make it easier to trigger than the DPF Cat DDO, with consequences for IDA's balance sheet. The evidence to date does not support this. DPF Cat DDO triggers are tied to a legal declaration of emergency, yet DPF Cat DDOs are triggered often: 23 of the 43 IDA Cat DDOs effective by 30 June 2026 had been drawn at least once, and the typical country draws within about two years (Section 2.2).

Figure 2.1: Uptake of the World Bank's crisis preparedness and response instruments at 30 June 2026



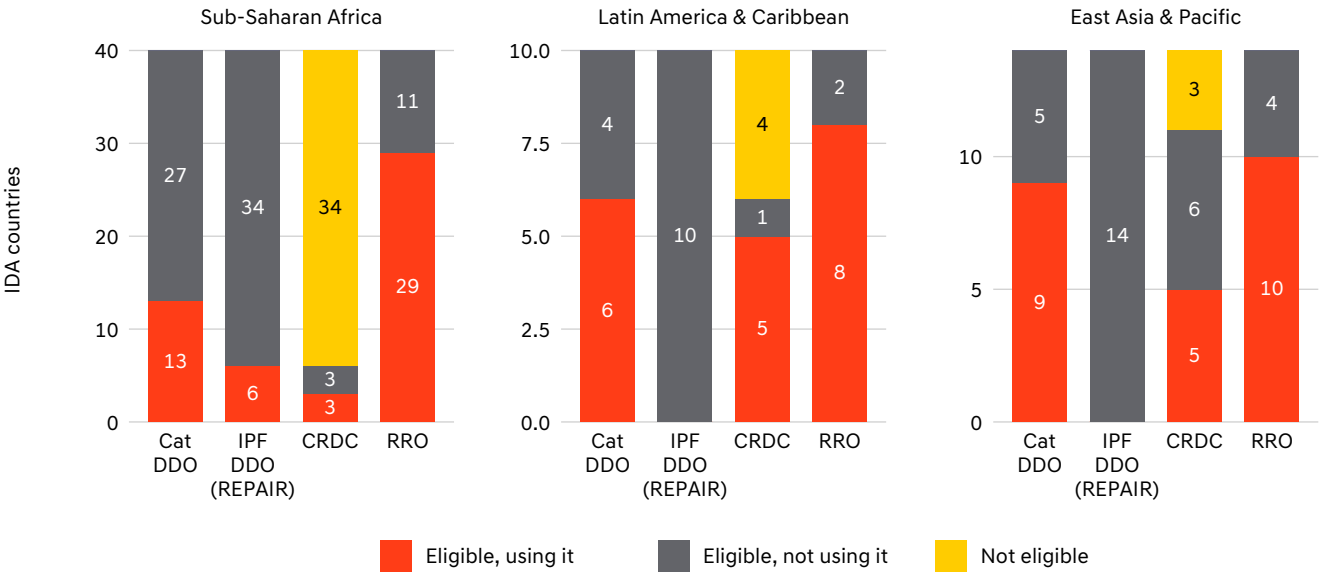
Notes: An instrument counts as taken up when an operation is approved or, for the RRO and the CRDC, when the country's financing agreements are amended to include it. IDA countries are the 78 on IDA or blend terms; all eligible countries are the 145 World Bank borrowers, except the CRDC, which is offered to 45 small states, 26 of which are on IDA terms. The Cat DDO counts any operation carrying IDA money. Only IPF DDOs that relate to crisis preparedness are shown.

Source: Authors' compilation from World Bank project documents, Climate Resilient Debt Clause product note (November 2024), and FY26 Country Classification.

There are also regional disparities in uptake. Despite accounting for the majority of IDA countries, Sub-Saharan Africa is the region least reached by the current Toolkit, with the exception of the RRO. Most countries in Africa are also not eligible for a CRDC³, because the instrument is limited to small states and small island economies, most of which are in the Caribbean and the Pacific. In contrast, despite low uptake of the IPF DDO, Africa accounts for all six IDA IPF DDOs with a crisis preparedness objective, through

the Regional Emergency Preparedness and Access to Inclusive Recovery (REPAIR) Programme launched in 2024 (World Bank, 2024d). As Box 2.1 describes, REPAIR is a regional disaster risk financing initiative designed to help countries in Eastern and Southern Africa access pre-arranged financing ready to be deployed within seven days of a disaster. It offers a suite of instruments tailored to different scales of climate shock, with the IPF DDO as a key component (World Bank, 2024d).

Figure 2.2: Eligibility and uptake among IDA countries in three regions, 30 June 2026



Notes: The three regions shown account for 64 of the 78 IDA countries. Sub-Saharan Africa: 40; Latin America and the Caribbean: 10; East Asia and Pacific: 14. Uptake is counted as in Figure 2.1.

3 Only 6 out of 40 IDA countries in Africa are eligible for CRDCs

BOX 2.1: REPAIR – RE-IMAGINING PRE-ARRANGED INVESTMENT PROJECT FINANCING IN FRAGILE CONTEXTS

Eastern and Southern African nations face growing vulnerability to climate-related disasters, and recent shocks have had devastating impacts on their populations and economies⁴. Historically, the region's disaster response mechanisms have relied heavily on ex-post financing and budget reallocations, leading to delayed responses and inadequate recovery funding. To address the region's limited access to pre-arranged financial instruments, the World Bank developed the Regional Emergency Preparedness and Access to Inclusive Recovery (REPAIR) Programme in 2024, which is tailored to the region's disaster risk profile and institutional environment.

Current beneficiaries are Angola, Burundi, Comoros, Madagascar, Malawi, Mozambique, Seychelles and Zambia (three fragile and two small states), with US\$650 million of World Bank financing among them. A ninth country operation, Democratic Republic of Congo, was approved in July 2026 but is not yet effective.

Two core principles underpin REPAIR: speed, ensuring funds are disbursed within seven days of an eligible shock, and flexibility, enabling countries to direct resources where they are needed most. The IPF DDO is a central element of REPAIR's financing strategy, working alongside other instruments⁵ to provide protection against shocks of varying severity, from moderate to catastrophic events. While investment project financing is not typically associated with rapid, flexible crisis response, the IPF DDO achieves both speed and flexibility through three key features, ensuring that resources reach vulnerable populations and critical infrastructure affected by disasters.

1. Linking funding to a Regional Climate Risk Fund (RCRF). Instead of funding specific eligible expenditures, the IPF DDO backstops the Regional Climate Risk Fund managed by ARC Ltd⁶. A country can request the drawdown once the reserve portion of the fund has fallen by at least 50% from its initial level. To date, two countries, Madagascar and Mozambique, have drawn on their IPF DDO to replenish the fund.
2. A governance framework that links the RCRF to country delivery channels. The framework sets out eligibility criteria for delivery channels and reporting arrangements common to all countries; a blockchain system to trace funds; and a third-party monitoring agent for all countries. The fund supports cash transfers to the poor, small and medium-sized enterprises and farmers, and repairs to critical infrastructure.
3. Grant-funded technical assistance to set up the RCRF and to prepare country systems to move funds quickly upon a shock. This covers the fund's start-up and operating costs and the preparation and testing of procedures for moving funds between ministries of finance, country systems and beneficiaries.

Source: Adapted from World Bank (2025e) and World Bank (2025c).

4 A severe drought in 2024 affected 9.8 million people in Zambia, 5.7 million in Malawi and 2.8 million in Angola under the El Niño climate pattern; heavy rainfall in Burundi's capital affected more than 200,000 people. Southern Africa has already experienced a significant increase in temperature and is expected to warm faster than global averages.

5 REPAIR sets up a Regional Climate Risk Fund for countries to pool their extreme climate risks and transfer them to international markets using risk transfer instruments such as parametric insurance.

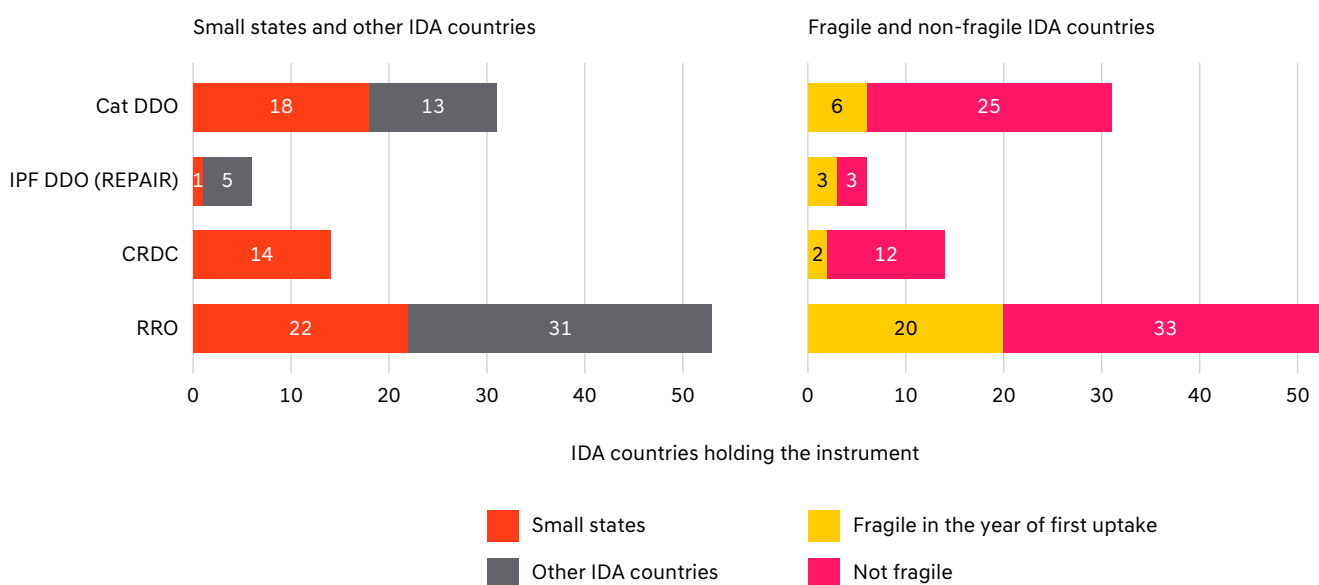
6 ARC Ltd is the insurance affiliate of ARC Agency, a specialised agency of the African Union. It is regulated and supervised by the insurance regulator of Bermuda and is registered as a non-profit.

Adoption of most instruments is relatively high among small states but remains very limited among fragile countries, particularly for the DPF Cat DDO. Since the instrument was introduced, six fragile countries have adopted a DPF Cat DDO, five of them small states. Somalia is the only fragile state that is not a small state to have done so. Three further fragile countries, Burundi, Comoros and Mozambique, have accessed IPF DDOs through REPAIR; a fourth, the Democratic Republic of Congo, was approved in July 2026 but is not yet effective.

Two access criteria constrain uptake of the DPF Cat DDO among fragile and lower-income countries, and both are inherent to budget support. Because the instrument provides budget support directly to government rather than being earmarked for specific expenditures, Bank policy requires that a country maintain an adequate macroeconomic framework at approval and at renewal. As a development policy

operation, it also requires a satisfactory programme of policy and institutional actions. Both requirements reflect prudent lending practice for budget support, but they create a tension. The countries most exposed to crises are also those most likely to face macroeconomic difficulty, so some of the countries that would benefit most from pre-arranged crisis financing cannot access the Bank's most concessional pre-arranged instrument. The remedy is not to relax these criteria – they are what make budget support prudent – but to strengthen the alternative that does not need them: the IPF DDO, which disburses against projects rather than the budget, carries no such criteria but is today less strongly incentivised. REPAIR's experience in Mozambique, and the design of its operation in the Democratic Republic of Congo, show that the IPF DDO and its triggers can be tailored to fragile contexts without sacrificing speed, flexibility or transparency in the use of funds.

Figure 2.3: Uptake among small states and fragile IDA countries, 30 June 2026



Notes: Small states are the 45 countries eligible for a Climate Resilient Debt Clause, so every IDA-terms CRDC holder is a small state. A country is counted as fragile if it was on the World Bank's list of fragile and conflict-affected situations in the financial year it first took up the instrument.

2.2 Comparing pre-arranged financing with financing arranged after a crisis

Despite growth in the DPF Cat DDO portfolio, pre-arranged financing accounts for only a small share of IDA's crisis response financing in any year. When crises occur, financing arranged after the shock from country allocations is the primary source of support for IDA countries (International Development Association, 2025). These allocations typically finance operations designed after the event and are supplemented by the CRW, as illustrated by Pakistan's 2022 floods (Box 2.2). The CRW assists countries in the aftermath of a severe natural hazard, health emergency or economic shock and can also finance early responses to certain slow-moving disasters before they escalate, subject to an aggregate cap of US\$1 billion.

Most countries holding a DPF Cat DDO trigger it and draw within a few years. The typical IDA country waits about two years from the operation taking effect to its first draw – a median of 2.16 years⁷ – and has roughly a 60% chance of drawing within one three-year IDA cycle. DPF Cat DDOs have a record of disbursing within days of a country's request after a disaster, making them among the timeliest sources of disaster financing (Mustapha and Benson, 2024; World Bank, 2026c). REPAIR's IPF DDO has a seven-day disbursement target, which it has met so far.

Except for the small share of the CRW that has financed DPF Cat DDOs since IDA20, most CRW financing is arranged and committed to a specific country after a shock. It usually takes the form of a new investment project financing operation or additional financing for an existing one. Despite accelerated emergency procedures, months often pass before such an operation is approved and begins disbursing. Across the 73 CRW-financed operations from FY18 to FY25 that can be traced to a project, the median time from Board approval to effectiveness was about three months, and from approval to first disbursement about eight months; half of the CRW's money had been disbursed after a median of about nineteen months (Figure 2.4; Annex D).

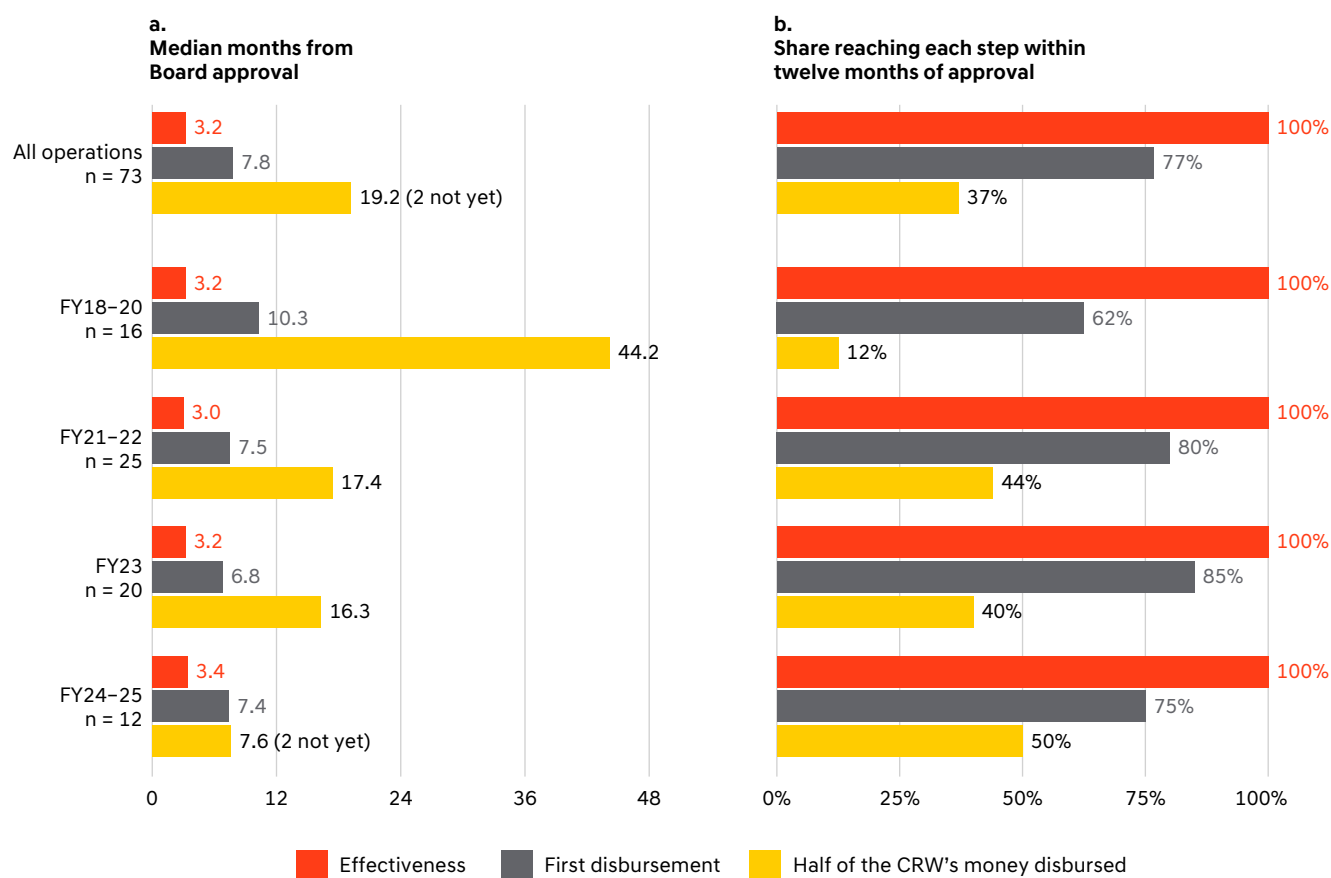
The pattern has been steady over time: approval to effectiveness has taken about three months in every period since FY18, while approval to first disbursement has fallen from about ten months for operations approved in FY18 to FY20 to about seven months for those approved since FY21. In the case of the Pakistan 2022 floods, more than four months passed between the government's request for support and the approval of the first disaster response projects, including a CRW-financed one (Box 2.2). On the available evidence, the World Bank's ex-post crisis financing, though improving, disburses much more slowly than pre-arranged financing when a crisis occurs.

Measured by the amount of Bank financing mobilised after a shock, CRW commitments were more than nine times the amount paid out by IDA's pre-arranged instruments (Figure 2.5). Excluding CRW financing that formed part of Cat DDO operations, the CRW committed about US\$7.8 billion over FY18 to FY25, an average of about US\$1.0 billion a year, across 70 distinct countries. Over the same eight years, IDA's pre-arranged instruments disbursed US\$834 million, almost all of it from Cat DDO drawdowns (the figure excludes RRO reallocations, which redirect money already committed to a country rather than pre-arranging new financing). Of the CRW's US\$8.04 billion in gross commitments over the period, US\$210 million financed the CRW share of Cat DDO operations. The multiple does not depend on the COVID-19 pandemic: through IDA20 (FY23 to FY25), after the Bank's COVID-19 crisis period, the CRW committed about US\$3.1 billion against US\$0.37 billion of pre-arranged disbursements, a multiple of about 8.5.

CRW funding and IPF DDOs are also more heavily concentrated in the most fragile countries than the rest of the Toolkit (Figure 2.6). Slightly more than half of CRW commitments and 71% of IPF DDO drawdowns have reached fragile countries, compared with 3% of DPF Cat DDO disbursements. Among the Bank's main crisis financing instruments, the CRW and the newly formalised IPF DDO therefore focus most on the most fragile countries.

7 Estimated using the central model in Annex A, in which all drawdowns occur at a constant rate in normal years and a shock year occurs one year in 10. Annex A also reports the estimate per operation.

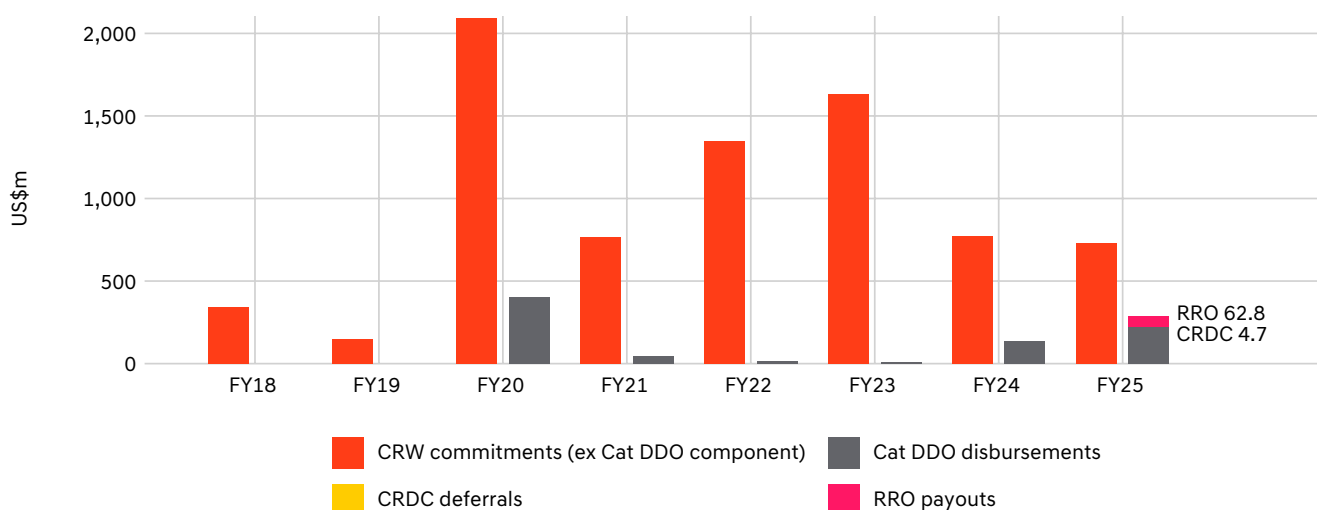
Figure 2.4: Crisis Response Window operations: time from Board approval to money moving



Notes: Centre for Disaster Protection analysis of the 73 CRW-financed operations approved from FY18 to FY25 that can be traced to a specific project, holding US\$3,751 million or 47% of the window's commitments (Annex D). Eight of the 73 are development policy operations, five of them approved in FY21 to FY22, and the rest are investment projects; none is a Cat DDO. The FY24 to FY25 median time to half disbursed excludes two operations that had not reached that point by 31 August 2026, making that period appear faster than it is; panel b's 12-month shares provide a fairer comparison across periods.

Source: World Bank Finances One (IDA credits, DS00976) and project portal financial activity; Centre for Disaster Protection analysis (Annex D).

