Impact Report
2023

frontclear
financial market development

Introduction

Frontclear is a development finance company dedicated to improving financial markets with a focus on building stable and inclusive local currency (LCY) money and interbank markets in emerging markets and developing countries (EMDCs). Its investors are largely European development financial institutions and governments.

Frontclear's mandate is to develop liquid and inclusive money and interbank markets and to connect these empowered domestic counterparties and systems to the global marketplace. The result is mutual access to the funding (LCY and hard currency) needs of respective parties through swaps and repo transactions.

Through the provision of risk capital to mitigate and absorb counterparty credit risk, Frontclear unlocks access to global and local interbank markets for frontier market institutions. Frontclear's technical assistance focuses on diagnostics, regulatory reform, legal enforceability, industry training and capacity building – all targeting the development of more stable and inclusive money and interbank markets as a pre-condition to improved financial markets. The flagship product that combines **developing** and **connecting** markets is Tradeclear, where the feasibility study combines all the above interventions and the provision of risk capital allows for more inclusive domestic interbank trading and better connectivity to international counterparties.

> *"Climate finance is the great enabler of climate action."*
>
> Simon Stiell
> UN Framework Convention on Climate Change Executive Secretary

Developing both onshore LCY markets and global offshore currency hedging markets, and connecting to the global offshore funding markets, are not only important facilitators for domestic trading but also accommodate the capacity of international lenders to responsibly offer climate finance and other SDG lending in LCY rather than in hard currency. A developed onshore swap and repo market will ensure that to a responsible degree, the local LCY deposit and savings base is accessible for deliverable cross-border transactions – allowing domestic and global counterparties to connect for their own risk management and funding needs in support of economic growth, poverty alleviation and climate resilience.

Frontclear LCY Solutions

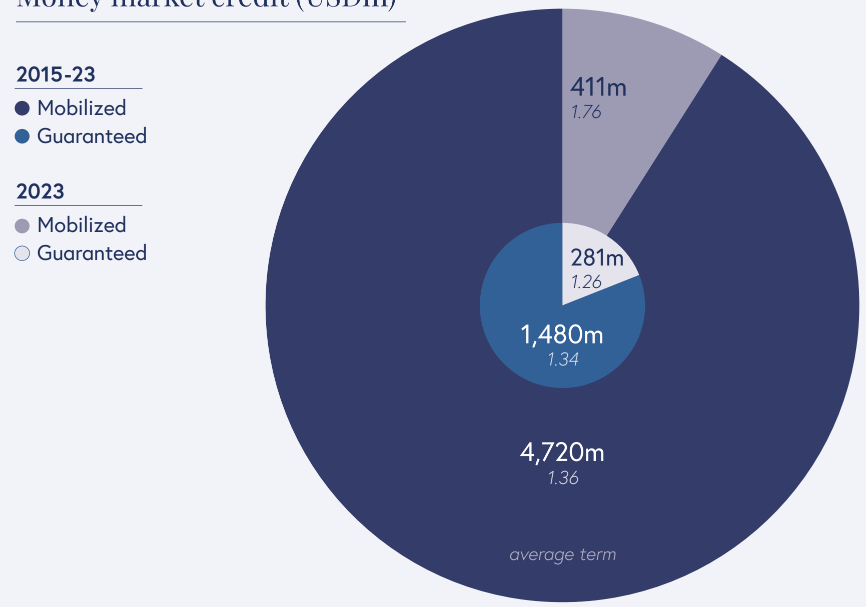
Click to read

Our investors

European Bank for Reconstruction and Development · PROPARCO · BMZ Federal Ministry for Economic Cooperation and Development · AFD · Foreign, Commonwealth & Development Office · KFW · FMO Entrepreneurial Development Bank · fsdafrica · TCX · Cardano Development · fsdafrica Investments · Sida Swedish International Development Cooperation Agency

In short

Money market credit (USDm)[1]



Money market systems	2023	2015-23
Financial knowledge trainings and regulator engagements	40[2]	119
Legal and regulatory reviews	7	36
Market structures and system studies	8	41
	55	196

	Countries	Projects	Network partners[3]
2023	4	12	26
2015-23	29	83	226

[1] In line with the Impact Report 2022, the average term is provided to illustrate the (positive) impact of (longer) tenors on funding mobilized.
[2] 2023 again featured a significant jump in online regulator engagement: tailored discussions on specific topics in monetary policy, regulatory and market infrastructure.
[3] Onboarded beneficiary banks, regulators and private sector contributors.