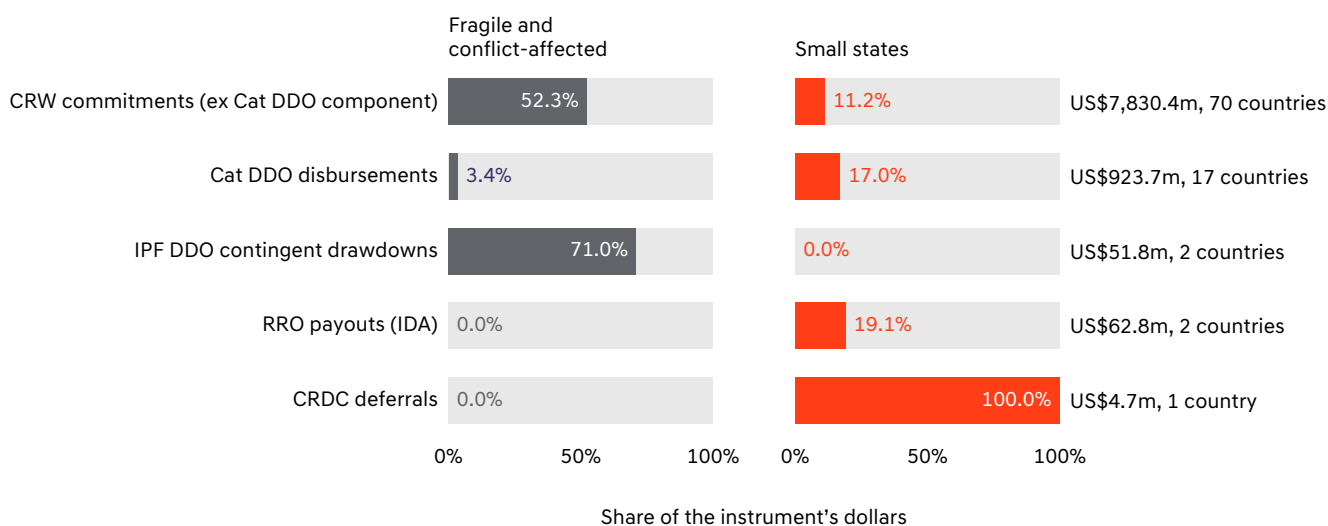
Figure 2.5: Comparing Crisis Response Window commitments and crisis toolkit disbursements to IDA countries by financial year, FY2018 to FY2025



Notes: The series are not like-for-like. The Crisis Response Window is commitments at approval, after a country-specific shock; the other instruments are cash disbursed or, for the CRDC, debt service deferred. RRO payouts are shown for comparison but are not counted as pre-arranged disbursements in the text because the RRO reallocates money already committed to a country rather than pre-arranging new financing. The window is FY2018 to FY2025, the years for which every series is available. The CRW column excludes US\$209.8 million of CRW financing that formed the CRW component of Cat DDO operations. The first IPF DDO contingent drawdowns, US\$51.8m, fall in FY2026, outside the window, and are not shown. For the one Cat DDO operation jointly financed by IDA and IBRD, Cabo Verde P160628, we include the IDA credit disbursement only. Over the window the CRW column totals about US\$7.8 billion and Cat DDO disbursements to end-FY2025 total US\$28.9 million.

Source: IDA Crisis Response Window: the World Bank's published CRW allocation table, converted from SDR. Pre-arranged instruments: see Figure 2.1.

Figure 2.6: Share of each instrument's dollars reaching fragile and small-state countries, FY2018 to FY2026



Notes: Fragile countries are those on the Bank's list of fragile and conflict-affected situations for the financial year of the operation; small states are the 45 countries eligible for a Climate Resilient Debt Clause. The grey bar represents 100% of the instrument's dollars; each instrument's total and the number of countries that received any of it are shown on the right. The IPF DDO, RRO and CRDC shares rest on 2, 2, 1 recipient countries, respectively, and should be read with that in mind.

Source: IDA Crisis Response Window: the World Bank's published CRW allocation table, converted from SDR. Pre-arranged instruments: as in Figure 2.1. Groups: World Bank lists of fragile and conflict-affected situations; Climate Resilient Debt Clause product note.

BOX 2.2: PAKISTAN, 2022 – RELIANCE ON CRISIS FINANCING ARRANGED AFTER THE EVENT

In 2022, Pakistan endured floods that destroyed assets, lives and livelihoods on a large scale: US\$30 billion in damage and losses, equivalent to 8.5% of GDP, with 15% of the population affected. Emerging from COVID-19 and recurring episodes of macroeconomic instability, the government faced the crisis with depleted domestic buffers and no pre-arranged crisis financing. It relied on post-event budget reallocations and external assistance to fund response, recovery and reconstruction.

The World Bank moved about as fast as financing arranged after the event allows. Based on available information, one of the fastest instruments in the entire response was a budget reallocation mechanism within an existing Bank project,⁸ and even that took 46 days from request to disbursement because it had no funding set aside in advance (Ahsan, 2023; World Bank, n.d.a). It reallocated US\$150 million towards the government's emergency cash assistance programme, funding half of that response. The Bank then mobilised close to US\$3 billion in new financing. Nearly all of it (92%) was new investment lending, and the first US\$1.7 billion, including US\$350 million from the CRW, was approved more than four months after the government's request (Sidibe, 2023). Another loan⁹ took eight months to move from concept to approval, partly due to protracted discussions on federal–provincial arrangements for delivery (World Bank, 2023). Even after approval, projects targeting vulnerable groups¹⁰ experienced significant implementation delays, emphasising how limited advance planning and preparedness slow the translation of financing into assistance on the ground (Inden, 2026; Onimus, 2026).

Where the money came from matters as much as when it arrived. Most of the Bank's crisis financing was drawn from Pakistan's own national allocation: the flood response consumed the bulk of the FY23 allocation and forced the frontloading of FY24's to keep the rest of the pipeline alive. The country envelope paid for the crisis, after the event, slowly, and without any incentive for preparedness.

8 Pakistan Hydromet and Climate Services Project (PHCSP)

9 Integrated Flood Resilience and Adaptation Project

10 This includes the Sindh Water and Agriculture Transformation Project (SWAT), which provides cash transfers to small and medium-sized farmers to help recover from the 2022 flood; the Sindh Strengthening Social Protection Delivery System Project, which targets pregnant and lactating women; and the Sindh Integrated Health and Population Project, which finances public health emergency response to mitigate the health impacts of the floods and the reconstruction and rehabilitation of health facilities.

2.3 Two gaps in today's offer

The Bank's Crisis Preparedness and Response Toolkit has evolved over successive replenishments, improving existing instruments and adding new ones. However, the majority of the Bank's crisis financing is still arranged after a shock, through country allocations supplemented by the CRW and largely on a case-by-case basis.

Uptake and coverage are rising across most instruments, and adoption among IDA countries is highest for those that reallocate or reprofile a country's existing resources: the RRO and the CRDC each exceed 50% uptake among eligible countries. Uptake of the DPF Cat DDO stands at about 40%, despite the instrument having been available since 2018 and being the most strongly incentivised in the Toolkit. Its access criteria constrain uptake, with the macroeconomic-framework requirement and a satisfactory reform programme bearing hardest on the most fragile and lowest-capacity IDA countries in

Sub-Saharan Africa. The IPF DDO carries no such access criteria, but its 2-for-1 financing structure makes it more expensive for an IDA country relative to financing arranged after a crisis. IDA's strongest incentive therefore attaches to an instrument whose access criteria exclude many fragile and lower-capacity countries, while the instrument that does reach them is weakly incentivised.

This analysis of eligibility, access and uptake highlights two weaknesses in the current toolkit:

1. Reliance on crisis financing arranged after the event, with no crisis preparedness objective, is slower and less predictable than pre-arranged financing.
2. The most fragile and low-capacity countries are left behind, both in the instruments they can access and in the strength of the incentives designed to encourage their uptake.



THE VISION FOR PRE-ARRANGED CRISIS FINANCE: SCALE, ACCESS AND EFFECTIVENESS

The World Bank's stated vision for crisis financing increasingly centres on preparedness rather than response: helping countries secure financing before disasters strike, respond faster when they occur, and protect development gains (International Development Association, 2025). The Crisis Preparedness and Response Toolkit described in Section 2 embodies that vision.

Practice has not caught up. As shown in Section 2, most World Bank crisis financing is still arranged after the event, particularly in the poorest and most fragile countries, where recurring crises are already undermining development progress (Ahmadnia et al., 2022). These are the countries that have the most to gain from predictable, rapid, rules-based financing. Without explicit reforms and commitments addressing both demand-side and supply-side constraints, this is unlikely to change. The World Bank has no explicit target for pre-arranged financing, whether in terms of the amount of crisis financing that is pre-arranged or the number of countries adopting pre-arranged instruments. Instead, the Bank

measures overall progress through broader development outcomes, including indicators such as the number of countries benefiting from strengthened capacity to prevent, detect, and respond to health emergencies.

This paper therefore proposes that the World Bank should further align its financing with its preparedness agenda by:

1. Pre-arranging a larger proportion of the Bank's crisis financing, particularly for shocks that can be modelled, such as natural hazards and public health crises like pandemics, rather than relying on slow and unpredictable financing.
2. Providing accessible instruments that align with the preferences and circumstances of countries, particularly the most fragile countries currently being missed by the Toolkit.
3. Strengthening the linkages between crisis response financing and upstream preparedness and prevention efforts so that countries can respond quickly and effectively to shocks.

3.1 Scale: an illustration of full take

The first component of this vision is scale. The World Bank currently has explicit rules limiting the size of the DPF Cat DDO at both the country and portfolio levels. In 2024, the country limit was increased for the first time since the instrument was created: for IDA countries, it doubled from US\$250 million or 0.5% of GDP (whichever is lower) to US\$500 million or 1% of GDP. Countries with limits below US\$40 million can request a Cat DDO of up to US\$40 million. IDA resources for DPF Cat DDOs are capped at US\$3 billion cumulatively, a limit introduced in IDA18 and still in force (International Development Association, 2022).

If every IDA country held cover of 1% of GDP, capped at US\$500 million and with a floor for the smallest economies, the standing offer would be about US\$16.7 billion of contingent cover across 78 countries, compared with US\$1.42 billion across 27 countries today – and well in excess of the US\$3 billion cap. The portfolio's breadth would change as much as its size, with far greater diversification across countries: 57% of the cover would sit in Sub-Saharan Africa, and 41% would sit in fragile and conflict-affected members, the countries the current offer misses. Section 4 discusses the capital implications.

Two comparisons put that scale in perspective. First, US\$16.7 billion is standing cover, not a replenishment cost. What IDA would pay is the disbursement in a given year: about US\$4.0 billion in an average year, compared with about US\$0.3 billion from today's portfolio, or about US\$12.0 billion over a three-year IDA cycle, compared with about US\$0.85 billion (Section 4.3). Second, IDA21 already has a window of comparable size alongside its country allocations: the Private Sector Window, at up to US\$12 billion (International Development Association, 2025).

Scale is not only more of today's cover. The pre-arranged loans and grants IDA offers today trigger on a declared emergency and pay out often: the typical country holding a Cat DDO draws within about two years (Section 2.2). They are less well suited to the rarest and largest shocks, such as a pandemic or a regional drought of historic severity, whose cost can exceed what any cover capped at 1% of GDP could meet. Instruments that trigger at higher thresholds, paying out less often but in larger amounts, would complete the offer. Section 4 shows that the rarer the layer of risk, the stronger the case for IDA to arrange for someone else to hold it rather than carry it on its own balance sheet; the design of such instruments and the capital question therefore belong together.

3.2 Access: barriers to country demand

The second part of this vision focuses on parity, specifically for fragile and conflict-affected members. The World Bank Group Strategy for Fragility, Conflict and Violence 2020–2025 recognises climate change as a driver of fragility and a threat multiplier (Ahmadnia et al., 2022). The Government of Somalia's ambition to pre-arrange more crisis financing (Box 3.1) and reduce its dependence on slow and unpredictable humanitarian assistance, together with the expansion of REPAIR in Eastern and Southern Africa (Box 2.1), shows the growing demand for pre-arranged financing in fragile and capacity-constrained environments.

Understanding countries' motivations and addressing demand-side barriers is essential to scaling pre-arranged financing sustainably. In particular, the trade-off countries face when committing their own resources

to contingent financing needs to be kept to a minimum. Pre-arranged reallocation mechanisms, such as the RRO, cost a country nothing upfront, which is one reason most have adopted them. Once used, however, they divert away from existing projects, putting those projects' intended development outcomes at risk. Some governments are reluctant to trigger the RRO for that reason.

Members in fragile situations should be able to hold protection on a par with comparable members, and yet they cannot. Parity largely means access. Fragile countries should have access to at least one instrument that pre-arranges new financing, suits their circumstances and offers incentives no weaker than those offered to comparable members. Parity does not mean the same instrument for every member, nor does it mean identical levels of cover, since absorption capacity varies.

Today, the eligibility and incentive asymmetry set out in Section 2 keeps the instruments that pre-arrange new financing out of reach for the countries with the least capacity to self-insure. The Bank should examine how to close this gap. Relaxing the DPF Cat DDO's access criteria, which are prudent for budget support, is unlikely to be the answer. Strengthening the incentives for instruments that fragile members can access, such as the IPF DDO, is one evident route, and because incentive structures are set in replenishment negotiations, the lever sits directly in Deputies' hands. These decisions should draw on lessons from reforming the DPF Cat DDO financing structure and the REPAIR programme (Box 2.1).

The instrument mix raises a debt question. Most of IDA's pre-arranged financing takes the form of contingent concessional loans, and the governments seeking this cover also ask for instruments that do not add to debt where debt is already high (Mustapha, 2026). It is beyond the scope of this paper to propose changes to the Bank's allocation of scarce concessional financing. Risk transfer offers one potential solution: cover that does not add to a country's debt when it pays out, although unlike a contingent loan, it has a cost that must be paid before any shock. Recognising high debt and limited fiscal space in several countries, REPAIR offers a menu of pre-arranged instruments for shocks of different frequency and severity, financed

BOX 3.1: THE GOVERNMENT OF SOMALIA'S AMBITION TO PRE-ARRANGE MORE CRISIS FINANCING

Intensifying climate shocks make Somalia one of the world's most vulnerable countries. Immediate disaster response costs are estimated at US\$129 million a year – 12% of the 2024 budget – and could rise fivefold in a major event (Ndlovu et al., 2025). Its disaster response has long relied on ad hoc humanitarian funding channelled around the state: life-saving, but unpredictable, slow and often misaligned with national priorities. The government is deliberately charting a new course towards more government-owned and led crisis management, with pre-arranged crisis financing and shock-responsive safety nets at its core (Government of Somalia, 2025).

The CRW-financed operations that addressed Somalia's earlier crises took months to approve and, in some cases, years to disburse – the COVID-era emergency vaccination project did not make any disbursements in its first year (World Bank, n.d.b). An early-response CRW operation triggered by food-security forecasts in July 2020 took six months to approve and over two years to reach first disbursement. More recently, the additional US\$80 million CRW financing mobilised in December 2023¹¹ to provide emergency cash transfers to households affected by the 2021-2022 drought crisis and 2023-2024 floods took five months after approval to make its first disbursement and 20 months to disburse almost fully.

Both the government and the Bank regard pre-arranged financing as critical to building robust and scalable delivery systems, particularly the national shock-responsive safety net (Baxnaano) system (Government of Somalia, 2025; World Bank, 2026d). In 2025, Somalia became the first fragile, non-small-island country to secure a World Bank Cat DDO: a US\$20 million grant, of which US\$5 million was financed by the Crisis Response Window. A government official indicated that Somalia would have preferred to receive the maximum Cat DDO, but the Bank agreed to a smaller amount to manage the internal risks. The full amount was drawn within eight months, although disbursement details are currently unavailable. The government has also secured African Development Bank support to finance drought insurance coverage of approximately US\$18 million annually from 2024 to 2028, with payouts linked to a contingency plan.

Pre-arranging crisis financing is more than a technical reform: by strengthening the state's capacity to protect its citizens during crises, it can help rebuild trust in public institutions and ultimately support the transition out of fragility. MDBs' comparative advantage lies in providing predictable crisis financing and technical assistance to support this phased transition from humanitarian-led to government-led delivery in fragile settings.

11 Shock Responsive Safety Net for Human Capital Project Third Additional Financing

from countries' IDA envelopes. Insurance is part of that menu¹², and the African Development Bank also provides countries with funds for insurance premiums. Parametric insurance is most cost-effective for low-probability events.

To ensure that supply aligns with demand, the Bank should work closely with countries, particularly fragile ones, to identify where existing and emerging instruments are not meeting their needs. Weak

incentives, lengthy approval processes, stringent access criteria, slow payout decisions, narrowly defined coverage, triggers that miss real disasters, rigid rules on the use of funds and debt implications are among the common constraints on demand for pre-arranged crisis financing (Kramer et al., 2026; Mustapha, 2026; Mohan et al., 2026). These obstacles can be overcome, as the uptake of World Bank instruments by the governments of Burundi, Comoros, Madagascar, Malawi, Mozambique, Seychelles, Somalia and Zambia demonstrates.

3.3 Effectiveness: preparedness and absorption

Quick payouts are necessary but not sufficient for effective pre-arranged financing. Government officials report that fast, flexible payouts count for little if procurement rules, administrative procedures and delivery channels are ill-suited to emergency spending and quick decision-making (Kramer et al., 2026; Mohan et al., 2026; Mustapha, 2026). They want payouts to translate into timely support for affected communities and sectors, and they value development partners who work with governments on risk profiling, scenario planning and institutional coordination before a disaster strikes, as Somalia's experience shows (Box 3.1).

The fiscal implications of pre-arranged debt financing also depend on how resources are used in practice (Mustapha, 2026; Mohan et al., 2026). Borrowing spent quickly to accelerate recovery and stabilise the economy is prudent financial management; delayed or wasted spending heightens debt sustainability concerns where fiscal space is limited. When several debt and non-debt instruments are activated simultaneously, fungibility matters: the priority is not to attribute each dollar to a specific instrument, but to ensure the financing system as a whole raises and spends resources effectively.

This requires strengthening the disaster preparedness and response systems underpinning pre-arranged crisis financing.

Scaling up pre-arranged crisis financing must therefore be accompanied by increased support for governments to strengthen disaster planning and response systems.

Preparedness is a core objective of the Bank's Toolkit, particularly the DPF Cat DDO. As policy-based instruments, DPF Cat DDOs have provided a strategic platform for sustained policy dialogue, helping embed disaster risk management (DRM) within broader development agendas. These operations have supported reforms to reduce countries' exposure and vulnerability to disaster risks, while strengthening legal and institutional DRM frameworks and preparedness capacities. However, the World Bank's own evaluation found limited evidence that these DRM-related policy reforms have translated into measurable improvements in preparedness (World Bank, 2025a; Mustapha and Benson, 2024). This evidence gap also constrains our understanding of whether such reforms lead to broader development outcomes, including lower economic losses, reduced fiscal impacts, and fewer disaster-related deaths.

With the exception of CRDCs, the other instruments in the Toolkit also aim to strengthen preparedness capacities before a shock. As described in Box 2.1, preparedness is a key feature of REPAIR with significant emphasis on setting up delivery channels that reach the poorest and most vulnerable within a country. Moreover, although RROs are a budget reallocation tool, they also prioritise preparedness, as a lack of readiness for activation and implementation has been a major factor limiting the effectiveness of its predecessor, the Contingent Emergency Response Component (CERC) mechanism (World Bank, 2025b). This is partly because CERCs were introduced in an ad hoc manner and without adequate follow-up by the borrowers or the Bank.

12 So far, only Mozambique has used REPAIR funds to pay premiums, because Phase 2 countries became operational after the start of the insurance season. However, the programme is delivering insurance advisory services and targeting more placements in the next rainy season starting in December 2026. The project indicator for people covered by disaster risk finance and insurance is expected to increase once the programme becomes operational in Angola and countries access insurance (World Bank 2026e)

Pre-arranged financing should be designed to incentivise recipients to invest in crisis preparedness. Several instruments in the Toolkit, particularly the DPF Cat DDO, rely on trust funds such as the Global Facility for Disaster Reduction and Recovery to finance preparedness measures. Without dedicated grant funding, preparedness activities are likely to remain under-prioritised by both recipient governments and the World Bank. Yet one of the key advantages of pre-arranged financing is its potential to incentivise and strengthen readiness before crises occur. Realising this potential will require adequate resources for preparedness investments, alongside regular monitoring and evaluation to track implementation, outcomes, and lessons learned.

The pandemic response illustrates how an IPF Cat DDO could connect preparedness with pre-arranged finance. A recent World Bank evaluation notes that IDA and fragile countries face implementation and delivery challenges when responding to epidemics, including delayed procurement, slow disbursement, limited experience with international procurement of medicines and constrained health systems and institutional

capacity (Independent Evaluation Group, 2026). It calls for additional support to help these countries adopt more emergency financing and to support preparedness activities such as simulation exercises to test them. Similarly, the G20 High Level Independent Panel on financing pandemic preparedness and response has called for pre-negotiated lines of credit for emergencies and for development banks to confirm rapid financing for countries' advance purchases of medical countermeasures, such as vaccines, tests and treatments, including purchases made before regulatory approval (G20 High Level Independent Panel, 2025). A contingent investment project financing line suits this use. It finances specific expenditures, here the purchase and delivery of countermeasures; its drawdown can be tied to a declared public health emergency; and its preparation can require the preparedness that makes the money usable when it arrives, such as a national deployment plan, regulatory pathways and advance purchase agreements negotiated beforehand. A country holding such a line would have surge financing for countermeasures agreed before the next pandemic, rather than negotiated after it has begun.

3.4 What the vision asks of IDA

Based on our vision of scale, access and effectiveness, we propose the following (Recommendations 1 to 5 in the executive summary):

1. That IDA sets an ambition for the share of its crisis response financing that is pre-arranged, and proposes how the larger volume would be funded, including whether the US\$3 billion cumulative cap on IDA resources for DPF Cat DDOs, in place since IDA18, remains the right way to limit the portfolio.
2. That IDA considers developing instruments that cover countries' most extreme shocks, with higher triggering thresholds than those of today's pre-arranged loans and grants.
3. That IDA develops a contingent investment project financing instrument (an IPF Cat DDO) with the same 4-for-1 incentive and country coverage limits as the existing DPF Cat DDO, building on the experience of the REPAIR programme.
4. That IDA works with its client countries to diagnose where existing and new instruments fall short, paying particular attention to the preparation and approval process, more reliable triggers, more comprehensive protection, and a workable balance between flexibility and accountability in how payouts are used.
5. That IDA embeds and strengthens upstream preparedness and prevention into each pre-arranged instrument, and regularly monitors and evaluates the impact of preparedness requirements and investments.

Each of the above costs money: to reach more countries, to incentivise uptake relative to post-disaster resources, and to strengthen operational readiness. This paper quantifies the costs that can be modelled, principally expected payouts, and sets aside costs that are policy choices. At scale, average annual payouts run into the billions, and someone must stand behind cover of that size in the bad years. Whether IDA's balance sheet can carry it, under what rules and with whose participation, is not a detail of the vision but a condition of it. Section 4 takes up that question, focusing on the costs of the offer set out in Section 3.1.



THE CAPITAL QUESTION: WHAT SCALING MEANS FOR IDA'S BALANCE SHEET

Sections 1 to 3 have highlighted that countries value pre-arranged finance, and that it delivers a faster, more impactful response than financing assembled after a crisis. They have also set out a vision of scale. This section asks what that vision would cost IDA, how IDA could arrange its finances to keep those costs down, and whether the exercise would be worth it.

Our focus is the main drawback of IDA's current approach to pre-arranged finance: by holding capital back for tomorrow's crises, IDA ties up funds that could otherwise be used to finance grants and loans to countries today. Our main conclusion is that it does not have to work this way

4.1 A simple example: what pre-arranged finance costs IDA in capital, and how that cost could be reduced

The logic of the section can be illustrated with a simple example. Suppose IDA commits to 10 countries to which it will disburse US\$10 million to each the next time that country declares a state of emergency, and backs those commitments by setting aside the full US\$100 million, ready for whenever each country needs it.

This arrangement wastes capital. All 10 countries could declare emergencies in the same year, but past experience suggests that only two will, and there is only a one-in-eight chance that more than half will. IDA's money, or more precisely its capital headroom, is scarce: the US\$100 million held back could instead have provided US\$100 million in grants to countries today, or roughly US\$400 million in concessional loans. Holding it in reserve for emergencies that may not occur carries a high opportunity cost.

Now suppose instead that IDA holds back only US\$70 million and pays someone else to stand behind the remaining US\$30 million. Paying for that risk transfer frees IDA to provide more grants or loans today.

Suppose IDA pays about US\$4 million a year for the US\$30 million of cover, and expects to be repaid about US\$2 million a year on average, less in good years and more in bad ones. In this arrangement, IDA:

1. pays about US\$2 million a year more than it would have paid by retaining the risk itself: half of the US\$4 million premium is expected to be recovered as claims, and the other half, US\$2 million, covers the costs and return of the party taking the risk;
2. releases US\$30 million of capital, which it can provide as grants or as roughly US\$120 million in concessional loans, today; and

3. reduces what it must pay out in the worst years, and with it the risk that a crisis pushes IDA towards an early replenishment, as COVID-19 did when the IDA20 replenishment was brought forward by a year (International Development Association, 2022).