Developing

Message from the Supervisory Board Chair

Axel van Nederveen

A well-functioning money market serves as the cornerstone of a robust financial ecosystem. Money markets provide essential liquidity and facilitate short term borrowing and lending among financial institutions, governments, corporations, and investors. By offering efficient mechanisms for managing liquidity and short term funding needs, money markets play a vital role in stabilizing financial markets, enhancing monetary policy transmission and supporting economic growth.

In the context of climate finance, the development of money markets is instrumental to mobilizing both local and international capital for climate-resilient projects and facilitating the integration of Environmental, Social and Governance (ESG) considerations into investment decisions. The Bridgetown Initiative, proposed by the Prime Minister of Barbados, Mia Amor Mottley, at the Conference of Parties 27 (COP27), involves an increase in official sector lending for SDG investment and climate financing in particular, next to mobilizing more than USD 1.5 trillion annually from the private sector for investments in green transformation. These amounts lent to low- and middle-income countries in hard currency will aggravate an already alarming debt sustainability situation for many.

The debate therefore has been to find ways to avail this increase in funding in local currency (LCY). This can be achieved by domestic resource mobilization – using the local savings base for local climate investments – through hedging external financing packages in the cross-currency interest rate swap market involving domestic hedging counterparties or, in absence of sufficient depth through hedging external financing in offshore hedging markets. In all cases, a well-functioning domestic money and interbank market is crucial. Either to support local investment activity, to hedge external investments or, if size is limited, to at the very least offer reliable pricing references for the offshore hedging market.

This Impact Report illustrates two 2023 cases – Dominican Republic as well as Tradeclear across multiple countries – that detail Frontclear's determined progress in collaboration with domestic regulators, domestic and global banks, knowledge partners and investors – to develop and connect LCY money and interbank markets. The core focus remains on creating the right conditions and removing barriers to market development for the launch of Tradeclear, a guaranteed interbank repo and swap ecosystem. In this regard, work progressed in key focus countries including Uganda, Zambia, Tanzania, Ghana, and Botswana in Africa as well as in the Latin American countries of Panama, Guatemala, Dominican Republic, Costa Rica and El Salvador. Please see the case Tradeclear Feasibility.

Financial market development is a long term effort, and Frontclear's work in the Dominican Republic in recent years is a case in point. After many years of engagement through capacity building and dialogue, reforms introduced by the Banco Central de la República Dominicana in 2023, resulted in a flurry of transactions at year end. Frontclear closed the first ever cross-border repo transaction with a domestic bank, and the global banking community has been quick to follow with follow-up transactions. Please see the case Dominican Republic for more information. This case highlights how **developing** local markets are a condition for **connecting** emerging markets in a safe and sustainable manner.

The introduction of the annual IMAAP[4] in 2023 strives to bring the same rigor and continuous improvement to the measurement of and reporting on development impact as is applied to financial reporting and the risk management framework per the ICAAP via operational audit. The Board welcomes this development and looks forward to the evolution and maturing of the IMAAP and the on-going optimizing of resources allocation relative to impact in the coming annual cycles.

On behalf of the Supervisory Board, I would like to thank Management for their continued commitment and excellent impact results in 2023.

[4] Impact Measurement Adequacy Assessment Procedure (IMAAP).

Connecting

Message from the CEO

Philip Buyskes

Frontclear's impact strategy has remained consistent in recent years, being focused on expanding its standalone principal counterparty capabilities to facilitate market access, implementing Tradeclear to support domestic liquidity and accelerating technical assistance efforts to eliminate barriers to market development. The key long term focus remains on transitioning Frontclear into an essential financial infrastructure provider **connecting** domestic and global markets. 2023 saw Frontclear continue to progress in this vision, notably with the accelerated development of Tradeclear in Sub-Saharan Africa (SSA).

Frontclear issues guarantees to facilitate access to global and local money markets for emerging and frontier market institutions. As per 31 December 2023, Frontclear's gross notional guarantee portfolio stood at USD 331m, reflecting a 2.6% increase from USD 323m as per 31 December 2022. The fairly mute portfolio growth reflects a difficult year for emerging and frontier markets, which witnessed a record number of defaults and a substantial withdrawal by private investors, including by Frontclear's partner beneficiaries. However, the 2023 annual production of USD 281m represents a 9% increase in new guarantees issued and a strong recovery in activity was witnessed in the fourth quarter and is expected to carry over into 2024. The cumulative amount of guarantees issued to-date reached USD 1,480m, representing a 23% increase over 2022. Please see section Performance 2023: Guarantee portfolio for additional information on 2023 results.

Since inception, Frontclear has conducted 196 technical assistance activities stemming from 83 approved projects in upwards of 20 countries. 2023 technical assistance expenditures declined to USD 305k (19%) compared to USD 364k in 2022. In direct contrast to the spending decrease however, the number of activities increased by 72% (from 32 in 2022 to 55 in 2023). Similarly, the number of 2023 approved projects also increased by 4 or 50% compared to 8 in 2022. Please see section Performance 2023: Technical Assistance portfolio for additional information on 2023 results.

Building more inclusive and stable financial markets is a long term effort. It is critical for Frontclear to achieve sustainable financial returns while pursuing its development impact mandate. 2023 saw Frontclear structurally improve profitability and diversification of its revenue base. Growth in operating income is expected to continue in the coming years and will allow Frontclear to continue to expand resources to achieve its impact goals. For additional information on Frontclear's financial performance, please see the 2023 Annual Report.

Frontclear's mandate is all the more urgent given the significant investment gap in EMDCs, notably to finance the climate transition in the coming years. This year's Impact Report focuses on exactly that: The crucial role of domestic money market development to spur domestic resource mobilization, offer local currency hedging capabilities and to facilitate more connected pricing in offshore hedging markets that will help mobilize external funding for climate finance.

On behalf of the Management Board, I would like to thank our staff and operational partners for their tireless efforts in 2023.

Fitch Rating Action Commentary

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Impact strategy

Frontclear seeks to achieve its mandate of promoting the development of stable and inclusive financial markets through the combined provision of technical assistance and risk capital. Risk capital is deployed via guarantees or principal counterparty structures aimed at overcoming transaction risks. Technical assistance aims to remove barriers to market development, typically focused on legal and regulatory challenges, infrastructure issues and capacity building.

The Frontclear Impact Strategy is a long-term effort in many country contexts. As a conceptual guideline stemming from Frontclear experience to-date, our Impact Strategy and Theory of Change are based on a country's phase of money and interbank market development: 1) **Nascent**; 2) **Emerging**; and 3) **Connected**.

Figure 1 illustrates the key features of each market phase. The Impact Strategy reflects the complementarity and interoperability of Frontclear's two key activities: 1) **financial guarantees**; and 2) **capacity development (technical assistance)**.

1 **Nascent market**, wherein the focus of activity is market readiness:
Frontclear interventions are largely technical assistance to support the central bank and market practitioners with the basics required to gain market access and understanding.

2 **Emerging market**, wherein the focus of activity is market practice:
Frontclear guarantees and technical assistance support the country's regulators and market practitioners to improve the existing frameworks and skills towards a deeper domestic market participation. In-turn, laying the best practice operational environment to attract and work effectively with investors.

3 **Connected market**, wherein the focus of activity is market participation:
Frontclear guarantees and technical assistance support the country's regulators and market practitioners to accommodate more diversified market participants and corresponding required changes to frameworks (e.g. Netting Regulation) and infrastructure (e.g. CCH/CCP).

Phases of market development

Performance relative to the Impact Strategy is measured and reported using Frontclear's practical framework, the Theory of Change (ToC).