Whether the exchange is worth making depends on these three factors. The first two can be combined into a single

break-even measure. In the example, it costs about US\$2 million a year to release US\$30 million, or roughly 7% a year, so the transfer is worth making if IDA can earn more than roughly 7% a year, in development terms, on the capital it releases. We call this the break-even return. If IDA and its Deputies also value paying less in the worst years, risk transfer would look attractive even below that return.

4.2 Applying the example to IDA's portfolio

This section applies the logic of the above example to IDA, today and at the scale of the vision in Section 3. The quantitative analysis focuses on IDA's DDO portfolio for two reasons. First, publicly available data allow us to model it as of 30 June 2026. Second, the DDOs are the largest part of IDA's pre-arranged finance. However, the logic applies to any pre-arranged instrument held at scale. The analysis rests on statistical modelling set out in full in the annexes. We take a best-estimate view,

recognising that the past is an imperfect guide to the future and that experts may interpret the same data differently. We offer the analysis as a starting point for the World Bank Group's own experts to improve on. Section 4.3 models the disbursements the current DDOs could make in FY27. Section 4.4 turns those disbursements into capital, both today and at scale. Section 4.5 prices the transfer of the grant part of the risk. Section 4.6 sets out the implications for IDA22.

4.3 How much the DDOs could disburse in a year

We start with the amount that IDA's DDOs could disburse in FY27. The portfolio we model comprises IDA's Cat DDOs and IPF DDOs approved by 30 June 2026: 31 operations in 27 countries, holding US\$1.16 billion of undisbursed cover between them, about 40% in operations financed on grant terms and 60% on credit terms. Figure 4.1 shows how that cover has built up since the first IDA Cat DDO took effect in FY19.

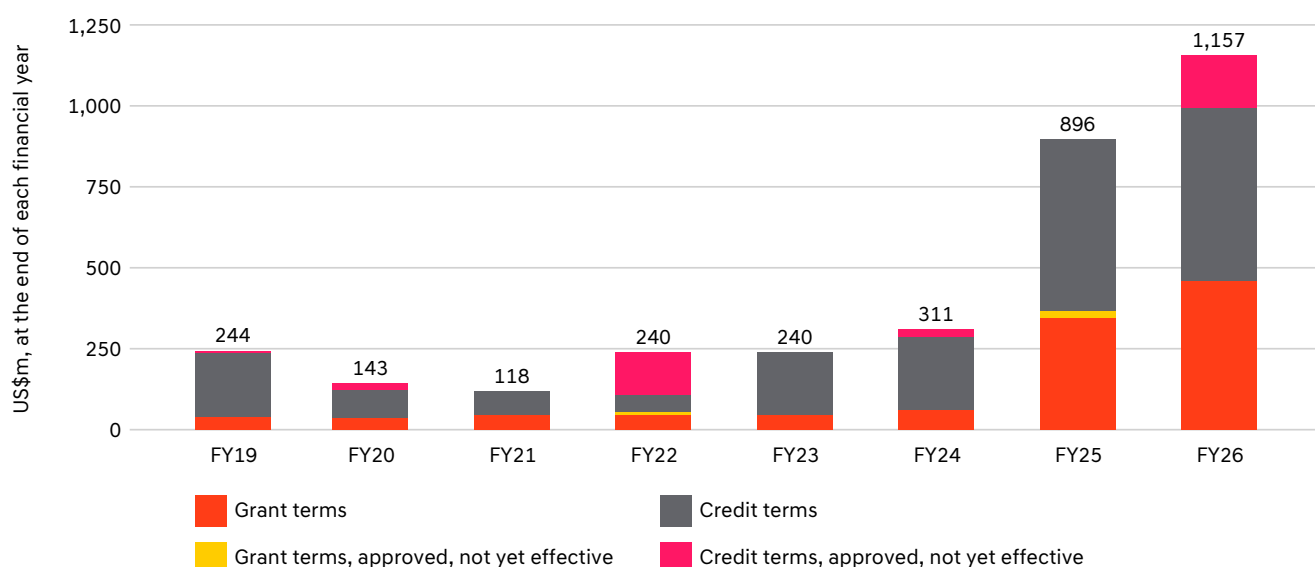
The model uses IDA's Cat DDO record since 2018 as a statistical guide to how often the DDOs might draw in future and how much. A DDO draws when a country declares an emergency and chooses to draw, and the country may draw part of the cover rather than all of it, so the trigger is partly a matter of the country's choice. We model it on what countries have in fact done, which is to draw, usually in full, when a qualifying event occurs, and we see no reason to expect that to change. The IPF DDOs are modelled on the Cat DDO's parameters, because their record of six operations and three drawdowns, in two countries, is too thin to estimate from and is statistically indistinguishable from the Cat DDO's. We then simulate each operation's chance of drawing in the financial year to 30 June 2027 many thousands of times, to trace out the range of years the portfolio could have.

Of the judgements the modelling requires, the treatment of the COVID-19 pandemic matters most. Nine of the portfolio's 23 first draws arrived in a single year, FY2020, and a record of seven and a half years cannot say how often such a year recurs. We treat it as a global shock, remove it from the estimation and reintroduce it at an assumed frequency of one year in 10, with sensitivities at one in five and one in 20 (Box 4.1; Annexes A and B).

The effect on the model is modest. Between November 2018 and 30 June 2026, IDA's Cat DDOs were in force for 60.9 operation-years, and 23 drew for the first time, a rate of 37.8% a year. Once the COVID-19 year is handled as in Box 4.1, the model implies a rate of about 31% a year. The difference is that the central model treats a year as extreme as FY2020 as a one-in-10 event rather than a one-in-eight event.

Taking all operations approved by 30 June 2026, the portfolio's average annual disbursement in FY27 is about US\$284 million, a little under a quarter of the cover it holds. In a bad year (one in 20), it disburses about US\$1.0 billion, nearly nine-tenths of the cover; in an extreme year (one in 100), about US\$1.1 billion, around 96% of everything it holds. In about one simulated year in 6,700, every operation draws its cover in full.

Figure 4.1: Undisbursed IDA DDO cover at the end of each financial year, FY2019 to FY2026, by financing terms



Notes: Counts undisbursed cover as at 30 June for the years 2019 to 2026. For the one operation financed jointly with IBRD (Cabo Verde, closed in FY2022), we count the IDA credit only. The FY2026 bar, US\$1,156.8 million, is what is priced in this section (US\$461.3 million grant, US\$695.5 million credit).

Source: Authors, compiled from World Bank project documents.

BOX 4.1: HOW THE COVID-19 YEAR IS HANDLED

Extrapolated naively, the simulation would be dominated by a single year. We therefore remove FY2020, including its events and exposure, from the estimation data, and deliberately reintroduce the risk of such years as a global-shock state: a rare year in which every operation's chance of drawing rises at once. Looking backwards, that is COVID-19. Looking forwards, it could be any comparably large and globally synchronised shock: a pandemic, a major technological failure or an extreme El Niño among others.

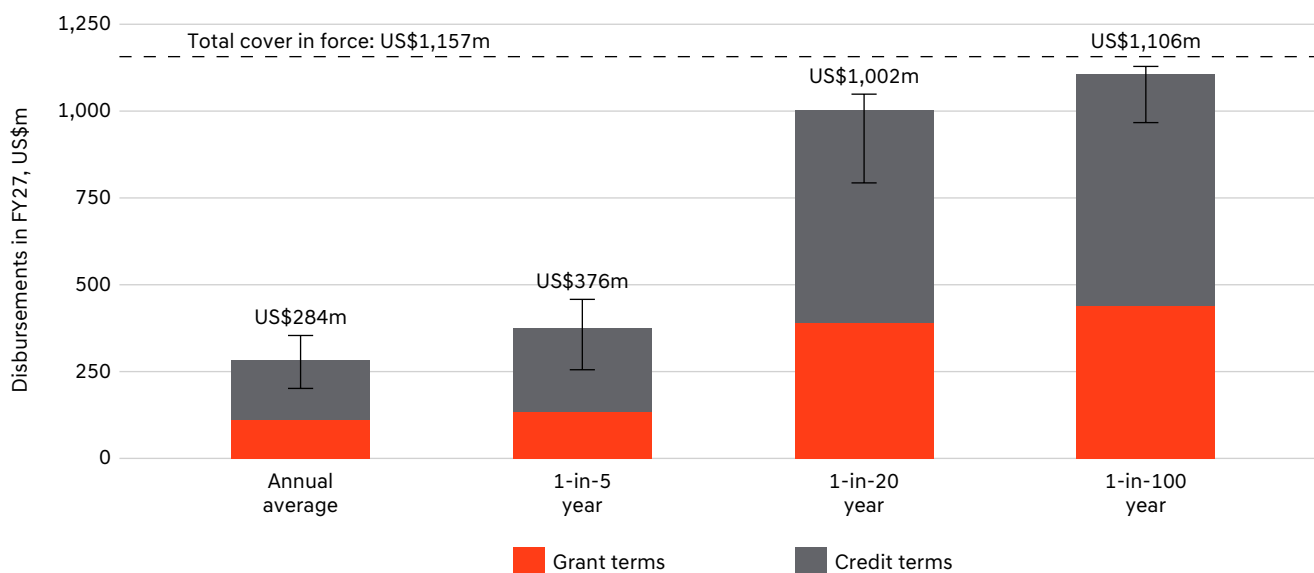
The size of the shock is estimated from the excised year itself. The seven IDA Cat DDOs standing when COVID-19 was declared a pandemic on 11 March 2020 drew for the first time at a rate of about 3.1 a year, with a 95% interval from 1.2 to 6.4: an operation exposed for the whole of a shock year draws with a probability of about 95%. In the model, a shock year brings one drawdown event per country, and that drawdown usually takes the whole undrawn balance, as six of the seven did in FY2020 (Annex A).

We cannot estimate the frequency of the shock from a single observation. We set it by stated judgement at one year in 10, and show one in five and one in 20 throughout as a reasonable range.

Figure 4.2 shows these years and how each is split between grant-financed and credit-financed operations. The ranges around these figures are wide because IDA's Cat DDOs have fewer than eight years of history; Annex B reports the full set of sensitivities.

These are the sums IDA must be able to disburse. The next subsection asks what IDA holds against them today and what it would hold if the portfolio grew.

Figure 4.2: What the DDOs could disburse in FY27, by how bad the year is



Notes: Simulated disbursements in FY27 from IDA's DDO portfolio approved by 30 June 2026. Whiskers show the uncertainty arising from estimating the model: the 5th to 95th percentiles of each bar across 400 bootstrap sets of the drawdown rate and the shock-year rate (Annex B, Figure B4). They are not the spread of next year's disbursement, which the four bars themselves describe. The dashed line is total cover in force, US\$1,157 million; in 0.7% of simulated years nothing is disbursed.

4.4 How IDA holds capital against its DDOs, today and at scale

This subsection explains how IDA measures its capital headroom, how much the DDOs consume today, and how much they would consume at the scale of Section 3.

IDA's main internal measure of how much additional lending and grant-making it could support is Deployable Strategic Capital, or DSC:

$$DSC = \text{Total Resources Available} \\ - \text{Total Resources Required} \\ - \text{Conservation Buffer}$$

Total Resources Available is, broadly, IDA's equity. Total Resources Required is the capital IDA judges it needs to hold against the risks on its balance sheet, at a triple-A standard. The Conservation Buffer is a further margin of 10% of Total Resources Available, held above that (World Bank, 2024a). What remains is headroom for new commitments: each

additional dollar of headroom would allow IDA to provide an extra dollar of grants or about four dollars of concessional loans. Like the equivalent measures at other multilateral development banks, DSC is designed to be more conservative than the rating agencies require, and the Board's policy is that it should not fall below zero (World Bank, 2024a).

At 30 June 2026, DSC stood at US\$49.1 billion, or 30.7% of Total Resources Available (International Development Association, 2026a). External rating agencies hold a similar view. S&P Global Ratings puts IDA's risk-adjusted capital ratio at 90%, compared with the 23% minimum for S&P's highest capital adequacy assessment, itself a key component of a triple-A rating (S&P Global Ratings, 2026). Moody's finds IDA less than half as leveraged as the typical triple-A multilateral it rates, at 1.1 times versus 2.4 (Moody's Ratings, 2026).

IDA therefore has headroom today and could deploy more of that headroom than it does. Whether and how quickly to do so is a choice about how much capacity to use now and how much to preserve for later replenishments, and it is not this paper’s subject. Our question is whether the DDOs consume that headroom efficiently, which will matter more if DSC declines over coming replenishments or as the pre-arranged portfolio grows.

Pre-arranged finance is currently a very small part of IDA. From FY19 to FY26, its Cat DDOs disbursed US\$923.7 million, less than 0.5% of IDA’s gross disbursements of over US\$200 billion in the same period (International Development Association, 2026a, and earlier financial statements). Even if IDA disbursed every DDO it has approved in full in FY27, the US\$1.16 billion paid out would be less than 2.5% of DSC.

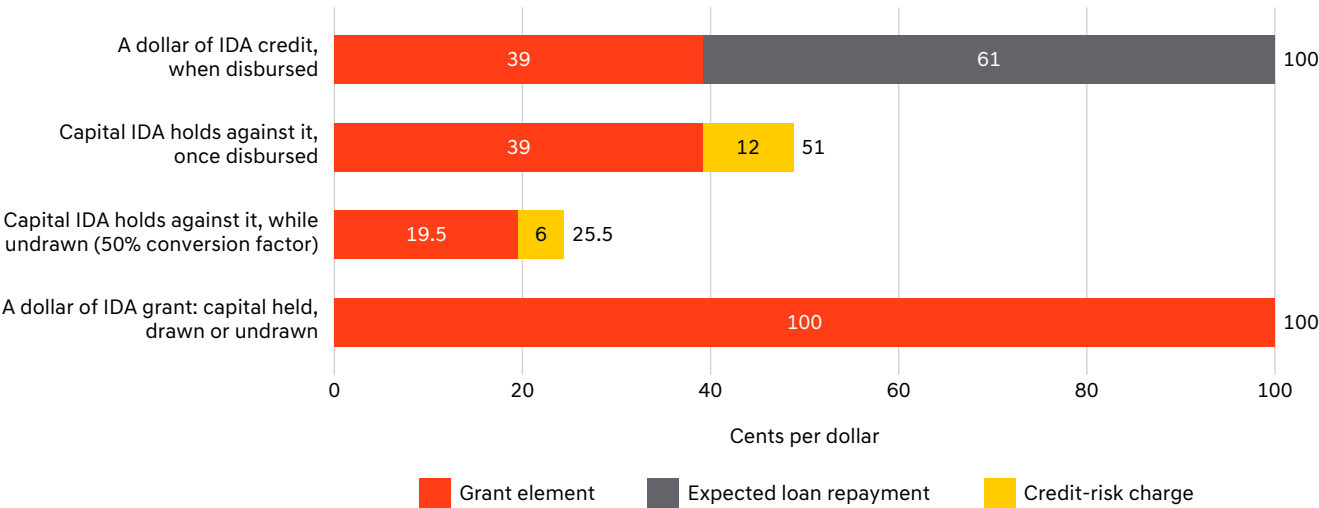
IDA publishes very little on how contingent commitments are treated within its capital adequacy framework, or on how risk transferred to a third party would be recognised. We have therefore based our assumptions on what is in the public domain (Annex C2).

Two carry the analysis:

1. that IDA holds roughly 25 cents of capital per dollar of contingent credit and 100 cents per dollar of contingent grant (Figure 4.3); and
2. that IDA would recognise insurance of the grant element of its cover as MIGA recognises reinsurance of its guarantees (Section 4.5).

The first assumption rests on one idea that the rest of the section relies on. An IDA credit can be thought of as a grant plus a loan on non-concessional terms: for each dollar IDA disburses as a concessional credit, roughly 39 cents is the grant element, the subsidy IDA gives away through the credit’s below-market terms, and about 12 cents of capital is held against the risk that the loan is not repaid, some 51 cents in all (Risk Control Limited, 2023). While the credit is undrawn, we assume a 50% conversion factor applies, so that IDA holds about 25 cents per dollar. A contingent grant is 100 cents of grant element, and IDA states that grant commitments require capital “on an almost one-to-one basis” (International Development Association, 2026a). Figure 4.3 shows both. Annex C2 sets out the reconstruction and compares it with the treatment a commercial bank or an insurer would apply.

Figure 4.3: What a dollar of IDA credit is made of, and what IDA holds against it



Notes: Cents per dollar. The grant element of a concessional credit is the subsidy allowance IDA’s framework values it at; the credit-risk charge is the capital held against non-repayment. The 50% conversion factor for undrawn commitments and the treatment of an undrawn grant are the authors’ assumptions (Annex C2).

Source: Authors’ reconstruction from World Bank (2024a), International Development Association (2026a) and Risk Control Limited (2023).

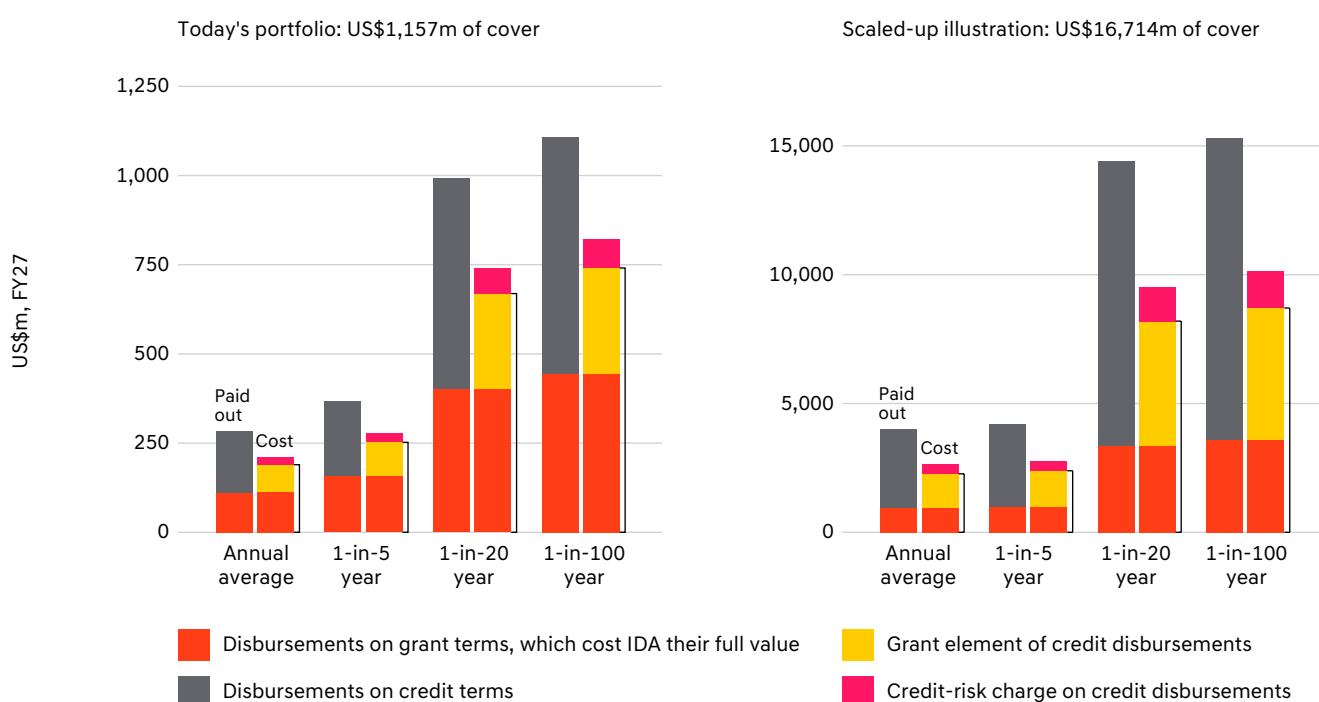
Figure 4.4 combines the modelled disbursements with the capital assumptions to show what the DDO portfolio could cost IDA in FY27. In each pair of bars, the left bar shows the amount disbursed and the right bar shows the cost to IDA of that disbursement: grants paid out at full value, the grant element of credits paid out, and the credit-risk charge on those credits. The first two, marked by the bracket, are the components of the cost that we propose IDA could transfer. The third, the credit risk, remains with IDA in every option we consider.

Applying these assumptions to the modelled portfolio, IDA's current approach holds about US\$635 million of capital against it. Measured instead on a solvency basis, the basis IDA describes for its capital adequacy framework as a whole (World Bank, 2024a), and calibrated by the authors to withstand a loss as severe as the worst year in ten thousand on the loss IDA would actually absorb, it would hold about US\$820 million.

IDA's current approach holds almost a quarter less. Under the alternative reading of how the credit component is charged, with no conversion factor, the gap all but closes: IDA's approach would hold US\$809 million against US\$820 million, and at scale it would hold slightly more than the solvency basis. Annex C2 sets out the arithmetic.

The scaled-up illustration of Section 3 has every IDA country holding DDO cover at the Cat DDO's current country limit, the smaller of 1% of GDP and US\$500 million with a US\$40 million floor for the smallest economies: about US\$16.7 billion of contingent cover across 78 countries, against US\$1.42 billion of approved cover across 27 today, with 57% in Sub-Saharan Africa and 41% in fragile and conflict-affected members (International Development Association, 2026b). We assume the cover is financed on grant and credit terms in line with IDA's recent commitments, with grants at 23%.

Figure 4.4: What the DDOs disburse and what it costs IDA, today and at the scale of Section 3



Notes: In each pair, the left bar shows disbursements and the right bar shows the realised capital cost to IDA under its current approach: grant-financed disbursements at their full value, the grant element of credit disbursements, and a charge for the risk that credits are not repaid. The bracket marks the part Section 4.5 proposes to transfer. Capital costs rest on the authors' assumptions about IDA's capital treatment.

On that illustration, the portfolio's annual average disbursement in FY27 would be about US\$4.0 billion, and about US\$14.4 billion in a one-in-20 year. The same rules that hold US\$635 million and US\$820 million against today's portfolio would hold about US\$7.1 billion under IDA's current approach and about US\$10.1 billion under the solvency measure. That is material against a DSC of US\$49 billion today, and even more so if DSC declines over the coming replenishments; the right-hand panel of Figure 4.4 shows the same picture as the left but more than 10 times larger. This is why the capital question matters even though IDA's capital does not bind today.

Scale changes the character of the tail as well as its size: 78 countries diversify their idiosyncratic risk far better than 27 do, and what remains at scale is the common global shock. IDA already describes its capital adequacy framework as a solvency-based model (World Bank, 2024a). Applying that approach to its pre-arranged finance is immaterial at today's scale but becomes material if the portfolio grows, if DSC falls, or if IDA extends its pre-arranged offer to rarer and larger shocks. If the portfolio grows, the risk of disbursing large amounts has to be held somewhere: on IDA's balance sheet, on its shareholders' balance sheet, or with a third party.

4.5 Transferring the grant part of the risk

This subsection compares two ways IDA could measure the risk it retains and one way it could pass part of that risk to someone else. Measuring the risk and deciding who holds it are distinct, though linked, decisions.

Under the arrangement we price, IDA pays a premium every year and, in return, when the portfolio's grant cost in a year rises above an agreed level, the attachment point, a counterparty pays part of it. Above a second, higher level, the exhaustion point, the cover stops and IDA again bears the cost alone. The cover we price attaches at the grant cost of a one-in-10 year event and exhausts at that of a one-in-250 year event. We take no view on whether those are the right points; they illustrate the mechanism, and Annex C shows what lower and higher attachment points would do.

Only the grant cost is transferred: the contingent grants and the grant element of the contingent credits, as shown in the bracketed part of Figure 4.4. No credit claim is transferred and nothing is securitised. IDA's loans to countries remain with IDA, the credit-risk charge remains with IDA, and IDA shares none of its preferred creditor status, a concern raised in earlier discussions of risk transfer from multilateral development banks (Humphrey et al., 2026). The country's position does not change: it holds the same instrument on the same terms and draws in the same way.

None of this earns IDA any capital relief unless IDA recognises transferred risk within its capital framework. To the best of our knowledge, IDA currently does not, but its sister institution MIGA does (Box 4.2).

BOX 4.2: HOW MIGA HOLDS CAPITAL AGAINST ITS GUARANTEES

One World Bank Group institution already measures its capital on a solvency basis and reduces it when transferring risk. MIGA sizes its capital to survive extreme losses on its portfolio, with its economic capital measured at the 99.97th percentile over three years, rather than applying a flat charge, and it recognises diversification across its guarantees. It reinsures about two-thirds of its gross exposure and reinsurance reduces its required capital by about three-quarters, or by about two-thirds once the risk that a reinsurer fails to pay is taken into account (Multilateral Investment Guarantee Agency, 2025). MIGA is not rated, but the Basel Committee recognises it as a highly rated multilateral development bank, eligible for a 0% risk weight alongside IBRD, IFC and others (Basel Committee on Banking Supervision, 2017).

MIGA's practice does not precisely indicate what IDA should do. Its guarantees, mainly political risk insurance and cover against the non-honouring of sovereign obligations, have a different risk profile from IDA's portfolio of catastrophe-linked contingent loans and grants; MIGA is not externally rated; and its balance sheet is small relative to IDA's. What it does show is that measuring capital on a solvency basis and reducing it when risk is transferred are already practised within the World Bank Group.

We price the cover by interpolating the prices of catastrophe bonds IBRD has issued (Haq et al., 2024). For today's portfolio, cover attaching at the one-in-10 level and exhausting at the one-in-250 year would cost about US\$39 million a year, against expected claims of about US\$20 million: roughly twice the expected claims. That multiple may be favourable for this portfolio, whose triggers are softer than parametric ones and which carries peak risks such as pandemics, both of which could raise the price. It is also sensitive to the price of the cover and, like everything in this section, to the assumed frequency of a global shock. The structure need not be a catastrophe bond, though IDA may want the cover collateralised. Annex C3 explains the pricing and its relationship with IBRD's past issuances.

The price would also depend on how the cover is written. Each DDO has its own trigger, set in its financing agreement, and the triggers differ in which events qualify: some require a state of emergency declared after a natural disaster, others also accept a health emergency, and many are silent on whether a declaration covering only part of the country will suffice. In practice, the Bank has often accepted such partial declarations provided the declaration complies with the country's

own laws and regulations. Standardising the triggering conditions across DDOs as much as possible would make the portfolio easier to model and to place, and should lower the price. World Bank Treasury and MIGA are best placed to advise on how far that is possible, which is why Section 5 asks Deputies to put the question to them.

Two things must be addressed before the transfer can be valued. The first is the baseline. Section 4.4 showed that IDA's current approach holds US\$635 million against today's portfolio and a solvency basis of US\$820 million; changing how capital is measured alters what IDA holds, not what it pays. We measure the transfer against the solvency basis for two reasons. Under IDA's current approach, transferred risk earns no recognition, so a transfer would release nothing. And because the current approach already holds less than the solvency basis, the same transfer measured against it would release only US\$76 million, and the US\$185 million difference between the two measures would be wrongly credited to, or against, the transaction. The second is the cost. The premium is what IDA pays, not what the cover costs, because the cover pays back; the cost is the premium net of the claims IDA expects to receive. Table 4.1 sets out the result.

Table 4.1: What each arrangement costs IDA in a year, and what it makes IDA hold

US\$ million, today's portfolio, FY27	Risk retained, measured on a solvency basis	Grant cost above the one-in-10 year transferred
Capital IDA holds	820	559
Premium paid each year	—	39
Expected claims back each year	—	20
Net annual cost of the cover	—	19.5
Capital released	—	262
Break-even return on released capital	—	7.5%

Notes: Break-even return calculated as net annual cost of cover divided by capital released, on unrounded figures (US\$19.5 million over US\$261.5 million). Today's portfolio as at 30 June 2026, FY27, US\$ million, rounded. Capital after transfer assumes that IDA recognises the transfer and that the counterparty is collateralised; any haircut for counterparty risk would raise the break-even return. All figures rest on the authors' assumptions about IDA's capital treatment.

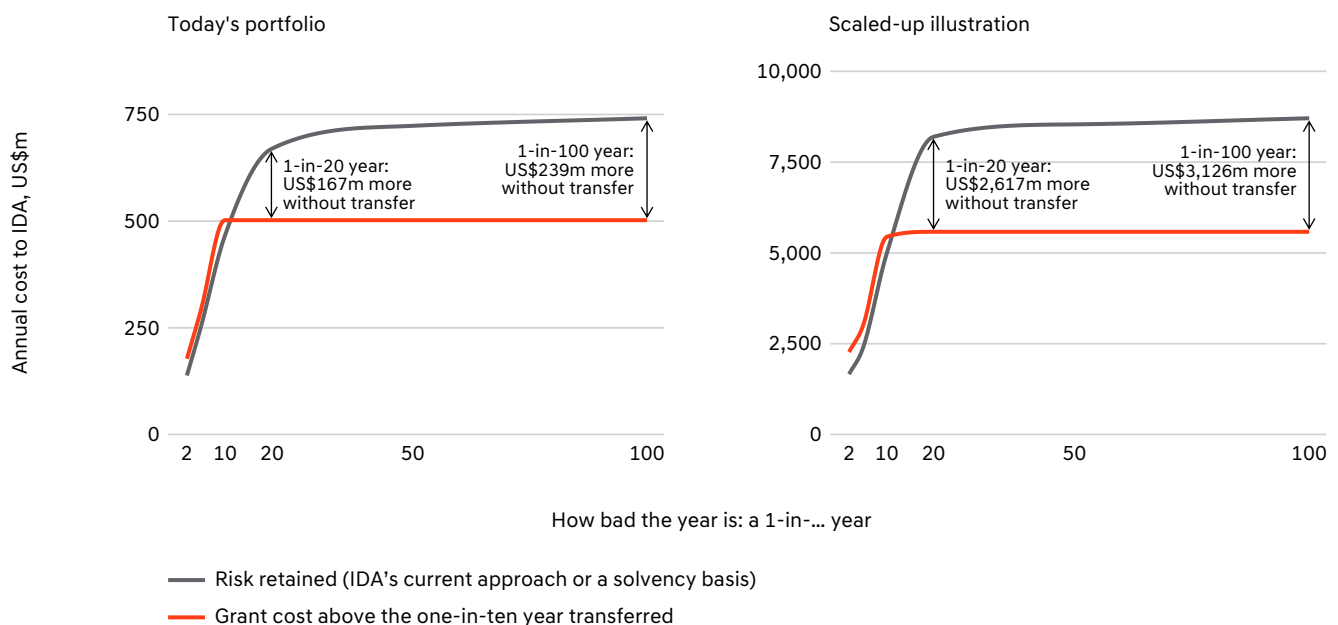
The table is the example of Section 4.1 applied to the real portfolio. IDA pays US\$39 million a year for the cover and expects US\$20 million a year back, so the cover costs it US\$19.5 million a year net. It holds US\$559 million of capital instead of US\$820 million, so US\$262 million is released. US\$19.5 million a year for US\$262 million of headroom is a break-even return of 7.5% a year: that is what the released capital would have to earn, in development terms, for the transfer to pay for itself. The figure assumes that IDA puts the released capital to work; if it sits idle, there is no return to set against the cost. It is also sensitive to the price of the cover. Annex C5 sets the calculation beside a conventional return-on-capital calculation, since one is the inverse of the other and the two are easy to confuse.

The pattern holds for other layers. Attaching lower, at the one-in-five year level, would release more capital at a higher break-even return; attaching higher, at the

one-in-20 level, would release less at a lower one (Annex C, Table C3). The rarer the layer, the cheaper each dollar of capital it releases and the fewer dollars it releases. The attachment point is a choice about how much protection to buy, and the break-even return is one input into that choice.

The break-even return is an average and says nothing about the worst years, which are a separate argument for transfer. Without it, a one-in-20 year costs this portfolio about US\$669 million on the grant-equivalent basis and a one-in-100 year about US\$741 million. With the cover in place, both cost about US\$502 million, because between attachment and exhaustion IDA pays up to the attachment and the counterparty pays the rest. Figure 4.5 shows this for every year from the ordinary to the extreme: the retained cost keeps rising as the year gets worse, while the transferred cost is higher in ordinary years by the premium and is flat above the attachment point.

Figure 4.5: What a year costs IDA with and without transfer, by how bad the year is



Notes: The retained line is the same under IDA's current approach and on a solvency basis, because measuring capital differently changes what IDA holds, not what it pays; the transferred line is the arrangement in Table 4.1. The annotated gaps are what IDA, and in practice its shareholders, would have to find in those years without the cover. At the scale of Section 3, the price of the transferred layer is extrapolated beyond the range of observed catastrophe-bond transactions. Costs rest on the authors' reading of IDA's capital treatment, which is not confirmed by the World Bank.

When IDA's money goes out of the door in a crisis year, a request to shareholders for more tends to follow: COVID-19 drew down IDA19's resources fast enough that the IDA20 replenishment was brought forward by a year (International Development Association, 2022). Cover arranged in advance converts that lumpy, crisis-time request into a steady premium, reflected in the annual cost of the offer. Whether shareholders would rather pay a known cost every year than an unknown one in the worst year is a strategic choice for Deputies rather than a calculation; if they would, the true break-even return is below the figure quoted.

Who pays the premium is an allocation question rather than a capital one. This paper does not propose an answer, other than to note that the premium would need to be paid from outside countries' allocations unless IDA changed the financial terms of its DDOs.

The structure priced above is one way of transferring the risk; three others deserve mention.

1. A guarantee from IDA's shareholders would transfer the same risk to a different counterparty, probably more cheaply, since shareholders have not in the past charged for the capital they tie up.

However, it would depend on their willingness and would require the same recognition decision from IDA.

2. World Bank Treasury or MIGA could stand between IDA and the market: under the rating agencies' approach, protection from a highly rated public counterparty yields more capital relief than the same protection from a commercial panel (S&P Global Ratings, 2026). However, MIGA's balance sheet is small relative to IDA's and its mandate is currently focused on foreign direct investment, so either would need a decision to act.
3. IDA could fund the DDOs' frequent losses through a dedicated window, such as the Crisis Response Window, and insure only the rare ones above it. This is the design that REPAIR applies at country level (Box 2.1) and that the IFRC applies to its own emergency fund (Box 4.3). That last structure asks least of IDA's capital framework, because the risk is never taken onto the balance sheet.

Any of the three would merit serious consideration once IDA measures the risk it holds and decides how it would recognise its transfer; Section 5 asks Deputies to put that question to Treasury and MIGA.

BOX 4.3: INSTITUTIONS WITH HARDER CONSTRAINTS ALREADY DO THIS

The International Federation of Red Cross and Red Crescent Societies has bought indemnity-based excess-of-loss reinsurance that attaches above its Disaster Response Emergency Fund's annual allocations and is triggered by its own allocation decisions (Centre for Disaster Protection, 2023). OCHA is arranging cover for the anticipatory-action arm of its Central Emergency Response Fund on the same principle. Neither institution can borrow its way out of a crisis year, which is a harder constraint than IDA's. Both concluded that a funded retention with insurance above it is the way to scale protection for the worst years. The IFRC placement also shows that a soft, declaration-based trigger, such as a DDO uses, can be insured: an indemnity trigger keyed to a fund's own payout rules has been placed with commercial reinsurers for an institution far smaller than IDA.

4.6 Implications for IDA22

Everything in this subsection holds only if IDA puts released headroom to work. Capital released by a transfer and then left idle would have been bought for nothing.

Two conclusions follow.

The first concerns measurement. On today's portfolio, nothing needs fixing: IDA's headroom is more than sufficient to absorb a year in which every DDO is disbursed in full. At the scale set out in Section 3, however, or as DSC declines, or if IDA extends its pre-arranged offer to rarer shocks, the current approach would tie up billions of dollars of capital with no way of reducing it other than by writing less cover. IDA already describes its capital adequacy framework as solvency-based (World Bank, 2024a). IDA should explore how to apply that approach to its pre-arranged finance ahead of need, and publish how contingent commitments enter Total Resources Required and how transferred risk would be recognised, so that shareholders can see what the current treatment charges. Deputies should request that information now.

The second concerns who bears the risk, and it arises only once the first is taken. If IDA measures the risk on a solvency basis and recognises its transfer, insuring the grant cost above a one-in-10 year pays for itself if the capital released earns about 7.5% a year in development value on today's portfolio, and about 8.3% a year at scale,

where the price of the cover is extrapolated beyond the range of observed catastrophe-bond transactions. That is a low bar for IDA: a dollar of headroom deployed as grants and concessional finance in the poorest countries should generate development value well above that, and a shareholder who contributes a dollar to a replenishment expects IDA's balance sheet to turn it into considerably more.

The bad years are the other half of the case. Without transfer, a COVID-scale year sits entirely on IDA's balance sheet, which, in practice, means the cost falls on shareholders, through an early or supplementary replenishment. With transfer, the worst years are capped, and the cost becomes a steady, visible premium. Shareholders who would rather pay a known cost every year than an unknown one in the worst year are buying the difference between US\$741 million and US\$502 million in a one-in-100 year on today's portfolio, and between about US\$8.7 billion and US\$5.6 billion at the scale of Section 3.

Section 5 sets out what follows for IDA22 (Recommendations 6 and 7). In brief: Deputies should ask IDA for the current and prospective capital treatment of its pre-arranged finance portfolio; IDA should explore how to measure that portfolio on a solvency basis before it grows; and Deputies should ask IDA to ask World Bank Treasury and MIGA what transferring the grant element could cost and how it could be structured. The choice among structures is secondary to the decision to make one possible.



WHAT IDA22 COULD DECIDE

The World Bank has made progress in expanding and strengthening its Crisis Preparedness and Response Toolkit over the past five years, with uptake of most instruments steadily increasing. Yet most World Bank crisis financing is still arranged after a shock occurs, despite evidence that financing put in place before crises strike can be delivered more quickly and predictably. This paper argues that the Bank should bring its crisis financing more closely into line with its broader preparedness agenda by using the IDA22 replenishment to advance four reforms. They are taken in turn below, under the same headings and with the same numbering of the seven requests to Deputies as in the executive summary.

First, pre-arranging a larger share of IDA's crisis financing, particularly for shocks that can be modelled (Recommendations 1 and 2). Deputies should decide to scale up the pre-arranged offer, building on what is already working and what countries value. They should ask IDA to set an ambition for the share of its crisis-response financing that is pre-arranged and to propose how the larger volume would be funded. A standing offer measured in the tens of billions, rather than the low single billions, warrants a review of whether the US\$3 billion portfolio cap on DPF Cat DDOs, which has stood since IDA18, remains the appropriate way to limit the portfolio, even as the per-country ceilings beneath it have doubled (Section 3.1). Revisiting the cap would not, by itself, create demand. Uptake will also depend on addressing the constraints countries report (Section 3.2): weak incentives, lengthy approval processes, slow payout decisions, narrowly defined coverage, triggers that miss real disasters, rigid rules on the use of funds, and concerns about debt sustainability. Addressing these barriers should be central to efforts to expand the use and impact of pre-arranged crisis financing. Scale also depends on which shocks the offer covers. IDA should consider instruments that cover countries' most extreme shocks, with higher triggering thresholds than those of today's pre-arranged loans and grants (Recommendation 2); Section 4 shows that the rarer the layer of risk, the stronger the case for IDA to arrange for someone else to hold it.

Second, reaching the most fragile countries

(Recommendations 3 and 4). Deputies should commit to parity for fragile members. This would extend IDA's protection to countries with the largest protection gaps, addressing one of the clearest shortcomings in the current Toolkit (Sections 2 and 3.2). Achieving parity requires working with client countries to diagnose where existing and new instruments fall short (Recommendation 4) as well as improving incentives and refining existing instruments, both within the replenishment's control. The most direct route is to strengthen the incentive for the IPF DDO when used for catastrophe risks, since it is the instrument with the greatest potential to reach fragile members. IDA should develop a contingent investment project financing instrument, an IPF Cat DDO, with the same 4-for-1 incentive and country coverage limits as the existing DPF Cat DDO (Recommendation 3). This would draw on lessons from the reform that raised DPF Cat DDO financing from 2-for-1 to 4-for-1, and from the REPAIR programme. Pre-arranged surge financing for medical countermeasures in a pandemic, of the kind the G20 High Level Independent Panel has called for, illustrates one of the many uses it could serve (Section 3.3).

Third, embedding preparedness in planned response (Recommendation 5). Deputies should decide to finance preparedness alongside cover. Pre-arranged finance already places the response in the government's hands: the money is its own, it arrives on its own budget, and it is spent according to its own decisions. Preparedness determines how far that goes – a plan for funding, a budget for it to enter, and delivery systems to carry it. Payouts translate into protection only where delivery systems can absorb them (Section 3.3). Therefore, a scaled-up offer should include scaled-up support for disaster planning, delivery systems and institutional readiness, building on the trust-fund mechanisms the Toolkit already uses. The Bank already finances preparedness – through grant-funded technical assistance supporting Cat DDO policy actions, programmatic project preparation advances and regular investment projects – so the ask is to identify which of these investments improve the response when the shock arrives and to build a larger preparedness offer around what works. Where IDA also funds the response, the evidence lies within its own operations; where others fund it, learning will require deliberate partnerships.

Fourth, reducing the capital cost (Recommendations 6 and 7).

Deputies should decide who should bear the risk when the portfolio is at scale, and take action now to get there. IDA should explain how contingent commitments enter Deployable Strategic Capital today, so that shareholders can see what the current treatment charges. It should also explore how to measure the risk in its pre-arranged finance on a solvency basis before the portfolio grows, a precondition for every transfer structure in Section 4 (Recommendation 6). Deputies should also ask IDA to ask World Bank Treasury and MIGA to assess the feasibility and cost of transferring the grant component of risk in IDA's existing DDO portfolio, and to recommend any standardisation of triggering conditions that would reduce that cost (Recommendation 7). Based on this paper's analysis, insuring the grant cost above a one-in-10 year pays for itself if the capital it releases earns about 7.5% a year in development value; the choice among structures is secondary to the decision to make one possible, and the case for any transfer holds only if IDA deploys the capital it releases for additional development activity (Section 4.5).

There are questions Deputies could ask of management and of themselves. How much capital does IDA's current treatment tie up against its contingent portfolio? Is a fixed cap (an aggregate ceiling on DPF Cat DDOs and restricted eligibility of CRDCs) the right way to limit that portfolio, rather than a measure of the risk it carries? What would the current portfolio cost to back on a solvency basis, and what would IDA's current treatment charge be against a scaled-up portfolio of the kind illustrated in Section 3? And what would it take for a member in a fragile situation to hold the same protection as its neighbours?

IDA already has the information to answer these questions, and the answers would enable Deputies to set an ambition for pre-arranged finance, knowing the cost and who would carry it. On today's portfolio, none of the questions are pressing; at the scale this paper describes, all of them are. The time to ask is before the portfolio grows, and IDA22 provides that moment. Nor are the questions IDA's alone. Every triple-A institution that backs contingent commitments with simple rules of thumb faces the same questions, and they are worth asking across the multilateral development bank system, wherever rapid, pre-arranged liquidity after a disaster is part of the offer to clients.

ANNEX A. THE STATISTICAL MODEL

All data compiled for this paper, the code behind every figure and table, and the run logs that reproduce them are available from the authors on request.

A1. The central model specification

What the model is for. The paper makes two main kinds of statements about IDA's Cat DDOs: how long a country typically waits to draw down, and how much the portfolio of cover could disburse in a given year. Both rest on a single statistical model of the frequency and severity of drawdowns, estimated on IDA's own record and carried into the simulation of Annex B with the same parameters. This annex sets out that model, the record on which it is estimated, the tests that support its form, and the assumptions that cannot be estimated from historical data and are stated instead.

The model. The central model has two regimes.

In a normal year, which is nine years in ten, drawdowns arrive at a constant rate: once a Cat DDO is in force, the probability that it draws in the coming year does not depend on how long it has been in force or on whether it has already partially drawn. The rate is estimated on all drawdowns of the 43 Cat DDOs financed entirely by IDA, in 30 countries, with FY2020 (July 2019 to June 2020) removed: 16 drawdowns in 70.1 operation-years at risk, a rate of 0.228 drawdowns per operation-year per operation and 0.211 for the typical country. The number of drawdowns a country makes in a normal year is Poisson at that rate, each capped at the balance still undrawn. **In a shock year**, which occurs with probability one in 10, each country is assumed to make one cumulative annual drawdown, at a rate estimated on the operations in force when the pandemic was declared: 3.10 per year, so that a country with cover

in force all year draws with probability 0.955 (A5). The size of each drawdown is resampled from the record, separately for normal and shock years (A6). Countries' draws are statistically independent within each year; a shared annual factor is a robustness check, not part of the central model (A5).

Two estimands. The record answers two questions: how long a typical country waits, and how long a typical operation waits. They differ because eleven of the thirty countries hold two or three operations, and those tend to be the countries that draw quickly and then take out further cover. The **typical-country estimand** weights each operation by one over the number of operations its country holds, so that every country counts once. It is the paper's headline and the profile used in the scale-up illustration, because a portfolio in which every IDA country holds cover is a portfolio of representative countries. The **per-operation estimand** weights each operation equally; it describes the portfolio as IDA holds it today and is what the simulation of today's portfolio uses.

Two portfolio sizes. The data we use to infer the frequency and severity of drawdowns are drawn from the 43 operations financed entirely by IDA. When we present the full IDA Cat DDO portfolio in the paper, we also include one blended Cat DDO for Cabo Verde, bringing the total to 44 operations with US\$1,635.5 million of cover.

Table A1: The headline: drawdown frequency and time to first drawdown on the central model, IDA Cat DDOs

	(1) Central model: typical country	(2) Central model: per operation	(3) Per operation, all experience, no shock regime	(4) Per operation, FY2020 excised, no shock regime
All drawdowns				
Drawdowns/spells/ operation-years	16 / 44 / 70.1 (FY2020 excised)	as (1)	27 / 52 / 74.1	as (1)
Normal-year rate, drawdowns per operation-year	0.211 [0.117, 0.326]	0.228 [0.118, 0.369]	0.365	0.228
Shock regime	q = 0.10; shock- year rate 3.10	q = 0.10; shock- year rate 3.10	none	none
Expected drawdowns per country-year	0.285	0.301	—	—
First drawdowns				
Median time to first drawdown, years	2.16 [1.57, 3.11]	2.08 [1.42, 3.10]	1.90	3.04 [1.88, 5.85]
P(first drawdown ≤ 1 year)	0.27 [0.19, 0.35]	0.28 [0.20, 0.37]	0.31	0.20 [0.11, 0.31]
P(first drawdown ≤ 2 years)	0.46 [0.35, 0.57]	0.48 [0.35, 0.61]	0.52	0.37 [0.21, 0.52]
P(first drawdown ≤ 3 years)	0.61 [0.48, 0.72]	0.63 [0.48, 0.75]	0.67	0.50 [0.30, 0.67]

Notes: Columns (1) and (2) are the central model: a constant normal-year rate estimated across all drawdowns with FY2020 excised, and in one year in 10 a shock year in which each country draws at most once, at the shock-year rate of Table A5. Column (3) is a constant rate fitted to all experience, FY2020 included, with no shock regime; column (4) is the FY2020-excised rate with no shock regime. A spell runs from effectiveness to the first drawdown or from one drawdown to the next and ends at full disbursement, closing or 30 June 2026. The first-drawdown rows are implied by the all-drawdowns rate, which has no memory; they are calculated exactly. Bracketed intervals are 95%, from a bootstrap that resamples whole countries. The per-operation P(first drawdown ≤ 1 year) in columns (2) and (4) is the comparator for the IPF DDO in A7.