GDP

1 Create access and knowledge

Nascent market

- Primary market dominated
- Missing legal and regulatory framework
- Missing market infrastructure
- Central Bank dominated market

— FOCUS —
Market readiness

- Deepen regulatory and market knowledge
- Monetary policy incentives
- Basic laws and regulations
- Fit-for-purpose government securities market
- CSD for government securities

Opening
2-3 YEARS

2 Develop local onshore money markets

Emerging market

- Thin secondary market
- Incidental bilateral money market transactions
- Tier 1 (top-level) bank dominated market
- Incomplete/unharmonised legal and regulatory framework
- Sub-optimal processes and systems
- Central bank dominated and limited oversight market practitioners

— FOCUS —
Market practice

- Extensive legal and regulatory reform
- Reduced risk in infrastructure and systems
- Advanced capacity building
- Preliminary oversight framework development

Mid-development
3-5 YEARS

3 Develop stable and inclusive money markets

Connected market

- Deep secondary market
- More common bilateral and multi-party money market transactions
- Broader market participation
- Evolving legal enforceability
- Volume warrants stronger oversight market practitioners

— FOCUS —
Market participation

- Fine-tuning governance with growing oversight framework development
- Continued legal reform to align best practices
- Diversification of market participants (local institutional investors)
- Advanced market infrastructure (e.g. CCH/CCP)
- Advanced capacity building for new participants

End-target
5-8 YEARS

Fig. 1

Time

Theory of Change *(ToC)*

Inputs

- Risk capital
- Expertise
- Networks

Activities

Connecting local & global market participants

1. By issuing financial guarantees to absorb credit, market and country risk
2. By removing markets hurdles through money market expertise and advisory

- A Access
- C Capacity
- S System

Outputs

Increased readiness of counterparties & stakeholders

IMMEDIATE

- # of local banks onboarded A
- # of regional and global banks onboarded A
- # of knowledge partner agreements C
- # of agreements with central banks and local banking associations S

IMMEDIATE

- # of regulatory engagements S
- # of areas identified for advisory and feasibility review S

FINAL

- Volume funding guaranteed A
- # of transactions closed A
- Type of transactions closed (cross-border, principal, onshore, multi-party, plug-in) A
- Funding diversity (country tier, currency) A
- # of money market trainings C
- Training satisfaction C
- Training diversity (country, tier, topic, participant; bank, regulator) C
- # of and areas concluded for advisory and feasibility review S
- Volume in-kind / funding contribution mobilized C

Outcomes

Increased utilisation of local money market for participants

- Volume funding mobilized A
- Shifts in counterparty funding volume A C
- Shifts in counterparty funding types A C
- Shift in counterparty funding sources (relationships) A C
- Use of derivatives A C
- Increased knowledge (bank and/or regulator) C S
- # of reforms in monetary policy/ central bank operations achieved C S
- # legal reforms achieved C S
- # market infrastructure solutions achieved C S

Impact

A more stable & inclusive money market

Inclusive:

- Shifts in # bank interbank participation (tier) (multiplied by plug-in/multi-party transaction) A C S
- # bank participation in repo and swap markets (catalysed) A C S
- % access banks to interbank markets A C S
- Interbank market volume/GDP growth A C S

Stable:

- Shifts in bid/offer spreads A C S
- Effectiveness monetary policy transmission A C S

Connecting LCY markets

Pressing challenge: Climate finance

Climate change has been a topic of UNFCCC[5] Conferences of Parties (COP) since the first global treaty to explicitly address climate change in 1992. Climate finance has a younger history, with a milestone reached at the 2009 COP15 whereby developed countries committed to a collective goal of mobilizing USD 100 billion per annum by 2020 for climate action in developing countries. At COP22, this goal was ratified by parties representing 79% of global emissions and the timeline extended to 2025.

Climate finance agreements from COP27 and COP28 are more granular and have created significant positive momentum for local currency (LCY) financing to EMDC borrowers. For example, the Bridgetown Initiative (COP27) proposes both IMF emergency funding and mobilizing private sector funding to drive climate efforts and combat environmental degradation in addition to a bold expansion of multilateral lending to governments by no less than USD 1 trillion. COP28 commitments lay the groundwork for a just and equitable transition underpinned by deep emissions cuts for developed countries and scaled-up finance to EMDC borrowers to improve renewable energy capacity and energy efficiency[6]. COP27 and COP28 have created significant positive momentum for LCY financing to EMDC borrowers.