Source: Authors' estimates from the Cat DDO record to 30 June 2026.

Reading the table. The typical country waits slightly longer than the typical operation for its first drawdown (2.16 against 2.08 years) because the countries that draw fastest hold the most operations. The shock regime, not the estimand, is what drives the headline: it reduces the median time to a first drawdown from 3.0 years

(column 4) to 2.1 (column 2). Fitting a constant rate to all experience instead (column 3) gives a similar median of 1.9 years, but treats the pandemic year as ordinary variation and so says nothing about the chance of another such year.

A2. Comparing with naïve models that do not excise FY2020

Recorded experience for each Cat DDO. For each Development Policy Financing operation carrying a Catastrophe Deferred Drawdown Option we assembled the following from the World Bank's public project documents and portal, valued and censored at 30 June 2026, the end of the Bank's financial year 2026: approval, effectiveness and closing dates; cover in US dollars at approval; every dated disbursement with the trigger the Bank recorded; and two typed fields – the currency of commitment and whether the cover was exhausted – read from the completion report or the last status report and never derived from a ratio. (Romania drew 100% of a EUR400 million loan and shows an 11.4% dollar shortfall on the ratio, so reading a ratio would be highly misleading.) The clock starts at

effectiveness, because the instrument cannot disburse before it. An operation closing undrawn is censored at closing.¹³

Why IDA alone? The paper models the capital cost of an IDA portfolio, so the hazard is estimated on IDA experience. IBRD operations are larger, concentrated in Latin America and Europe, and drew more quickly on the all-experience record; pooling them would import a hazard the IDA portfolio does not exhibit. Two findings a pooled fit produces – an income gradient and a primary-balance effect – do not hold for IDA alone and are carried by IBRD operations, which we count as a reason for the choice rather than a cost. Table A2 shows an analysis of the rate of first drawdowns on each frame, with and without FY2020.

Table A2: Events over exposure, by frame

	IDA, all experience	IDA, FY2020 excised
First drawdowns		
Operations	43	37
First drawdowns	23	14
Exposure, operation-years	60.9	58.1
Crude rate, first drawdowns per operation-year	0.378	0.241
All drawdowns	43	37
Spells	52	44
Drawdowns	27	16
Exposure, operation-years	74.1	70.1
Crude rate, drawdowns per operation-year	0.365	0.228

Notes: For first drawdowns, exposure counts each operation from effectiveness to its first drawdown, or to censoring at closing or 30 June 2026. For all drawdowns, each operation contributes spells from effectiveness to its first drawdown and from each drawdown to the next, ending at full disbursement, closing or 30 June 2026. In the FY2020-excised column, the events and the exposure of July 2019 to June 2020 are both removed. The crude all-drawdowns rate with FY2020 excised is the central model's normal-year rate, because under a constant rate, events over exposure is the maximum-likelihood estimate.

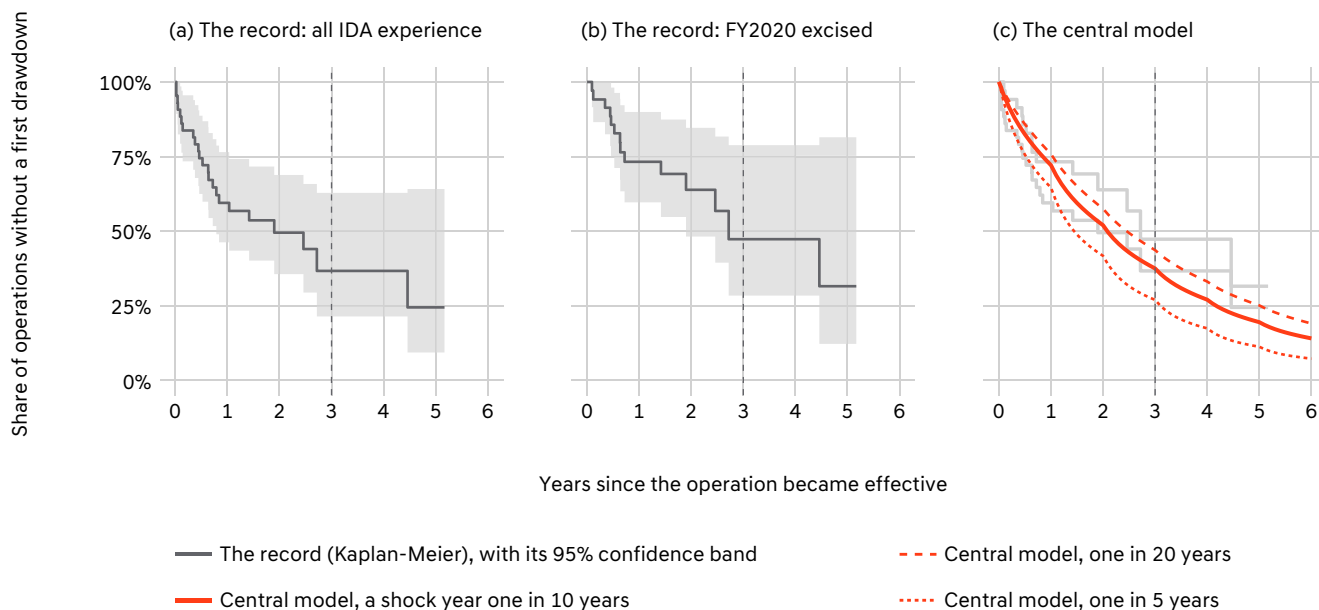
Source: Authors' estimates from the Cat DDO record to 30 June 2026.

13 The World Bank's Independent Evaluation Group (World Bank, 2026c, Box 4.1) reports that the average time from effectiveness to first disbursement fell from 27 months for Cat DDOs approved before 2018 to five months for those approved from 2018. These averages are based on operations that have closed and drawn, which excludes every operation still waiting and favours recent cohorts, whose members can only have had short waits. The same kind of average on our record, all Cat DDOs, gives 25.9 months (13 operations) before 2018 against 9.5 months (23) from 2018. Allowing for censoring with a Kaplan–Meier estimate for each operation, the median is 21.6 months before 2018 (14 operations, 13 first drawdowns) and 21.7 months from 2018 (60 operations, 33 first drawdowns); a log-rank test finds no difference ($p = 1.00$).

The record beside the model. Figure A1 draws the record of **first** drawdowns as a Kaplan–Meier estimate – the share of operations not yet drawn at each age of cover, which allows for censoring – on all IDA experience and with FY2020 excised, and sets beside them the time to first drawdown implied by the central model. With FY2020 excised, the record has 53% of

operations drawn at three years. With the pandemic year included, it has 63%: that one year moved about a third of the portfolio. The central model, with a shock year one in 10, has 63% of operations drawn by three years, close to the full record, as it should be if one shock year in 10 is about the right frequency over the period.

Figure A1: Time to first drawdown on IDA Cat DDOs: the record and the fitted model



Notes: Kaplan-Meier estimates of the share of IDA Cat DDO operations that have not yet made a first drawdown, with each operation counted once. (a) All IDA experience: 43 operations and 23 first drawdowns. (b) FY2020 excised: 37 operations and 14 first drawdowns outside FY2020. The shaded bands are 95% confidence bands. (c) The time to first drawdown implied by the central model of Annex A: in a normal year all drawdowns arrive at a constant rate of 0.228 a year; a shock year is one annual event per country, with a first-drawdown rate of 3.10 a year. The solid line has a shock year one in 10 years; the broken lines one in 20 and one in five. The two Kaplan-Meier steps of panels (a) and (b) are drawn behind them, light and without bands; the lower one is all IDA experience. By three years, the central model has 63% of operations drawn, against 63% in the record with all IDA experience and 53% with FY2020 excised.

Source: Authors' compilation of Cat DDO operations from World Bank project documents (project pages, Implementation Status and Results Reports, Implementation Completion Reports and financing agreements), to 30 June 2026. Authors' estimates.

A3. Why we assume a drawdown rate that does not depend on time from effectiveness

The test. The Weibull family contains the constant hazard as the special case in which its shape parameter equals one; a shape below one is a hazard that falls with age (cover used early or not at all), a shape above one a hazard that rises. Whether the record supports a time trend is therefore a test of that restriction: a likelihood-ratio test of the exponential nested in the Weibull, run on each frame and each estimand (Table A3).

IDA: no trend once the pandemic year is allowed for.

On IDA's full experience of first draws, a Weibull fit gives a shape of 0.67 – a hazard that appears to fall with age – and the constant hazard model is rejected ($p = 0.015$). However, that pattern is the pandemic year passing through a young portfolio: IDA's first Cat DDO became effective in November 2018, so when nine operations

drew in FY2020, almost every operation in force was in its first or second year, and a fit that treats those draws as ordinary experience reads them as early triggering. This trend is not a property of the instrument. Our central model applies a single constant rate to every drawdown, first or later. The matching test is a recurrent-event Weibull fitted to all IDA-only drawdowns with FY2020 excised, on a clock that starts at effectiveness and is never reset: if cover were used early or not at all, the rate would fall with the age of the cover and the shape parameter would sit below one. It does not: the shape is 0.92 [0.68, 1.40] per operation ($p = 0.69$ against a constant rate) and 1.05 [0.76, 1.64] for the typical country ($p = 0.86$), on 16 drawdowns over 70.1 operation-years. The constant-rate Poisson model of normal years is therefore not rejected (Table A3).

Table A3: The shape test, all drawdowns, exponential nested in Weibull, FY2020 excised

	All drawdowns: per operation	All drawdowns: typical country
Operations	38	37 (28 countries)
Drawdowns	16	16
Operation-years at risk	70.1	70.1
Weibull shape parameter [95% interval]	0.92 [0.68, 1.40]	1.05 [0.76, 1.64]
Likelihood-ratio test, exponential in Weibull: p value	0.69	0.86
Constant rate	not rejected	not rejected
Use in the paper	central model, normal years	central model, normal years

Notes: A shape parameter of one is a constant rate; below one, the rate falls with time since the cover took effect. For all drawdowns, the model is a recurrent-event Weibull on the total-time clock: time runs from effectiveness and is not reset at a drawdown, so the test asks whether the rate of drawing changes with the age of the cover. The likelihood-ratio statistic compares the exponential and Weibull fits on the same data; a small p-value would reject the constant rate.

Source: Authors' estimates from the Cat DDO record to 30 June 2026.

A4. What we learnt about what predicts first draws, and why the hazard carries no covariates

The battery. Country characteristics that might explain why some operations draw sooner were entered one at a time as time ratios in an exponential (constant-hazard) regression on the FY2020-excised frame, with a time ratio below one indicating a sooner first drawdown: income class, CPIA economic-management rating, government effectiveness (WGI), three fiscal-space measures, grant financing, instrument size (log of cover) and recent GFDRR support. Each covariate is fitted on both estimands. Significance is judged by a cluster permutation test that reshuffles covariate values across countries that hold the same number of operations, because the country is the unit that decides to take a Cat DDO and declares the emergency, and operations within a country are not independent.

The result, on 14 events. No covariate is significant under a test that respects country clustering. The closest is instrument size: larger operations draw sooner (time ratio 0.61 per log point of cover; permutation $p = 0.089$). Approval year is not a predictor once CPIA is controlled and FY2020 excised (time ratio 1.13 per year, $p = 0.44$): countries that adopted the instrument early did not draw sooner because they were early, they drew sooner because the pandemic reached them while their cover was young. The GFDRR association is not significant ($p = 0.25$). Fourteen events cannot carry a covariate analysis, and the paper reports the whole set as what the record cannot tell us. The null is informative in its own right: nothing about fiscal space, financing terms or income predicts which IDA countries draw quickly. The hazard in the central model therefore carries no covariates.

Table A4: Covariate effects on time to first drawdown, exponential regression, IDA, FY2020 excised

Covariate	Time ratio, per operation [95% interval]	Time ratio, typical country	Cluster- permutation p	Reading
Instrument size, per log point of cover	0.61 [0.32, 1.20]	0.69	0.089	closest to significance; larger operations draw sooner
CPIA economic management, per rating point	0.51 [0.12, 2.06]	0.60	0.29	not significant
Approval year, per year (model also carries CPIA)	1.13 [0.87, 1.68]	—	0.44 (Wald)	not significant
GFDRR support in the three years to approval	0.50 [0.15, 1.15]	0.50	0.25	not significant
WGI government effectiveness	1.75 [0.36, 4.58]	1.52	0.34	not significant
Grant financing	0.93 [0.24, 3.16]	0.85	0.91	not significant
Debt to GDP	0.997 [0.984, 1.015]	0.998	0.73	not significant
Primary balance	0.987 [0.932, 1.123]	0.988	0.79	not significant
Debt to tax revenue	0.999 [0.997, 1.002]	0.999	0.28	not significant

continued >

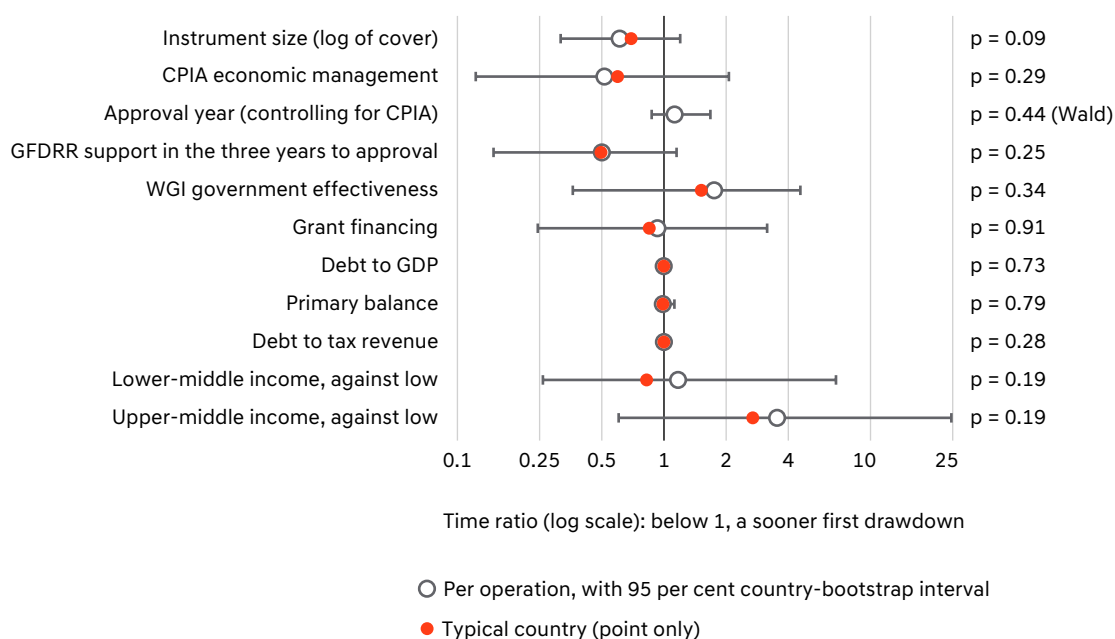
Table A4: Covariate effects on time to first drawdown, exponential regression, IDA, FY2020 excised (continued)

	Time ratio, per operation [95% interval]	Time ratio, typical country	Cluster- permutation p	Reading
Income: lower-middle against low	1.17 [0.26, 6.80]	0.82	0.19	not significant
Income: upper-middle against low	3.53 [0.60, 24.62]	2.69	0.19	not significant

Notes: 37 operations, 14 first drawdowns, 28 countries, except that the three fiscal-space rows rest on 35 or 36 operations and 13 first drawdowns, where the covariate is missing. A time ratio below one means a sooner first drawdown. Intervals are 95%, from a bootstrap that resamples whole countries. p-values are from the cluster permutation test described in the text; the approval-year row is a Wald test in a model that also carries CPIA economic management, and has no typical-country estimate.

Source: Authors' estimates from the Cat DDO record to 30 June 2026; covariates from the World Bank CPIA, the Worldwide Governance Indicators, the World Bank fiscal space database, the World Bank historical income classification, and the GFDRR record of support for Cat DDOs.

Figure A2: What predicts time to first drawdown? Exponential time ratios, IDA, FY2020 excised



Notes: Time ratios from exponential (constant-hazard) regressions on the FY2020-excised frame, one covariate at a time; a ratio below one means a sooner first drawdown. Hollow points count each operation once, with 95% intervals from a bootstrap over countries; filled points weight each country's operations to share one weight. p-values are from a cluster permutation test that reshuffles covariate values across countries. Approval year comes from a model that also controls for CPIA economic management; it has no typical-country estimate, and its p-value is a Wald test. Where a covariate is missing, the model uses fewer operations: debt to GDP, primary balance, and debt to tax revenue rest on 35 or 36 operations and 13 first drawdowns. No covariate is statistically significant at the 5% significance level.

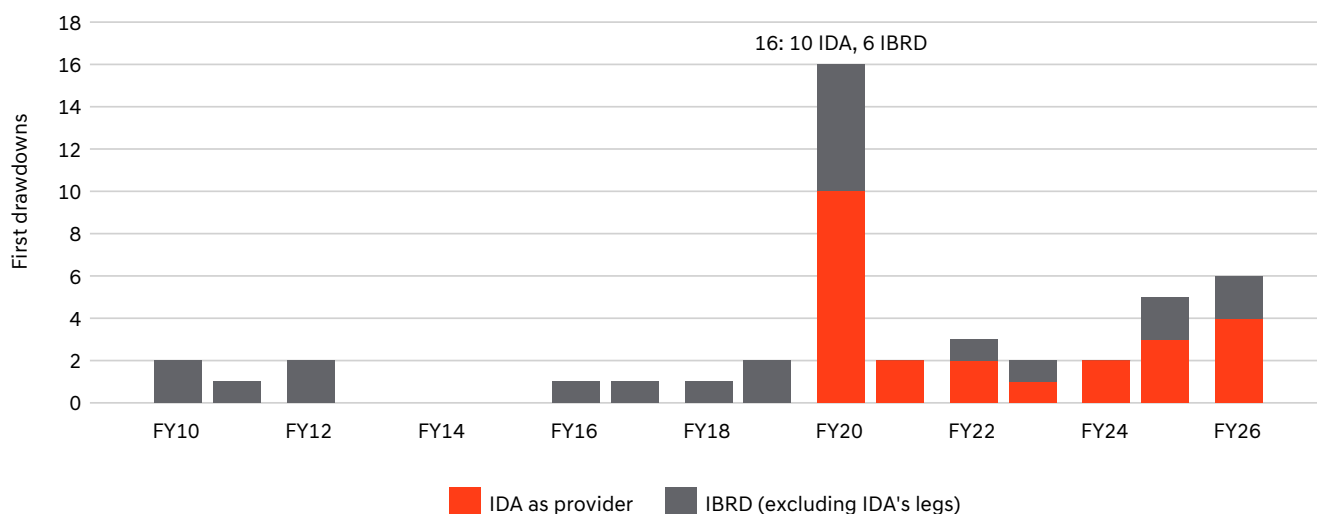
Source: Authors' compilation of Cat DDO operations from World Bank project documents (project pages, Implementation Status and Results Reports, Implementation Completion Reports and financing agreements) to 30 June 2026. Covariates: World Bank CPIA; Worldwide Governance Indicators; World Bank fiscal space database; World Bank historical income classification; GFDRR record of support to countries. Authors' estimates.

A5. Our assumptions about the frequency and severity of global shocks, and the dependence between operations

How much of the record is one year. On the IDA portfolio, whose first operation became effective in November 2018, nine of the 23 first drawdowns arrived in FY2020 (10 of 24 when IDA is counted as a provider, the difference being Cabo Verde). Of the six wholly IDA-financed operations in force when the pandemic was declared on 11 March 2020, five had exhausted their cover in the COVID-19 response; between them, they accounted for 83.8% of the IDA cover standing on the day of the declaration. The IBRD portfolio, which goes back to 2009, recorded six first drawdowns in FY2020 and never more than two in any other year (Figure A3).

Excise the year, then deliberately reintroduce the shock. Fitting the hazard to all experience treats one pandemic as a uniform uplift across every operation-year: it flatters the mean, thins the tail, and makes the 2020 wave look like ordinary variation (Table A1, column 3). Excising it without replacement would treat global shocks as impossible, in a paper about pre-arranging for correlated crises. The model therefore has two parts: a baseline hazard estimated on experience excluding FY2020 (its events and exposure both removed), and a global-shock state in which each simulated year is a shock year with probability q and operations are assumed to draw down at the rate they did in FY2020. The financial year is the unit, because a shock is one simulated year. Looking backwards, the shock year is COVID-19; looking forwards, it is any comparably large, globally synchronised shock.

Figure A3: First drawdowns on Cat DDOs by World Bank financial year



Notes: First drawdowns on Cat DDOs by World Bank financial year of the draw, with IDA counted as a provider: 44 operations, including IDA's leg of Cabo Verde's blend, of which 24 had drawn by 30 June 2026. In FY2020 there were 10 such first draws; on the survival sample used to estimate Annex A's model, the count is one fewer, the difference being Cabo Verde. IBRD operations recorded 6 first draws in FY2020 and never more than 2 in any other year.

Source: Authors' compilation of Cat DDO operations from World Bank project documents (project pages, Implementation Status and Results Reports, Implementation Completion Reports and financing agreements), to 30 June 2026. Authors' estimates.

The shock year: one annual event per country.

Multiplying the normal-year rate in a shock year would imply repeated drawdowns the record does not show: the FY2020 rate of all IDA-only drawdowns was 12.3 times the normal-year rate, yet no operation drew more than twice in FY2020. The central model therefore treats a shock year as one annual event per country. **Whether** a country draws or not is governed by a shock-year rate, estimated on the cover standing when the shock began: the 7 IDA-only operations in force on 11 March 2020, when the pandemic was declared. The four operations

that became effective on or after that date are excluded, both their drawdowns and their exposure, because we model the portfolio as at 30 June 2026, and a portfolio held today contains no cover that is added during the shock. All 7 drew: 7 first drawdowns on 2.26 years at risk, a rate of 3.10 a year (exact Poisson 95% interval 1.25 to 6.39), so that a country with cover in force all year draws with probability 0.955. The amount drawn is one annual share of its undrawn balance (A6). It makes no further drawdowns that year. Table A5 sets the two regimes side by side.

Table A5: The two regimes of the central model

	Normal years (probability 0.90)	Shock years (probability $q = 0.10$)
Estimated on	all IDA-only drawdowns outside FY2020: 16 drawdowns in 44 spells, 70.1 operation-years	first FY2020 drawdowns of the 7 operations in force on 11 March 2020: 7 drawdowns on 2.26 years at risk
Rate of drawing	0.228 a year per operation [0.118, 0.369]; 0.211 typical country	3.10 a year [1.25, 6.39], both estimands
Probability that a country with cover in force all year draws	0.204 (per operation)	0.955
Drawdowns in the year	Poisson at the rate, each capped at the balance remaining	at most one
Size of a drawdown	share of the undrawn balance, resampled from the 16 normal-year drawdowns (mean 0.88; 10 take it all)	annual share of the balance, resampled from the 7 cohort operations (mean 0.90; 6 fully drew down; one drew down 30%)
Uncertainty carried into Annex B	bootstrap over countries	gamma-distributed around the estimate; the ends of the 95% interval are robustness checks (Table B5)

Notes: The shock-year cohort excludes the operations that became effective on or after 11 March 2020, events and exposure. Each cohort operation is at risk from the later of 1 July 2019 and its effective date until its first FY2020 drawdown. With one operation per country in the cohort, the typical-country rate equals the per-operation rate. The shock-year share is the portion of the balance undrawn at the start of FY2020, or at effectiveness if later, that the operation drew over the year.