Snapshot climate change

The year 2023 was the warmest year since global records began in 1850. According to the ERA5 dataset, the global average temperature for 2023 was 14.98°C[7]. Since pre-industrial levels that marks an increase of more than 1.4°C, closing in on the 1.5°C benchmark for heightened risk of warming-related catastrophes[8]. While 2023 was the hottest year on record, temperatures and climate events were further amplified by the El Niño climate phenomenon that occurs every two to seven years. Still, the 10 warmest years in the 174-year archive have all occurred during the last decade (2014-2023)[9].

EMDC financing needs and hedging LCY risks

Large EMDC financing needs – climate-related or otherwise – cannot be funded by the relatively limited domestic savings and deposits base only. The investor base in thin capital markets is often bank-centric and has structurally gravitated to government securities primary markets, see Developing domestic LCY markets. SDG and urgent climate finance without offshore (cross-border) funding markets is unthinkable. The supply of hitherto unheard-of sums is underway with many actors following suit like the Inter-American Development Bank (IDB) and its March 2024 public commitment to an additional USD 112 billion, practically doubling lending for key targets such as climate change. Potentially the more pressing question today is to what degree EMDC borrowers can access, afford and absorb this additional debt; particularly for many who continue to camp with debt management stress and are already exposed to excessive foreign currency debt. The notion is that the amount of financing needed for climate mitigation and adaptation financing provided in USD would be unsustainable and result in the conditions that caused the Asia crisis.

As a minimum requirement to facilitate debt sustainability, climate financing should be offered in LCY, either sourced domestically or from international sources but swapped to LCY. Developing both onshore LCY markets and global offshore currency hedging markets are therefore important facilitators to LCY-based climate finance and other SDG lending. While it is hard to conceive that domestic resources will develop in time to the scale needed, a well-functioning onshore swap and repo market will improve the quality of observable pricing benchmarks for the offshore hedging markets and reduce the pricing disparity between the two. It therefore remains imperative that the typical market challenges Frontclear aims to solve are addressed across EMDCs and with urgency. Without developing the domestic LCY markets, climate financing at the targeted levels cannot be offered to a relevant degree in the LCY needed.

[5] United Nations Framework Convention on Climate Change (UNFCCC).
[6] Least Developed Countries Fund, Special Climate Change Fund and additional pledges to the Adaptation Fund.
[7] EU's Copernicus Climate Change Service.
[8] Ramirez, 2023.
[9] Annual 2023 Global Climate Report, National Centers for Environmental Information.

Onshore LCY markets

Underdeveloped and disconnected

- Onshore LCY funding is limited in supply due to lack of domestic savings (absorption capacity).
- This is further compounded by thin markets challenged by counterparty credit risk (among other risks), limiting tenors to only the short term.
- USD funding has been used to overcome tenor restrictions and where provided in USD loans, at the cost of currency exposure for the borrower.
- The onshore swap market is too thin to furnish informative LCY pricing based on observed market rates. There is a costly disconnect between on and offshore markets (price disparity).

Offshore LCY markets

Limited scale and stop-gap

- Offshore swap market is the viable solution today in-lieu of LCY loans and underdeveloped domestic LCY funding markets.
- The scale of offshore hedging is insufficient to meet current demand.
- The offshore swap market is priced based on a variety of signals including expectations of market developments that internalizes an uncertainty premium.
- The borrower needs to convert LCY to USD and transfer these to the lender on the debt service payment dates. As there is no USD obligation from the borrower, this is subject to transfer and convertibility risk.

> *"Persistent market barriers, such as high cost of hedging currency risk, pose significant obstacles for international capital providers. Illustratively, in 2022, a mere 5% of total official development finance was deployed in local currency. This underscores the imperative not only for profound architectural changes but also for more collaborative, innovative approaches to propel this agenda forward."*
>
> Domestic Capital Mobilization Briefing - Systemiq

Deliverable swaps to support climate finance

A key concern relative to climate financing is the currency denomination when sourced other than from domestic resources. External financing will be typically distributed in hard currency, unless the lender is able to convert its hard currency funding to local currency via the swap market. With most domestic markets unable to provide such cross-currency swaps for the tenors needed, the lender is most often restricted to the non-deliverable offshore market. This means that the borrower will face currency conversion risks as part of the financing arrangement and the lender will be exposed to transfer and convertibility risk for every interest or principal payment under the arrangement.