Source: Authors' estimates from the IDA Cat DDO record to 30 June 2026.

The frequency of a large global shock is a judgement.

Eight years of IDA experience contain one shock year, which, taken at face value, implies about one in eight; the IBRD record implies something rarer. Nothing in the data distinguishes one-in-eight from one-in-50, so q is set at one in 10 by stated judgement and tested at one in 20 and one in five throughout. Three considerations support one in 10. The Pandemic Emergency Financing Facility's prospectus modelled annual exhaustion probabilities of roughly 5 plus 3% for pandemics alone (International Bank for Reconstruction and Development, 2017); 2020 is evidence that should move a prior upwards; and the state is defined as any comparably large synchronised shock, which adds non-pandemic channels. Annex B, Table B5 shows what the alternatives do to the results.

Is a shock-year drawdown larger? Not detectably so. Across all IDA-only drawdowns, those in FY2020 took on average 0.82 of the balance then undrawn, against 0.88 outside it (11 and 16 drawdowns; exact within-country permutation test, $p = 0.67$). What distinguishes a shock year is how many countries draw, not the size of each drawdown. The shock regime therefore samples

its severity from the FY2020 annual shares of the cohort, which already reflect how much each country drew over the year (A6), rather than scaling the normal-year shares.

Dependence between countries in a normal year.

Outside the shock regime, the central model treats countries as independent. This is an estimate, not a convenience. On the annual panel of all IDA-only drawdowns with FY2020 excised – seven financial years, 16 drawdowns on 70.0 operation-years – annual counts vary less than independence would produce (dispersion 2.28 against 6.88), so the coefficient of variation of a shared annual factor is estimated at its boundary, 0. A factor with a coefficient of variation of 1.0 would produce this low a dispersion with probability 0.004. Seven annual cells cannot identify regional factors, and no regional variant was estimated. FY2020 is excluded so that the pandemic is not counted twice, once in the shock regime and again as dispersion. A global shared factor with a coefficient of variation of 1.0 is kept as a robustness check (Table B5): it leaves each country's probability of drawing unchanged and changes only how often the portfolio has a quiet year or a bad one.

A6. How the size of a drawdown is modelled

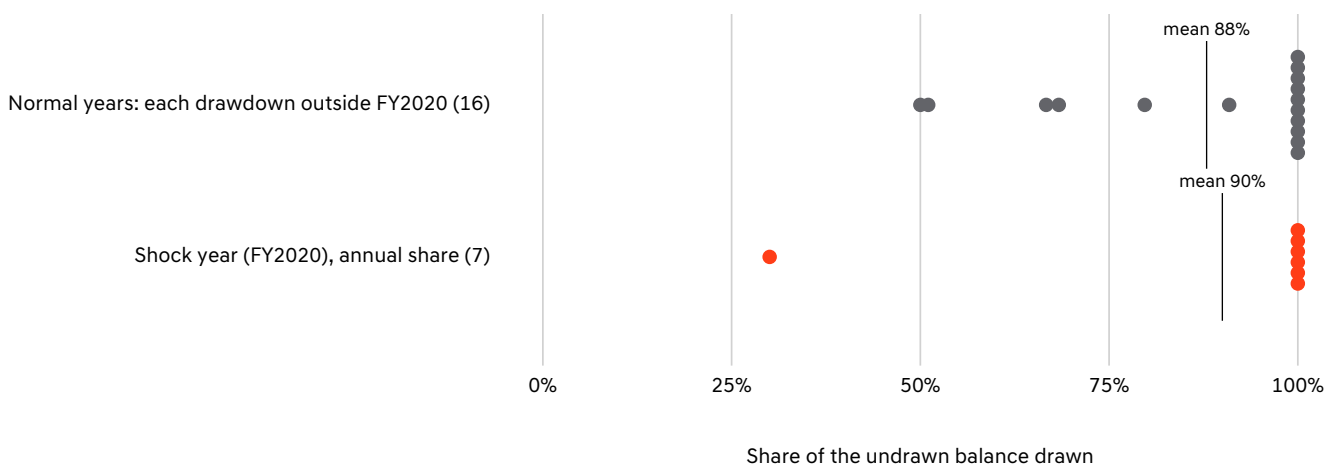
Resampled from the record, not fitted. In a normal year, each drawdown takes a share of the balance undrawn immediately before it, resampled from the 16 IDA-only drawdowns outside FY2020: a mean of 0.88, a median of 1.00, 10 of the 16 taking the whole balance and none less than 50% of it. Measured against the balance still undrawn, first and later drawdowns look alike, so they form one pool. A parametric severity distribution would have to be fitted to a few dozen points with a mass at 100% and a hard upper bound; any family would smooth that mass away and impose a shape the record does not show, and the cap at the balance already does the truncation a fitted distribution would need. Resampling the record keeps its shape, its bound and its lumpiness – the last of which matters for the tail. In a shock year, the single annual event takes an annual share resampled from the FY2020 cohort (A5; Figure A4, lower row).

Repeat drawdowns. In a normal year, a unit draws a Poisson number of times at the constant rate, with each drawdown dated by the rate and capped at the balance remaining. Under a constant rate, a partly drawn operation is as likely to draw again as an undrawn one is to draw for the first time, which is what the all-drawdowns test in A3 supports. Whether cover was exhausted is typed from documents, never derived from a ratio.

One country, one exposure. Where a country holds more than one live operation, and the later became effective while the earlier still had a balance, they form one unit: one trigger, one drawdown capped at the combined balance. A country in crisis draws once. On today's portfolio, every such pair merges, so the unit count equals the country count, 27.

Severity in a shock year is derived from the FY2020 annual shares, not from the normal-year pool (A5).

Figure A4: How much of the undrawn balance a drawdown takes, IDA Cat DDOs



Notes: Upper row: each drawdown on an IDA-only Cat DDO outside FY2020, at its share of the balance undrawn just before it: 16 drawdowns, a mean of 88%, 10 of them taking the whole balance, and none less than 50%. Lower row: the shock year. For each of the 7 operations standing on 11 March 2020 that drew in FY2020, the share of the balance undrawn at the start of the year, or at effectiveness if later, that it drew over the year: 6 drew it all and the smallest share was 30%. These are the two sets of shares the model draws from: the upper row for each drawdown in a normal year, the lower row for the one annual event in a shock year (Tables A5 and A6). Points at the same value are stacked; the vertical marks are the means.

Source: Authors' compilation of Cat DDO operations from World Bank project documents (project pages, Implementation Status and Results Reports, Implementation Completion Reports and financing agreements), to 30 June 2026. Authors' calculations (Annex A).

A7. How we model the IPF DDO

What it is, and what counts as cover. The IPF DDO in this paper is the contingent layer of a REPAIR country's protection: a funded reserve the country draws first, a contingent IDA layer drawable once the reserve is half drawn, and a small insurance layer above. The paper focuses on the middle contingent IDA layer alone: **six operations live at 30 June 2026 holding US\$400 million** of contingent cover (Comoros, Madagascar, Mozambique, Burundi, Malawi, Zambia). Two operations have drawn on the layer – **three drawdowns totalling US\$51.8 million**: Madagascar once (March 2026) and Mozambique twice (December 2025 and February 2026) – according to the REPAIR Task Team Leader's written confirmation of 28 August 2026.

Why the simulation uses the Cat DDO model for IPF DDOs. Six operations and two drawing countries cannot support a distribution of their own, whereas the Cat DDO record rests on 43 operations and 27 drawdowns. Every IPF DDO unit in Annex B is therefore modelled with the Cat DDO parameters – the constant hazard with the shock state, and the Cat DDO drawdown-size record including repeat draws, which the withdrawal rule

(“as often as necessary to reposition the reserve”) and Mozambique's two draws permit. This is a decision to use the better-estimated of two parameters the evidence cannot distinguish, not a finding that the instruments behave alike; their triggers differ materially.

The check on the borrowing. The IPF DDO's own record, fitted as simply as the data allow – one constant rate across the six operations, interval-censored because the confirmation gives months rather than dates, with the appraisal-document attachment rates as a weak prior – gives a probability of a first drawdown within a year of **0.284 [0.073, 0.573]** (90% profile-likelihood interval). The Cat DDO comparator, the per-operation probability of a first drawdown within a year on the central model is **0.28 [0.20, 0.37]**; without the shock regime, it is 0.20 [0.11, 0.31]. Each central estimate sits inside the other's interval. The evidence on severity is thinner still: there have been three IPF DDO drawdowns, in two countries. Madagascar's single drawdown took 19% of its layer; Mozambique's two together took 26% of its layer. All were below the normal-year Cat DDO minimum of 50%, which is a reason to expect a difference, not evidence of one.

Table A6: The IPF DDO's own record against the Cat DDO, to 30 June 2026

	(1) IPF DDO, own experience	(2) Cat DDO, IDA, central model
Operations / countries drawing	6 / 2	43 operations; 23 first drawdowns
Cover, US\$m	400.0	1,630.5
P(first drawdown $\leq$ 1 year)	0.284 [0.073, 0.573] (90% profile likelihood)	0.28 [0.20, 0.37] with the shock regime; 0.20 [0.11, 0.31] without
Drawdowns, US\$m	51.8 (3 draws)	—
Used in the simulation	no: Cat DDO parameters borrowed	yes

Notes: The comparator in column (2) is the per-operation probability of a first drawdown within a year implied by the central model (Table A1, columns 2 and 4); intervals are derived from a bootstrap over countries.

Source: Authors' estimates; IPF DDO drawdowns from the written confirmation of 28 August 2026 described in the text; Cat DDO comparator from the record to 30 June 2026.

ANNEX B. THE SIMULATION MODEL

B1. The two DDO portfolios simulated

Two portfolios, one engine. The paper simulates two portfolios of contingent cover across 100,000 versions of one financial year, FY27 (1 July 2026 to 30 June 2027).

Today's portfolio comprises every IDA Cat DDO and IPF DDO with undisbursed cover at 30 June 2026, plus the two Cat DDOs the Board had approved but which were not yet effective: **US\$1,156.8 million** of undisbursed cover in **27 countries**, held through 31 operations (29 in force and 2 approved and not yet effective), 40% of it in operations financed on grant terms. **The scale-up illustration** shows each of IDA's 78 borrowing countries holding cover at the Cat DDO's own country limit: **US\$16,713.5 million**, with grants at IDA's published share of new commitments, 23.45%. The engine is the same for both (B2); only the portfolio and the estimand change.

What the scale-up is and is not. Every country on IDA's published list of borrowing countries – 78 including inactive countries – holds cover of 1% of GDP, with a cap

of US\$500 million, and floors of both US\$40 million and the cover it holds today. Two of the three components are the Cat DDO product notes (World Bank, 2024c); the floor at cover in force is ours, so that no country loses cover in the illustration (it binds for Burundi, whose IPF DDO layer exceeds 1% of its GDP and US\$40 million). It is an illustration of the vision, not a forecast or even an ask.

Where the scale-up sits, and who it reaches. Fifty-seven per cent of the cover would sit in Sub-Saharan Africa and 41% in fragile and conflict-affected members, against 20.2% of today's approved cover. The small-states share falls from 22.6% to 12.2%: the group that holds today's cover disproportionately is diluted as the rest of the membership comes in. Small states are the 45 countries eligible for a Climate Resilient Debt Clause, 29 of them on IDA's list. Figures B1 and B2 present the two portfolios.

Table B1: The two portfolios

	(1) Today's portfolio	(2) The scale-up illustration
Definition	IDA Cat DDOs and IPF DDOs with undisbursed cover at 30 June 2026, plus approved but not yet effective Cat DDOs	Every IDA borrowing country at the Cat DDO country limit: the lesser of US\$500m and the greater of 1% of GDP, US\$40m and cover in force
Countries (= exposure units after merging)	27	78
Operations	31 (29 in force, 2 approved and not yet effective)	78
Cover approved, US\$m	1,423.1	16,713.5
Undisbursed cover simulated and costed, US\$m	1,156.8	16,713.5
of which on grant terms / on credit terms, US\$m	461.2 / 695.5	3,919.5 / 12,794.0
Effective number of equal exposures	12.1	45.8

continued >

Table B1: The two portfolios (continued)

	(1) Today's portfolio	(2) The scale-up illustration
Share of cover in the five largest exposures	56%	15%
Estimand (Annex A)	per operation	typical country
Grant share basis	actual terms of each operation	IDA's published grant share of new commitments

Notes: The pipeline comprises two Cat DDOs, Rwanda (US\$141 million) and Grenada (US\$20 million), approved by 30 June 2026 and effective in July and August 2026. Capital is committed at approval, so an approved operation appears on IDA's balance sheet whether or not it is effective; a portfolio that omitted them would cost less than IDA is backing. The effective number of equal exposures is the reciprocal of the sum of squared cover shares: the number of equally sized units that would carry the same concentration.

Source: Authors' compilation from World Bank project documents; simulation inputs as described in this annex.

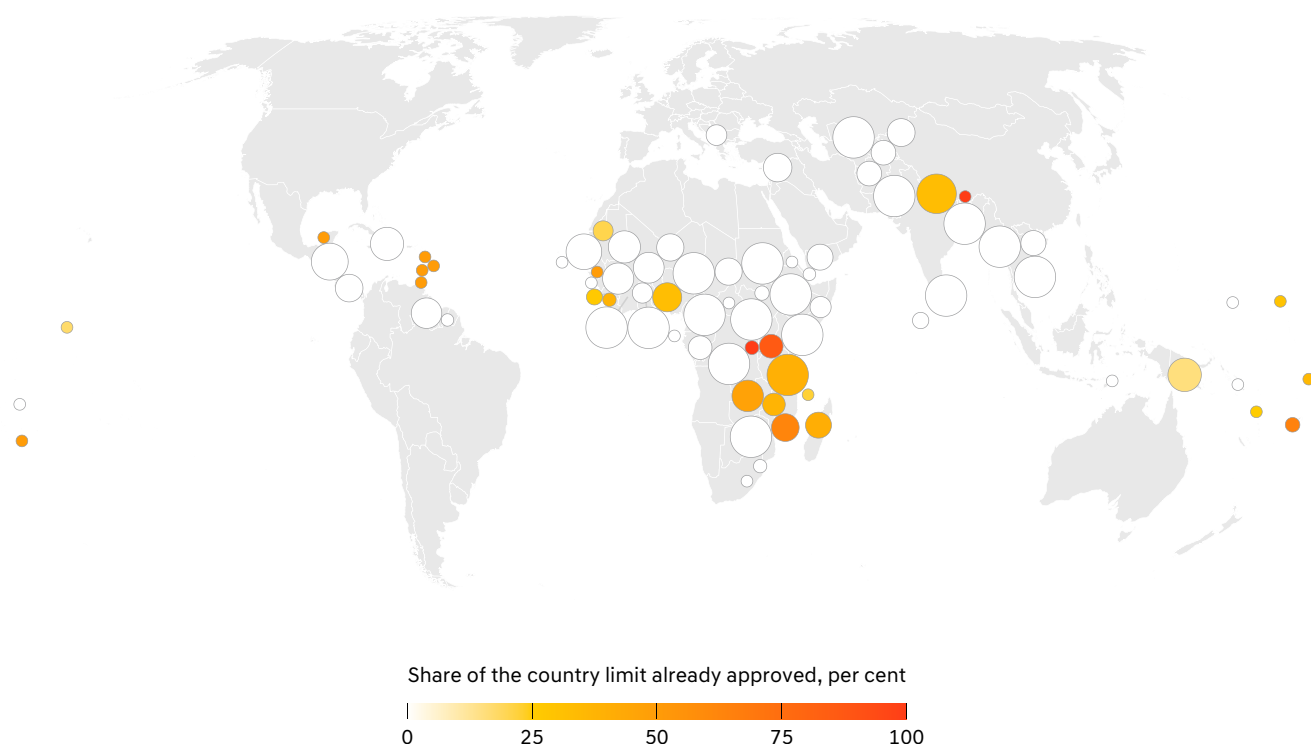
Table B2: Where the scale-up cover sits

Cut	Group	Cover, US\$m	Share
Region	Sub-Saharan Africa	9,571.1	57.3%
	South Asia	2,250.1	13.5%
	East Asia and Pacific	1,930.0	11.5%
	Latin America and Caribbean	1,455.4	8.7%
	Europe and Central Asia	1,027.4	6.1%
	Middle East and North Africa	479.6	2.9%
Fragility	Fragile and conflict-affected	6,836.5	40.9%
	Other	9,877.1	59.1%
Small states	Small states	2,039.2	12.2%
	Other	14,674.3	87.8%
Income group	Low	4,502.8	26.9%
	Lower-middle	10,730.6	64.2%
	Upper-middle	709.2	4.2%
	High (Guyana, on the list under small-economy terms)	271.0	1.6%
	Not classified (Ethiopia)	500.0	3.0%

Notes: Total US\$16,713.5 million across 78 countries. Each group's share is its cover divided by the total. Today's portfolio's shares for the same cuts are those drawn in Figure B2.

Source: Authors' simulation inputs (Annex B). Groups: World Bank lists of fragile and conflict-affected situations; Climate Resilient Debt Clause product note (small states); World Bank country classification (income).

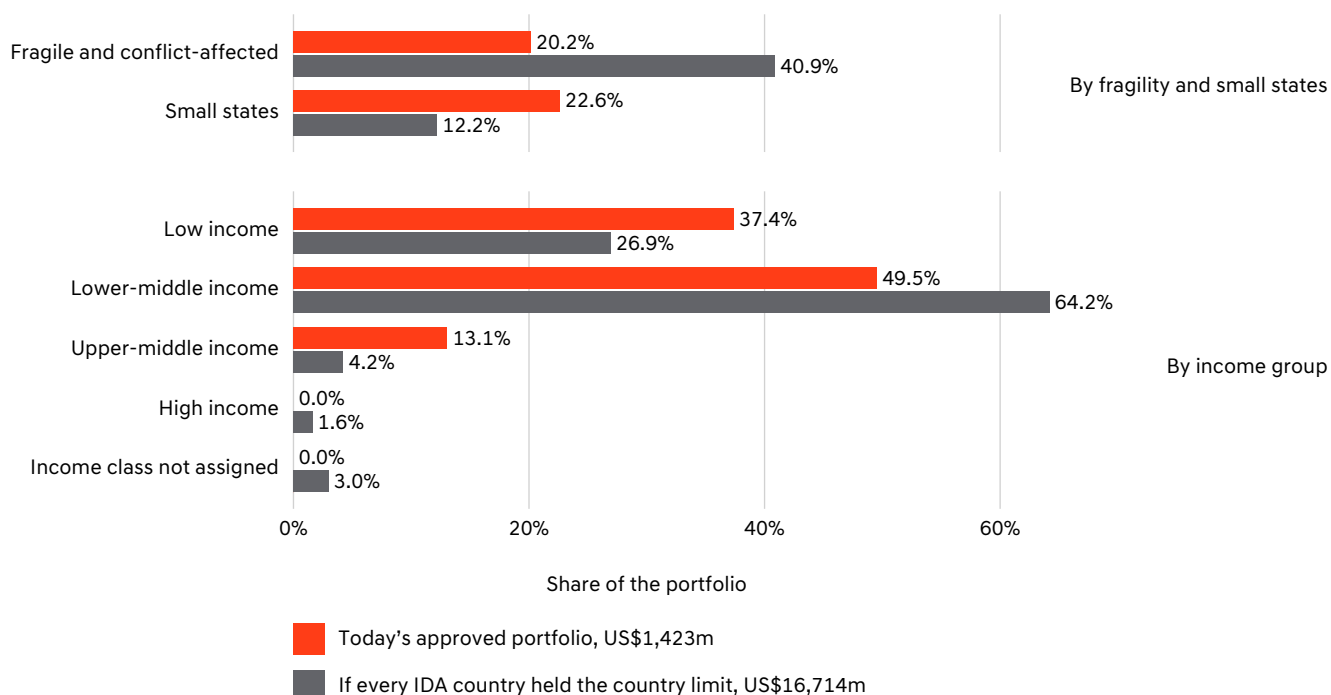
Figure B1: Where contingent cover would sit if every IDA country held the country limit



Notes: A circle is filled in proportion to the share of cover that country has already been approved for; an outline alone indicates a country with none of it. Circles that would overlap are pushed apart and joined to their country by a line. The map is drawn on the Equal Earth projection, which preserves relative area, so no country's circle is displaced by stretching the high latitudes. Today's portfolio is approved cover, US\$1,423.1 million, which includes the two operations the Board had approved but which were not yet effective at the cut-off; cover in force alone is US\$1,262.1 million.

Source: Countries: IDA's published list of borrowing countries. Boundaries: R maps package world database; these imply no judgement on the legal status of any territory.

Figure B2: Who the cover reaches now, and who it would reach



Notes: Shares of cover, not of countries. Guyana is the only high-income country on IDA's list under small economy terms; Ethiopia's income class is a gap in the country panel rather than an eligibility statement.

Source: World Bank lists of fragile and conflict-affected situations; Climate Resilient Debt Clause product note (small states); World Bank country classification (income).

B2. The data-generating process

The simulation draws 100,000 independent versions of FY27 for each portfolio. Each simulated year is generated as follows: the parameters are those of Annex A, as set out in Table B3.

1. **Units.** Each country's cover is one unit. Where a country holds more than one live operation, and the later became effective while the earlier still had a balance, the operations are merged into one unit with a single trigger and a combined balance (A6). IPF DDO units are simulated using the Cat DDO parameters (A7). On today's portfolio, the unit count is 27; on the scale-up, it is 78.
2. **The estimand follows the portfolio.** A unit on today's portfolio draws from the **per-operation** constant hazard, because that portfolio is the operations IDA actually holds, with their actual clustering in fast-drawing countries. A unit on the scale-up draws from the **typical-country hazard**, because most of that portfolio comprises countries that hold no cover today, and we model these as a representative country (A1).
3. **Parameters for the year.** Each simulated year draws its own normal-year rate from a bootstrap that resamples whole countries, and its own shock-year rate from a gamma distribution centred on the estimate (seven drawdowns on 2.26 years at risk), so that parameter and sampling uncertainties compound. The shock frequency q is fixed at 0.10.
4. **Normal or shock year.** With probability q , the year is a shock year. In a shock year, each unit draws at most once: whether, with probability $1 - \exp(-\text{shock-year rate} \times \text{the time it is exposed})$; when, at the time implied by that rate; and how much, one annual share of its undrawn balance, resampled from the FY2020 cohort (A5, A6). Cover exhausted in a shock year and replenished is subject to the normal-year rule for the rest of the year.
5. **Exposure within the year.** A live operation is exposed for the whole year, and a pipeline operation is exposed from the date it becomes effective.
6. **Drawdowns in a normal year.** A unit draws a Poisson number of times at the normal-year rate for its estimand, at most six, each dated by the rate. Each drawdown takes a share of the then undrawn balance, resampled from the normal-year record and capped at the balance (A6).
7. **Aggregation.** The portfolio's disbursement in the year is the sum over units. Every quantile quoted in this annex, including the robustness checks of Table B5, is read from runs of 100,000 years; the robustness settings reuse the same random draws, so that differences between settings are not Monte Carlo noise.

What the model is not. It is not a forecast of what IDA will pay in FY27; it is the range of years the portfolio could span under a stated model. It does not model the CRDC or the RRO. And it presents no IBRD projection.

Table B3: Parameters of the data-generating process

Parameter	Today's portfolio	Scale-up illustration	How derived	Where in Annex A
Normal-year rate, drawdowns per operation-year (all drawdowns, FY2020 excised)	0.228 (per operation)	0.211 (typical country)	estimated: events over exposure (maximum likelihood); interval by bootstrap over countries	A1, Table A1
Median time to first drawdown, normal years only	3.04 years	3.29 years	implied by the rate	A1
Drawdowns in a normal year	Poisson at the rate, at most six	as today	model assumption, supported by the shape test	A3
Shock frequency q	0.10	0.10	judgement; 0.05 and 0.20 as robustness checks	A5
Shock-year rate (at most one drawdown per country)	3.10 a year	3.10 a year	estimated: exact Poisson on the cohort in force on 11 March 2020	A5, Table A5
Size of a drawdown, normal year	share of the undrawn balance, resampled from 16 drawdowns	as today	empirical: resampled record	A6
Size of the drawdown, shock year	annual share of the balance, resampled from 7 cohort operations	as today	empirical: resampled record	A5, A6
Dependence between countries	none in the central model; shared factor with CV 1.0 as a robustness check	as today	estimated at the boundary (CV 0) on the FY2020-excised annual panel	A5
Parameter uncertainty	normal-year rate by bootstrap over countries; shock-year rate gamma-distributed; one draw per simulated year	as today	estimation	B2
Exposure year; cut-off	FY27; 30 June 2026	as today	design choice	A2
Grant share of cover	actual terms (39.9%)	IDA's published share, 23.45%	documentary	B1
Simulation size	100,000 years	as today	design choice	B2

B3. What the portfolios pay

Table B4: What the two portfolios pay in FY27, by return period (US\$m; central specification; 100,000 simulated years)

Parameter	(1) Today's portfolio	(2) Scale-up illustration
Median year	207.4	2,918.9
Expected (mean)	283.6	3,990.9
One-in-five year	375.8	4,208.1
One-in-20 year	1,001.8	14,408.6
One-in-100 year	1,105.8	15,309.3
One-in-500 year	1,134.8	15,760.7
Largest simulated year (share of cover)	1,156.8 (100%)	16,484.3 (98.6%)
Probability of no drawdown in the year	0.007	0.000
As a share of cover: mean/one-in-20/one-in-100	24.5% / 86.6% / 95.6%	23.9% / 86.2% / 91.6%

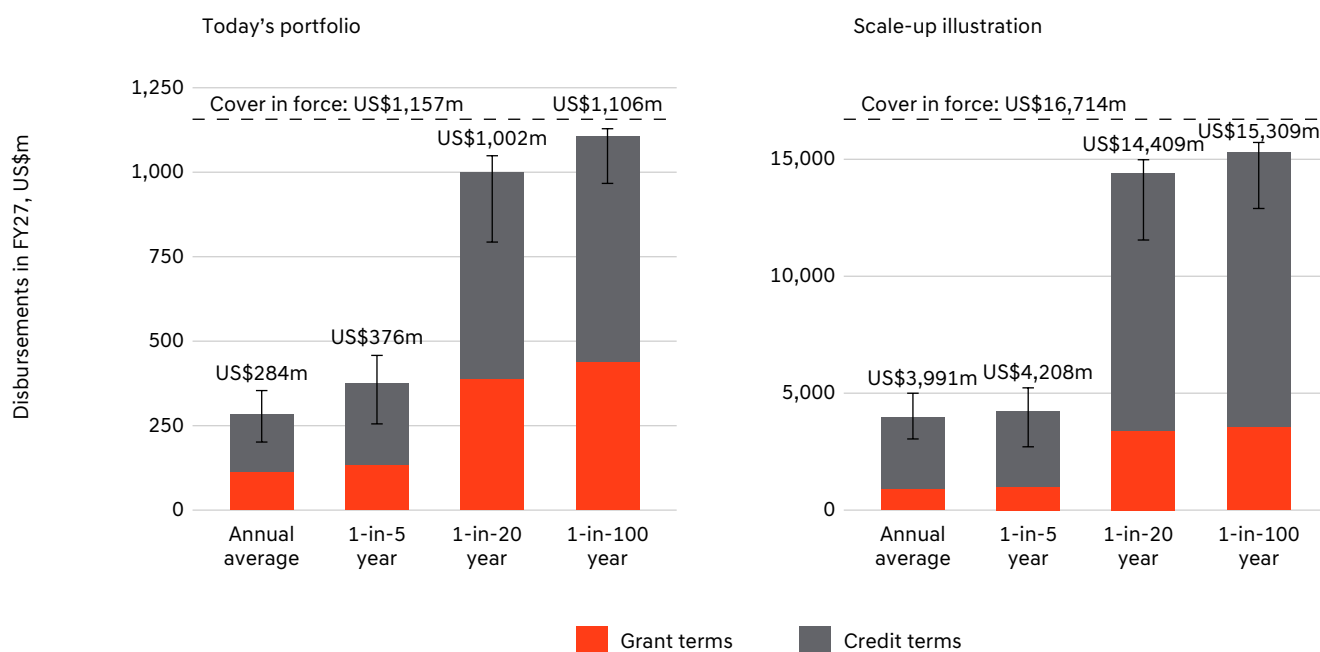
Notes: Central specification: normal-year rate as estimated; a shock year one-in-10; no shared factor; 100,000 simulated years. A one-in-N year is the $(1 - 1/N)$ quantile of simulated disbursement. The one-in-500 year is based on 200 simulated years and is indicative only. Shares of cover use undisbursed cover of US\$1,156.8 million today and US\$16,713.5 million under the scale-up.

Why the shape is what it is. The exposure is bounded, drawdowns arrive in large lumps, and a portfolio of 27 exposures cannot diversify a shock that affects all of them. The five largest exposures hold 56% of the cover, and today's portfolio behaves like about 12 equal exposures, not 27. A one-in-100 year event at 96% of cover follows from the structure of the portfolio, not from a calibration: in a shock year, almost every country draws and most take their whole balance. Cover is fully drawn in about one simulated year in 6,667.

Scale changes the tail's character, not just its size.

Seventy-eight countries diversify normal-year risk far better than 27, so without a common shock the scale-up would be better behaved; with one, the shock creates the tail. The scale-up's one-in-20 and one-in-100 years sit at 86% and 92% of cover, so its sensitivities narrow at the top for a mechanical reason – there is little cover left to draw – and in that narrow band there is a ceiling, not precision. Figure B3 expands Figure 4.2 by showing what the DDOs could disburse in FY27, for both today's portfolio and the scale-up illustration.

Figure B3: What the portfolios could disburse in FY27, by how bad the year is



Notes: Simulated disbursements in FY27, 100,000 years, central specification, by how bad the year is, as a share of cover in force: US\$1,156.8 million for today's portfolio and US\$16,713.5 million under the scale-up illustration. Whiskers show the uncertainty that comes from estimating the model: the 5th to 95th percentiles of each bar across 400 bootstrap sets of the drawdown rate and the shock-year rate. They are not the spread of next year's disbursement, which the four bars themselves describe. The dashed line is total cover in force.

B4. Sensitivity analyses and robustness checks

Each analysis below changes one assumption with every other held at its central value, on 100,000 simulated years that reuse the central run's random draws.

Reading the table. The shock frequency is the assumption to which the results are most sensitive: moving it from one year in 20 to one in five moves today's mean from US\$244 million to US\$362 million and the one-in-20 year from US\$719 million to US\$1,067 million. On the downside, the scale-up is the more sensitive portfolio: at $q = 0.05$ its one-in-20 year is 40% below central against 28% for today's portfolio;

on the upside the ceiling binds (3.4% against 6.5%). The shock-year rate matters mainly at its low end, where fewer countries draw in a shock year; at its high end, almost every country already draws, and little changes. A shared annual factor barely moves the mean and adds little to the tail. Assuming every drawdown takes the whole balance is the largest single increase in the mean. The alternative shock year, which multiplies the rate of every drawdown, gives a similar mean and one-in-20 year: the tail is robust to how the shock year is formulated, even though that formulation implies repeated drawdowns the record does not show.

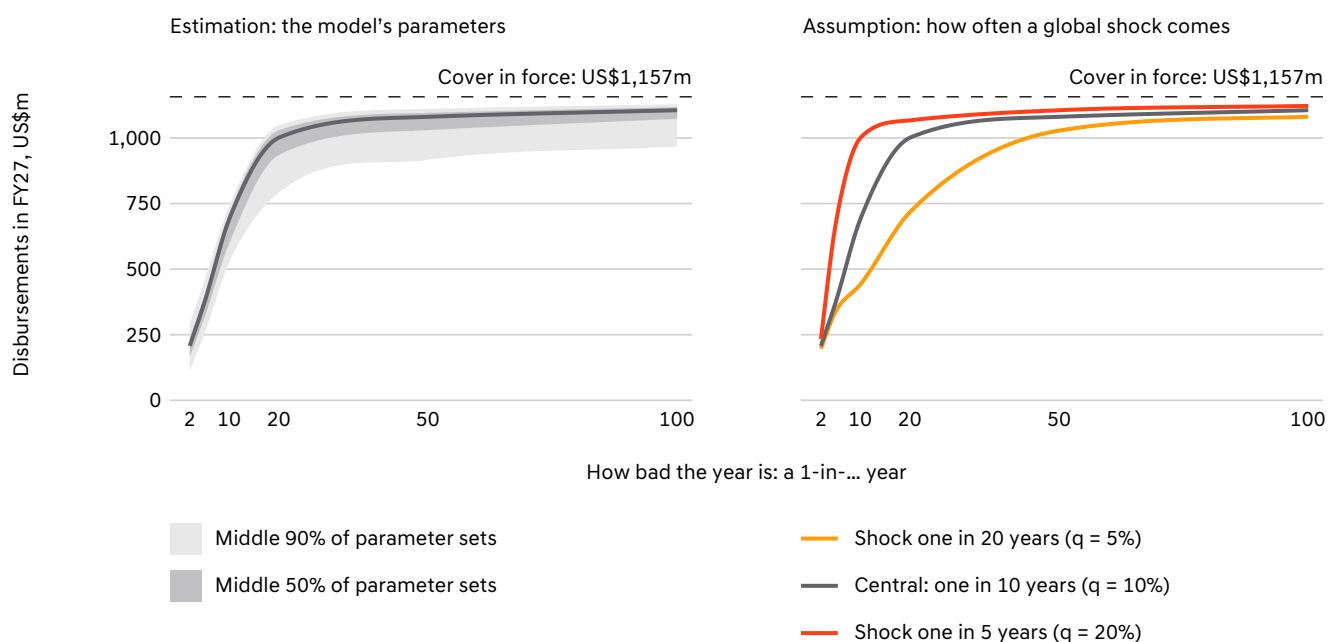
Table B5: Sensitivity analyses and robustness checks: what moves the results (US\$m)

	Today's portfolio: mean	Today's portfolio: one-in-20	Scale-up: mean	Scale-up: one-in-20
Central (shock year one in 10; shock-year rate at its estimate; no shared factor)	283.6	1,001.8	3,990.9	14,408.6
Shock frequency $q = 0.05$ (one year in 20)	244.4	719.1	3,412.9	8,699.6
Shock frequency $q = 0.20$ (one year in five)	361.8	1,067.3	5,145.2	14,904.0
Shock-year rate at the low end of its 95% interval (1.25)	257.6	736.6	3,624.6	10,725.4
Shock-year rate at the high end (6.39)	288.5	1,050.9	4,056.0	15,055.7
Shared annual factor, $CV = 1.0$	283.0	1,032.9	3,985.1	14,929.7
Every drawdown takes the whole balance	317.1	1,126.8	4,465.0	16,036.9
Alternative shock year: every drawdown's rate multiplied by 12.3	282.7	1,056.7	3,956.0	14,886.1

Notes: Each row changes one assumption with every other held at its central value. The alternative shock year keeps the normal-year model and multiplies its rate in a shock year by the ratio of the FY2020 rate for all IDA-only drawdowns to the normal-year rate, allowing repeated drawdowns; it is shown as a comparison, not a central case.

Source: Authors' simulation of 100,000 financial years (FY27) on the portfolio at 30 June 2026 (Annex B), with drawdown parameters estimated from the Cat DDO record (Annex A).

Figure B4: How much each portfolio depends on the assumed frequency of a global shock, and on the estimation of the model



Notes: Left: the uncertainty arising from estimating the model on a short record. Each of 400 bootstrap sets of the drawdown rate and the shock-year rate is held fixed for 10,000 simulated years, and the bands are the middle 50 and 90% of the resulting 1-in-N year across sets; the shock-year rate is drawn from a gamma distribution centred on its estimate (7 first drawdowns in 2.26 years at risk), independently of the drawdown rate. The lines are drawn smoothly through the one-in-2, 5, 10, 20, 50 and 100 years computed. The line is the headline estimate, which blends all the sets into one distribution and so need not sit at the middle of the band. Right: the same headline with the assumed frequency of a globally synchronised shock at one year in 20, 10 (central) and five. That frequency is a judgement, not an estimate, and is shown separately for that reason. The outer band at the one-in-5, one-in-20 and one-in-100 years is the whisker in the paper's Figure 4.2. The dashed line is total cover in force.

ANNEX C. THE ECONOMICS AND THE MARKET LAYER

Every figure in this annex rests on the authors' assumptions about IDA's capital treatment, which are based on what is in the public domain (see Section C2).

C1. What the two portfolios cost IDA, with risk retained and with risk transferred

Two treatments. The paper costs the two portfolios of Annex B under two treatments. With **risk retained**, IDA holds capital against the portfolio on a solvency basis: capital sized to the loss IDA would absorb in the worst year in 10,000 – economic capital at the one-year 99.99th percentile – a standard comparable in spirit to the economic capital MIGA holds against its guarantees at the 99.97th percentile of losses over three years. With **risk transferred**, IDA holds the same solvency-basis capital but transfers to the market the grant cost above a one-in-10-year loss, with the cover exhausting at the one-in-250-year loss, using market-implied prices from catastrophe bonds IBRD has issued (C3). The two treatments are identical in what IDA expects to pay out to countries and differ in what IDA holds and in the price of the transfer.

What is transferred. The grant cost only: the contingent grants at face value and the grant element of the contingent credits. IDA's loans and the credit-risk charge remain with IDA, and IDA shares none of its preferred creditor status. The country's position does not change.

The result. On today's portfolio, capital held falls from **US\$820 million** with risk retained to **US\$559 million** with risk transferred. Expected annual cost on the grant-equivalent basis rises from **US\$189 million** to **US\$209 million**: IDA pays a premium of US\$39 million and expects US\$20 million back in claims in an average year. The transfer therefore releases **US\$262 million** of capital at an extra cost of **US\$19 million** a year, so the released capital has to earn **7.5%** a year for the transfer to pay for itself (C5). **At scale**, the same arithmetic gives US\$10.1 billion of capital with risk retained and US\$6.6 billion with risk transferred, a premium of US\$611m against US\$320 million of expected claims, US\$3.51 billion released and a break-even return of **8.3%**. At scale, the layer's expected-loss ratio lies just beyond the range of the bonds it is priced on, so the scale-up premium is extrapolated (C3).

What is not confirmed. IDA publishes no statement on how an undrawn contingent commitment enters Total Resources Required, nor on how transferred risk would be recognised. The solvency basis is the paper's own construction, chosen by analogy to MIGA (C2), and the risk-transferred treatment assumes that IDA would recognise risk transfer, a rule IDA has not adopted (C2).

Table C1: What the two portfolios cost IDA in FY27, with risk retained and with risk transferred (US\$m)

	Today's portfolio: risk retained	Today's portfolio: risk transferred	Scale-up: risk retained	Scale-up: risk transferred
Undisbursed cover (face)	1,156.8	1,156.8	16,713.5	16,713.5
Capital held, solvency basis	820.3	558.7	10,061.3	6,555.0
Expected annual cost to IDA (grant-equivalent), of which:	189.4	208.9	2,271.2	2,561.6
— grants and grant element of credits paid out	189.4	189.4	2,271.2	2,271.2
— premium paid	—	39.2	—	610.6
— expected claims back	—	(19.7)	—	(320.2)
Net annual cost of the transfer (premium less expected claims)	—	19.5	—	290.4
Capital released by the transfer	—	261.5	—	3,506.3
Break-even return on released capital	—	7.45%	—	8.28%
Coverage multiple (cover bought per dollar of premium)	—	7.4	—	6.4

Notes: Risk transferred: the grant cost above the one-in-10-year loss is transferred to the market, exhausting at the one-in-250-year loss at the central attachment point (C3); capital assumes a collateralised counterparty and IDA's recognition of the transfer (C2). Table 4.1 in the body is the two today's-portfolio columns of this table, rounded.

C2. What IDA's current approach might charge, and why the comparison is with the solvency basis

IDA's current approach, reconstructed. IDA's capital requirement, Total Resources Required, covers credit, interest-rate and operational risk at a triple-A standard, with an allowance for valuing concessional loans at market rates (World Bank, 2024a). IDA states that grant commitments "require additional capital on an almost one-to-one basis" at commitment (International Development Association, 2026a), but publishes nothing on how an undrawn credit commitment converts into Total Resources Required. We reconstruct the charge from what a disbursed concessional dollar attracts – about 39 cents of subsidy allowance, the grant element,

and about 12 cents of credit capital, some 51 cents in total (Risk Control Limited, 2023) – and ask what fraction applies while the dollar is undrawn. Risk Control Limited applies a Basel-style 50% credit conversion factor to IDA's undisbursed loans; halving 51 cents gives about 25 cents per dollar of contingent credit, and the "almost one-to-one" language supports charging a contingent grant its full face from commitment. Those are the central readings. On them, IDA's current approach holds **US\$635.1 million** against today's portfolio and US\$7,118.0 million at scale – about a fifth less than the solvency basis in each case (Table C2).

Robustness: no credit conversion factor. The reading that cannot be excluded from the record is that the conversion applies to each component separately, leaving about 50 cents per dollar of contingent credit – in effect, no credit conversion factor on the subsidy allowance. It has no independent corroboration, so it is carried as a robustness check rather than as a central case. Under it, IDA’s approach would hold US\$808.9 million against today’s portfolio, close to the solvency basis’s US\$820.3 million, and US\$10,316.5 million at scale, slightly more than the solvency basis’s US\$10,061.3 million. The two differ

by US\$11.3 million today and US\$255 million at scale, in opposite directions – small margins, which is why the paper does not lean on the sign. Set against other regimes, IDA’s treatment sits in the middle of the range: a commercial bank under the Basel framework would hold less against the contingent credit (Basel Committee on Banking Supervision, 2017), while holding full face against the grants is close to what MIGA’s economic-capital model would require of an unhedged obligation (Multilateral Investment Guarantee Agency, 2025), and probably close to a Solvency II requirement, because a portfolio of 27 exposures barely diversifies.

Table C2: IDA’s current approach on two readings, against the solvency basis (US\$m)

	Today’s portfolio	Scale-up illustration
Grant cover (face)	461.2	3,919.5
Credit cover (face)	695.5	12,794.0
Average capital charge per dollar of disbursement λ (\$)	0.709	0.621
Capital under IDA’s current approach, central reading (about 25c per dollar of contingent credit)	635.1	7,118.0
Capital under IDA’s current approach, no credit conversion factor (about 50c)	808.9	10,316.5
Capital on the solvency basis, risk retained	820.3	10,061.3
Current approach less solvency basis: central reading	–185.2	–2,943.3
Current approach less solvency basis: no credit conversion factor	–11.3	+255.2

Notes: The solvency-basis capital is the 99.99th-percentile loss IDA absorbs, on the grant scale: grant disbursements at face value, plus the grant element and retained credit risk of the credit disbursements. It is smaller than the raw 99.99th-percentile disbursement in the last row because a credit disbursement costs IDA only its loss given disbursement λ . Both readings charge a contingent grant its full face value from commitment.

Recognition of transferred risk. None of the risk-transferred treatment earns IDA relief unless IDA recognises transferred risk. Under IDA's current approach, a transfer would release no capital at all, because the framework has no rule recognising it. The paper therefore assumes that IDA recognises transferred cover as MIGA recognises reinsurance of its guarantees: relief in proportion to the risk transferred, less a charge for the risk that the counterparty fails to pay – in the central case, no haircut on the transferred amount and a 10% add-back for counterparty risk. A collateralised structure is assumed; any haircut for counterparty risk raises the break-even return.

Why capital released is measured against the solvency basis. Moving from IDA's current approach to the solvency basis changes the capital held – by US\$185 million on today's portfolio on the central reading – with no change in what IDA pays. That is a change of measurement, not something a transaction buys, and crediting a transfer with it would flatter the transfer. Capital released through risk transfer is therefore measured against the solvency basis throughout (Table C1). If IDA were to retain its current approach instead, it is unclear what rules it would adopt for recognising risk transfer, so we do not present such an approach here.

C3. The market price of risk transfer

Pricing is based on the bonds IBRD has issued. The most relevant public prices for risk transfer from the World Bank are the 24 fully-collateralised catastrophe bonds IBRD issued between 2017 and 2026 (World Bank data compiled in June 2024, and cross-checked against the Artemis deal directory). Each bond's annual risk margin is regressed on its expected loss, both expressed as a share of limit: intercept 0.0255, slope 1.216, R^2 0.67.

Where the transferred layer sits on the curve. The bonds cover expected-loss ratios from 0.79% to 7.74%. The central layer, attaching at the one-in-10-year loss, has an expected-loss ratio of 6.8% on today's portfolio, within that range, and 8.2% at scale, just beyond it, so its price at scale is **extrapolated**. A layer attaching at the one-in-five-year loss sits beyond the range on both (9.2% and 9.5%). How much an extrapolation depends on the functional form is tested by fitting three shapes to the same bonds, each relating annual risk margin m to expected loss e , both as shares of limit: **linear**, $m = a + b \cdot e$ ($a = 0.0255$, $b = 1.216$, R^2 0.67), the curve used for pricing; **square root**, $m = a + b \cdot \sqrt{e}$ ($a = -0.0074$, $b = 0.425$, R^2 0.67); and **log-log**, $m = A \cdot e^b$ ($A = 0.439$, $b = 0.550$, R^2 0.66). The three fit about equally well.

At the one-in-10 attachment, their prices differ by 8% on today's portfolio and 13% at scale; at one-in-five by 16% to 17%. That spread reflects the uncertainty the paper attaches to the market price, and why the central attachment is one-in-10 rather than one-in-five.

What could move the price? Up: the DDO's trigger is a declaration and a country's choice, softer than the parametric indices used in the other IBRD cat bonds, and the portfolio carries peak perils, including pandemic. Down: a public reinsurer or MIGA as an intermediary retaining some risk, and the possibility that cover could be negotiated.

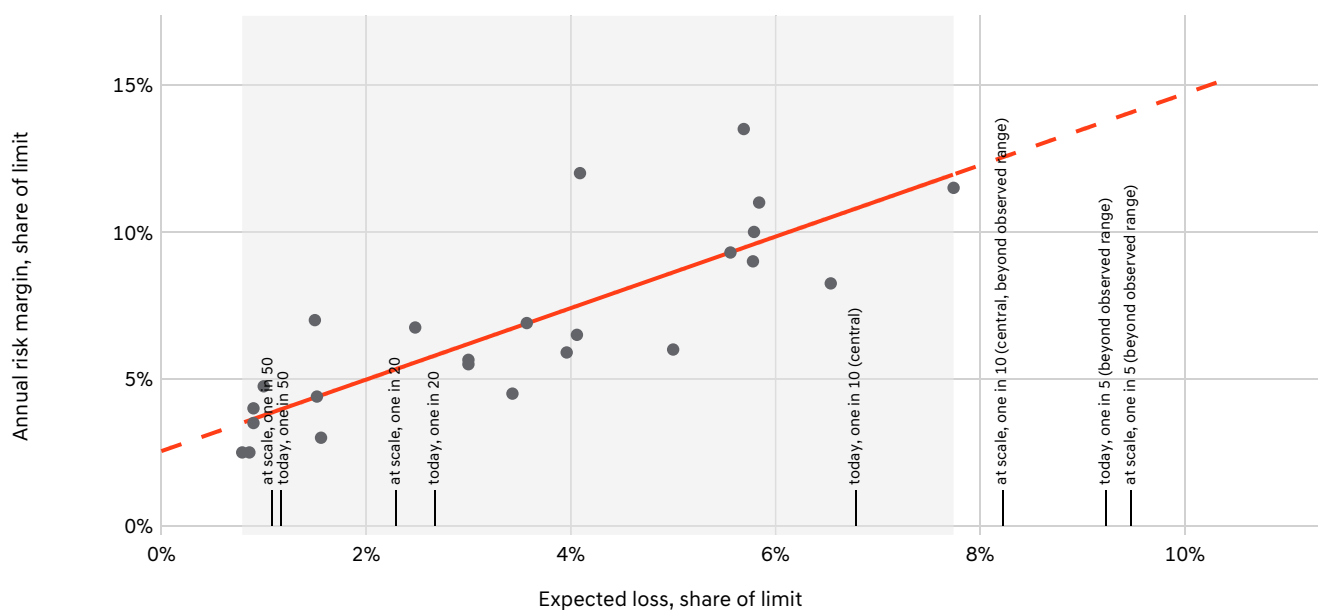
Sensitivity to the attachment point. Table C3 prices the same transfer – the grant cost above the attachment, exhausting at one-in-250 – across four attachment points. The layers are alternatives, not a programme: they are nested and all exhaust at the one-in-250 loss, so the premium row is a menu of quotes for overlapping cover. The table shows this rule: the rarer the attachment, the cheaper each dollar of capital it releases, and the fewer dollars it releases.

Table C3: The price of the transferred layer, and its sensitivity to the attachment point (US\$m a year unless stated)

	Attaching at one-in-five	Attaching at one-in-10 – central	Attaching at one-in-20	Attaching at one-in-50
Today's portfolio				
Expected-loss ratio of the layer	9.2% (outside the observed range)	6.8%	2.7%	1.2%
Premium	86.1 (extrapolated)	39.2	6.1	1.5
Expected claims	46.2	19.7	2.3	0.4
Premium per dollar of expected loss	1.86	1.99	2.71	4.25
Capital held after transfer	369.8	558.7	744.3	793.0
Capital released	450.5	261.5	76.0	27.2
Net annual cost of the transfer	39.9	19.5	3.9	1.1
Break-even return on released capital	8.87% (extrapolated)	7.45%	5.08%	4.21%
Scale-up illustration				
Expected-loss ratio of the layer	9.5% (outside the observed range)	8.2% (outside the observed range)	2.3%	1.1%
Premium	1,139.2 (extrapolated)	610.6 (extrapolated)	44.6	15.8
Expected claims back	—	320.2	—	3.6
Capital held after transfer	4,230.9	6,555.0	9,459.4	9,766.8
Capital released	5,830.4	3,506.3	601.9	294.5
Net annual cost of the transfer	525.3	290.4	29.3	12.3
Break-even return on released capital	9.01% (extrapolated)	8.28% (extrapolated)	4.86%	4.16%

Notes: Every layer transfers the grant cost above its attachment point and exhausts at the one-in-250-year loss; the one-in-10 attachment is the paper's central case and the others are sensitivity analyses only reported in this annex. A layer whose expected-loss ratio lies beyond the range of the bonds is priced by extrapolating the curve: the one-in-five layer on both portfolios and, at scale, the central layer. The premium per dollar of expected loss includes the central friction of 1.25. Capital released and break-even return are measured against the solvency basis with risk retained (C2). Expected claims at the one-in-five and one-in-20 attachment points at scale are not published.

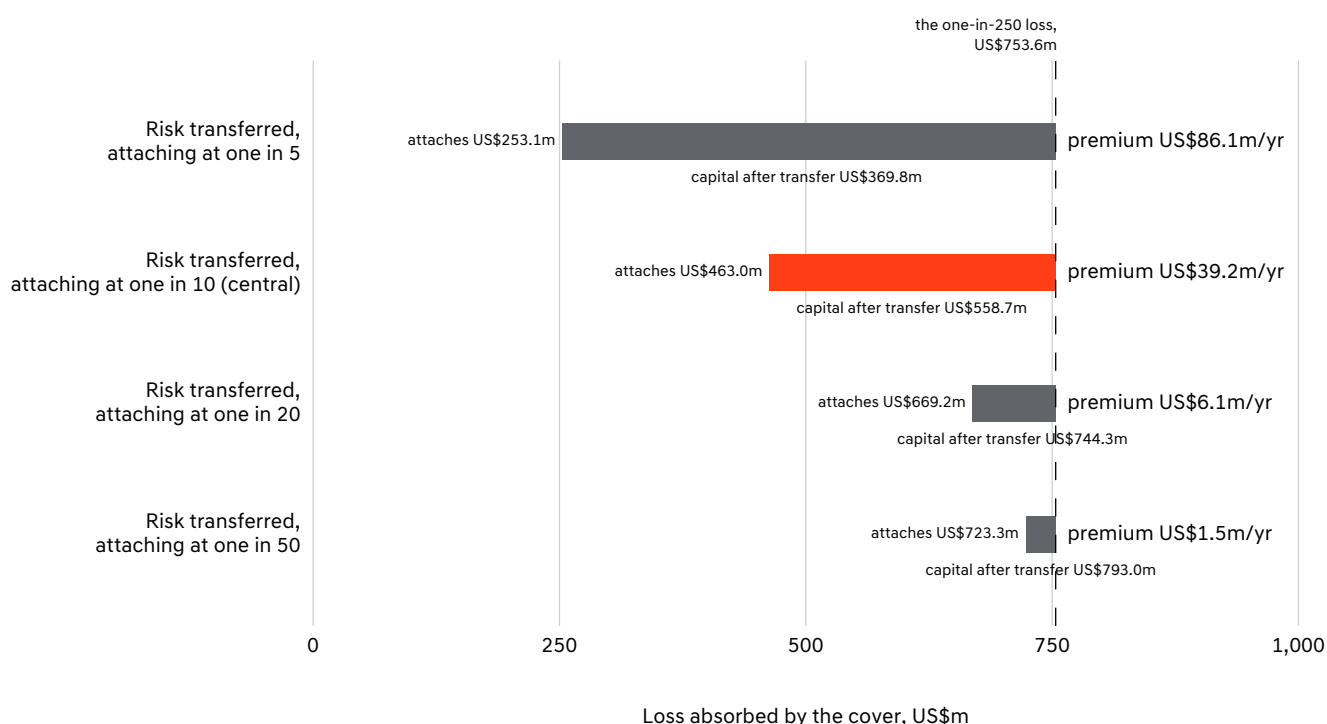
Figure C1: The market price of IBRD catastrophe risk: the curve the transfer is priced on



Notes: Each point is one of the 24 catastrophe bonds issued by IBRD between 2017 and 2026; the line is the linear fit of annual risk margin on expected loss, both expressed as a share of limit, used to price every layer in this annex (intercept 0.0255, slope 1.216, R-squared 0.67). The shaded band shows the range of expected loss the bonds cover, 0.79 to 7.74%; outside it, the line is dashed and any layer priced there is extrapolated. The ticks mark the attachment points of the risk transferred, at the one-in-5, one-in-10, one-in-20 and one-in-50 year loss, on today's portfolio and at scale. The one-in-10 attachment is the central case. It lies inside the range on today's portfolio (6.78%) and just beyond it at scale (8.22%), so its price at scale is extrapolated. The other attachments are sensitivities reported in this annex only; the one-in-five layer lies beyond the range of observed market transactions on both portfolios (9.23 and 9.48%), so its price is extrapolated too. A fit to the 12 bonds issued from 2020 alone is steeper (slope 1.357), which is why the choice of window matters and is stated. The capital figures rest on the authors' assumptions about IDA's capital treatment, which are based on what is in the public domain.

Source: IBRD catastrophe bond issuances, 2017 to 2026: Haq et al (2024), cross-checked against and updated from the Artemis Deal Directory. Authors' curve fit (Annex C).

Figure C2: The transferred layer at four attachment points



Notes: Four ways of transferring today's portfolio to the market, drawn on one loss axis: the risk transferred attaches at the one-in-five, one-in-10, one-in-20 or one-in-50 year loss. They are alternatives to each other, not a programme to be bought together: they are nested and all exhaust at the one-in-250 loss of US\$753.6 million, so the premiums are a menu of quotes for overlapping cover, and the price of a programme is the price of the layer chosen. Attaching at one in 10 is the central case. The other attachments are sensitivities reported in this annex only, and the premium for attaching at one in five is priced beyond the range of observed market transactions: it is extrapolated from the catastrophe-bond curve. Capital is what IDA would still hold after each transfer. The capital figures rest on the authors' assumptions about IDA's capital treatment, which are based on what is in the public domain.

Source: As for Figure C1.

C4. What a disbursement costs IDA, by how bad the year is

The grant-equivalent basis. A grant disbursement costs IDA its face value. A credit disbursement costs IDA its grant element – the subsidy given away through below-market terms, about 39 cents per dollar on IDA21 terms at a 5% discount rate – and the credit part carries a charge for the risk of non-repayment. The first two are the cost the paper proposes IDA could transfer; the third stays with IDA under both treatments.

Years ranked by cost, not by disbursement. Table C4 ranks simulated years by IDA's cost, whereas Table B4 ranks them by disbursement, so a one-in-20 year in the two tables is not necessarily the same year. Each one-in-N row is the average of the 200 simulated years nearest that quantile, rescaled to that quantile, to avoid the splits between the grant and credit components being lumpy. The body's Figure 4.4 draws the risk-retained rows of this table and its Figure 4.5 the two treatments by return period; neither is repeated here.

Table C4: What today's portfolio disburses and what it costs IDA, by year (US\$m, FY27)

	Annual average	Median year	One-in-five year	One-in-20 year	One-in-100 year
Disbursement in the year	283.6	206.6	367.2	994.0	1,105.4
Cost to IDA, risk retained (grant-equivalent), of which:	189.4	140.4	252.1	669.1	740.9
– grants paid out at face	112.4	85.9	159.5	402.9	443.7
– grant element of credits paid out	77.0	54.5	92.6	266.2	297.2
Credit-risk charge on credits paid out (stays with IDA under both treatments)	20.5	14.5	24.9	70.9	79.4
Cost to IDA, risk transferred (grant-equivalent)	208.9	177.5	292.3	502.2	502.2

Notes: Years are ranked by IDA's cost with risk retained; the annual average is over all 100,000 years, and the median-year row is the average of the 200 years nearest the median, rescaled, like the one-in-N rows. With risk transferred, a one-in-20 and a one-in-100 year cost the same to IDA because both fall within the transferred layer: between attachment and exhaustion IDA pays up to the attachment plus the premium, and the market pays the rest. Risk transferred costs more than risk retained in the average and the median year – the premium is paid every year – and less in the bad ones.

C5. The break-even return: a return-on-capital calculation run in reverse

The break-even return is a return-on-capital test run in reverse. A conventional return-on-capital test starts with the cost of capital and asks whether a proposed use of capital earns more. Capital goes in, a return comes out, and the threshold – the hurdle rate – is set in advance. The paper’s calculation runs the other way. IDA is not committing capital in the hope of a return; it is releasing capital and paying for the privilege. On today’s portfolio, the transfer releases US\$261.5 million of capital and costs US\$19.5 million a year net, so the transaction returns –7.5% a year on its own. It becomes worthwhile only if the released capital is redeployed, as grants and concessional finance, at a development return above 7.5%. That figure plays the same role as the cost of capital in the conventional test, but it is derived from the price of the cover rather than set beforehand, which is why the paper calls it a break-even return and not a hurdle rate. Section 4.1 of the paper gives the same logic on a simple example.

Why the cost is net of expected claims. The premium buys two things: the claims IDA expects back in an average year, and protection above that. The expected claims are the grant cost IDA would otherwise have paid itself; the transfer moves that payment to the counterparty, and back again, it does not add to it. What the transfer adds to IDA’s average annual cost is the portion of the premium IDA does not expect to recover, which covers the counterparty’s costs and return: US\$39.2 million paid, less US\$19.7 million expected back, leaving US\$19.5 million a year (Table C1). That net figure is the annual price of the capital released, just as interest is the annual price of borrowed capital in a conventional return-on-capital test. Charging the gross premium instead would be like counting the principal repaid on a loan as part of its interest cost: it would treat money that comes back to IDA as money spent, and overstate the return the released capital must earn.

Why the denominator is the full capital released.

In the conventional test, nobody nets the first year’s interest off the capital before computing the return; the interest is the annual price of having the capital, paid from income, and the return is measured on the full amount. The same holds here. The premium and the expected claims are annual flows; their difference is the annual price; the capital released is the stock that price buys. The break-even return is therefore US\$19.5 million ÷ US\$261.5 million, not the ratio to the capital released less the premium, which would treat a recurring annual payment as a one-off deduction from a stock.

Which capital it is measured against. The release is measured against the solvency basis with risk retained, not against IDA’s current approach (C2).

What it assumes and what it omits. It assumes that IDA deploys the released headroom: capital released and left idle has been bought and never used. It assumes that released capital raises Deployable Strategic Capital one-for-one, which follows from IDA’s framework (World Bank, 2024a). It is sensitive to the price of cover (C3). And it is a comparison of averages: it gives no credit for what the cover does in the bad years, when the transfer caps what IDA pays (Table C4). Whether IDA’s shareholders would rather pay a known cost every year than an unknown one in the worst year is their choice; if they would, the true break-even return is below the figure quoted.

ANNEX D. THE CRISIS RESPONSE WINDOW, BY PROJECT

Table D1: Timings by CRW project

Project	Country	FY	CRW US\$m	Time from approval to effective, days	Time from approval to first disbursement, days	Time from approval to half of CRW disbursed, days	Sensitivity: time from approval to half of CRW disbursed, days	Completion report
P166328	Dominica	FY18	20	179	517	1174	1174	—
P166537	Dominica	FY18	30	116	237	1341	1341	yes
P164466	Yemen, Republic of	FY18	200	13	54	87	87	yes
P165056	Malawi	FY19	40	21	22	22	22	yes
P165463	Mozambique	FY19	75	187	1516	1901	1901	yes
P167166	Tonga	FY19	10	91	104	733	812	—
P171361	Comoros	FY20	45	82	147	1842	1842	—
P171821	Congo, Democratic Republic of	FY20	100	111	197	404	989	yes
P170945	Lao People's Democratic Republic	FY20	25	98	271	1907	1907	yes
P170951	Lao People's Democratic Republic	FY20	25	98	305	1260	1260	yes
P171877	Malawi	FY20	80	246	323	1360	1360	yes
P171093	Mozambique	FY20	90	79	1086	1347	1347	—
P168940	Mozambique	FY20	60	139	345	814	814	yes
P174228	St. Lucia	FY20	2.5	161	1949	1949	1949	yes
P174077	Tonga	FY20	2.5	75	1746	1747	1747	yes
P174089	Tuvalu	FY20	2.5	97	1376	1453	1453	yes
P171080	Cabo Verde	FY21	25	49	54	54	54	yes
P174227	Comoros	FY21	5	175	1887	2078	2078	—

continued >

Table D1: Timings by CRW project (continued)

Project	Country	FY	CRW US\$m	Time from approval to effective, days	Time from approval to first disbursement, days	Time from approval to half of CRW disbursed, days	Sensitivity: time from approval to half of CRW disbursed, days	Completion report
P173558	Fiji	FY21	110	35	39	39	39	—
P171284	Moldova	FY21	15	179	383	1776	1776	yes
P175730	Mongolia	FY21	50.7	117	147	322	322	—
P176343	Somalia	FY21	50	78	453	911	911	—
P169120	South Sudan	FY21	12.5	106	247	367	631	—
P174683	Tonga	FY21	20	9	14	14	14	yes
P178650	Burkina Faso	FY22	50	222	237	258	423	—
P178816	Congo, Democratic Republic of	FY22	50	239	644	898	898	—
P176997	Ethiopia	FY22	37.5	45	144	144	144	—
P176406	Haiti	FY22	40	73	191	585	1082	—
P177210	Haiti	FY22	20	91	271	746	—	—
P178747	Haiti	FY22	11	151	1237	1393	1393	—
P178419	Haiti	FY22	30	90	337	529	529	yes
P178755	Haiti	FY22	19	137	229	768	768	—
P177606	Madagascar	FY22	50	11	108	629	1083	—
P177813	Malawi	FY22	12.5	147	266	266	930	—
P175640	Moldova	FY22	100	69	81	81	81	yes
P175857	Niger	FY22	100	172	172	1167	—	—
P178102	South Sudan	FY22	40	25	83	83	204	—
P177663	South Sudan	FY22	30	133	332	877	1429	—
P178848	Tonga	FY22	5	124	278	1061	1061	—
P178698	Tonga	FY22	20	29	99	99	99	yes

continued >

Table D1: Timings by CRW project (continued)

Project	Country	FY	CRW US\$m	Time from approval to effective, days	Time from approval to first disbursement, days	Time from approval to half of CRW disbursed, days	Sensitivity: time from approval to half of CRW disbursed, days	Completion report
P176148	Cabo Verde	FY23	12.5	12	21	21	25	—
P180996	Central African Republic	FY23	50	48	190	955	955	—
P180039	Chad	FY23	50	50	432	551	657	—
P179291	Comoros	FY23	15	54	54	215	483	—
P178988	Djibouti	FY23	20	163	273	1147	1147	—
P179092	Ethiopia	FY23	50	92	127	127	238	—
P172284	Ethiopia	FY23	200	145	332	994	1148	—
P179799	Haiti	FY23	50	119	249	722	722	—
P179035	Liberia	FY23	20	180	245	1154	1154	—
P179359	Liberia	FY23	30	145	323	518	518	—
P180231	Malawi	FY23	75	61	79	79	79	yes
P180152	Malawi	FY23	50	182	226	226	737	—
P179060	Mozambique	FY23	50	105	627	939	939	—
P180008	Pakistan	FY23	350	28	57	361	410	—
P179775	Somalia	FY23	50	104	292	473	473	—
P180277	South Sudan	FY23	50	4	81	81	81	—
P180785	South Sudan	FY23	30	117	492	910	910	—
P179851	Tajikistan	FY23	50	139	189	903	903	—
P180358	Yemen, Republic of	FY23	150	10	139	139	139	—
P178439	Yemen, Republic of	FY23	50	64	172	459	1049	—
P181184	Congo, Republic of	FY24	50	209	230	949	949	—

continued >

Table D1: Timings by CRW project (continued)

Project	Country	FY	CRW US\$m	Time from approval to effective, days	Time from approval to first disbursement, days	Time from approval to half of CRW disbursed, days	Sensitivity: time from approval to half of CRW disbursed, days	Completion report
P181137	Dominica	FY24	8	262	283	283	283	—
P177748	Gambia, The	FY24	20	15	18	18	18	—
P180656	Gambia, The	FY24	10	123	392	600	—	—
P181070	Mauritania	FY24	15	229	679	857	857	—
P181311	Mauritania	FY24	25	119	552	—	—	—
P504023	Rwanda	FY24	80	91	222	—	—	—
P181469	Somalia	FY24	80	26	179	179	612	yes
P180940	South Sudan	FY24	30	151	344	466	466	—
P181468	Yemen, Republic of	FY24	50	38	95	95	95	—
P181643	Afghanistan	FY25	20	12	49	49	197	—
P176570	Yemen, Republic of	FY25	50	89	124	183	230	—
P181711	Zambia	FY25	200	49	60	60	60	yes

Notes: The window committed US\$8,040.11 million over FY18–FY25; US\$3,882.20 million of that, 48.3%, can be tied to 88 named operations by appraisal-stage documents. Fifteen of those are the CRW-financed legs of 4-for-1 Cat DDOs, whose timing is the DDO's and not the window's, and two more are partly so; excluding them leaves the 73 operations shown, holding US\$3,751.20 million or 46.7% of the window's commitments. Where the CRW's money is pooled with other IDA money, no record says which dollars were the CRW's: the central reading of "time to half of CRW disbursed" assumes the CRW's dollars leave first, the reading most favourable to the Bank; the sensitivity assumes proportional disbursement, half of the whole financing net of cancellations. The two coincide for the 39 level A operations. Twenty-two operations reached half of the CRW's money on the day of their first disbursement, because the first tranche already carried it; that is not the same as fast, since some disbursed once, late. Where an operation's matched credits became effective on different dates, T1 uses the earliest. Additional financings are often filed under the parent project's identifier, where their credits and reports sit; every project was searched under its parent's identifier too. Completion report: an Implementation Completion and Results Report, or an IEG review of one, exists under the operation's own identifier or its parent's. Medians across the 73 operations: 98 days to effectiveness, 237 to first disbursement, 585 to half of the CRW's money on the central reading (71 had reached it by 31 August 2026; two had not) and 790 on the proportional reading (68 had; five had not).

Source: World Bank projects portal (day-level disbursement record) and World Bank Finances One (IDA credits, DS00976), reconciled to the cent for 93 matched credits; CRW amounts from World Bank project documents; Centre for Disaster Protection analysis.

Table D2: The coding of slow response, by CRW project

Project	Country	FY	CRW US\$m	T2 days	T3 central days	Implementing capacity	External shocks	Design changes	Procurement	Politics	Counterpart funds	Security	Effectiveness conditions	Other (stated)	No reason stated
P166537	Dominica	FY18	30	237	1341	•	•	•	•						
P164466	Yemen, Republic of	FY18	200	54	87	•	•	•	•	•		•			
P165056	Malawi	FY19	40	22	22	•	•			•					
P165463	Mozambique	FY19	75	1516	1901	•	•	•	•						
P171821	Congo, Democratic Republic of	FY20	100	197	404	•	•	•	•	•		•			
P170945	Lao People's Democratic Republic	FY20	25	271	1907	•	•	•	•					•	
P170951	Lao People's Democratic Republic	FY20	25	305	1260		•								
P171877	Malawi	FY20	80	323	1360	•	•	•	•		•				
P168940	Mozambique	FY20	60	345	814	•		•	•						
P174228	St. Lucia	FY20	2.5	1949	1949	•	•	•	•						
P174077	Tonga	FY20	2.5	1746	1747	•	•	•	•						
P174089	Tuvalu	FY20	2.5	1376	1453	•	•	•	•	•					
P171080	Cabo Verde	FY21	25	54	54		•								
P171284	Moldova	FY21	15	383	1776	•	•	•		•					
P174683	Tonga	FY21	20	14	14	•	•								
P178419	Haiti	FY22	30	337	529	•	•	•	•						
P175640	Moldova	FY22	100	81	81	•									
P178698	Tonga	FY22	20	99	99										•
P180231	Malawi	FY23	75	79	79	•		•			•		•		
P181469	Somalia	FY24	80	179	179		•	•	•						
P181711	Zambia	FY25	200	60	60	•		•							

Notes: The 21 operations with a completion report (an Implementation Completion and Results Report, or IEG's review of one), holding US\$1,207.5 million of CRW money: 32.2% of the sample and about 15% of the window's commitments over FY18–FY25. Each • indicates that the operation's disclosed documents state the reason for the pace of implementation; it is a count of what the documents say. Thirty-eight of the 73 operations were still open at 31 August 2026, and therefore did not have completion reports. The 21 are not a peculiar subset in terms of speed: their median approval-to-effectiveness is 90 days against 105.5 for the 52 without a report, and approval-to-first-disbursement 237 against 233.5. Where the reports explain the pace at all they cite implementing capacity (17 of 21), external shocks (16), design changes (15) and procurement (12); politics 5, counterpart funds 2, security 2. Across the 96 passages there is a single record of the money itself being stopped: a suspension of disbursements to one implementing agency in 2019 for non-compliance with reporting requirements, later lifted.

Source: World Bank Documents and Reports (Implementation Completion and Results Reports, IEG ICR Reviews and Implementation Status and Results Reports); Centre for Disaster Protection coding.

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