The development of a long term deliverable swap product would entail dealing with the following risks and limitations:

1. **Interest rate risk** in case the local currency leg needs to be fixed rate;
2. **Counterparty credit risk** for sourcing the local currency in a hedge with a domestic counterparty; and
3. **Refinancing risk** in case the domestic market only offers hedges of much shorter tenor than is needed.

The party delivering the solution would need to have accounts in the domestic market to settle and deliver the local currency leg.

Frontclear has a near 10-year track record absorbing counterparty credit risk in the course of its business and has developed a domestic account structure able to hold cash and securities in LCY onshore. With sufficient capital to consider the refinancing risk in demonstration transactions, it can with its development and private sector partners deal with all three risks. This includes where the swap converts floating rate USD into floating rate LCY funding and where there is need to match for fixed rate swaps. Frontclear is well positioned to be counterparty for hedging long-dated cross-currency swaps to international lenders including multilateral development banks (MDBs) who are ready to take this step.

Othman Boukrami
Chief Investment Officer, TCX

Converging offshore and onshore markets

"Both financial system stability to battle the impact of climate change on the financial sector and creating solutions to make long-term funds for climate financing available in local currency, are dependent on efficient and effective domestic money and interbank markets wherein banks can manage their liquidity risk and price discovery offers good benchmarks for pricing long term products."

The most important role of Frontclear is to facilitate the creation of safe, transparent and efficient money and interbank markets, whereby domestic LCY resources can be readily mobilized to manage risks and improve the overall cost of capital. The majority of EMDC markets are bank-centric, meaning the banks represent the largest chunk of a country's investor base and the main vehicle through which savings and deposits are converted to loans to businesses and households. It is critical for these banks to participate in the domestic money and interbank market, to manage their liquidity and balance sheet risks and reduce funding costs. By doing so, banks are able to fulfill their role as financial intermediaries, also as investors in climate finance assets.

Where Frontclear's work to develop domestic markets is successful, the role of TCX is increasingly focused on facilitating LCY funding requirements that go beyond the local capacity or involve longer tenors. Developing domestic onshore LCY capacity takes time but time is short relative to pressing agendas such as climate finance needs and tackling costly public debt. In the absence of liquid onshore LCY markets, offshore solutions like TCX enable investors to provide borrowers with financing in their own currency. A TCX hedge protects domestic borrowers from any currency volatility, shifting the currency risk to the diversified TCX portfolio of currencies. Given the urgency of today's agendas, expanding and accelerating both the onshore and the offshore approaches should be a priority.

Efforts to scale solutions in the immediate and longer-term must be mindful of the lessons learned thus far. Many EMDCs uphold capital controls that inhibit the development of LCY markets. The reality is that if international lenders could borrow and lend USD in LCY, there would be greater price convergence between the onshore and offshore markets. There is also a lesson to be learned from India, Indonesia and Brazil, where the lion's share of public debt is LCY denominated (80-85%) – a significant shift from the hard currency debt profiles that once exposed them to ineffective monetary policy, external shocks and crises. The global development finance community must consider such EMDC examples and take a step back and redefine and re-denominate USD-based lending strategies. The worst reason not to do so is because of implementation costs.

To understand the relevance of connecting and developing LCY markets, it is important to recognize that money markets are the most fundamental layer of financial markets. They are central to maturity transformation by banks, for the deepening of government security markets, allowing for effective transmission of monetary policy signals and last but not least, to accommodate for active asset and liability management by banks, which could foster more responsible lending practices to their customers. At the core of the money market is the LCY interbank swap and repo market, central to the functioning of financial systems and their ability to support resilient economic growth.

Building domestic LCY markets is an integral part of the solution to funding capacity, climate finance or otherwise, and pricing disparity between offshore and onshore hedging. Frontclear's mandate is to develop liquid and inclusive money and interbank – swap and repo – markets in EMDCs. And complementarily, to connect these empowered domestic counterparties and systems to the global marketplace. The result is mutual access to the foreign exchange (LCY and hard currency) needs of respective parties through swaps and repo transactions.

Why money markets matter: 5 key benefits

1. Interest rate setting

Allows for the evolution of predictable, more stable short term rates that will be priced in fixed-income markets such as governments and corporate bonds and mortgage debt instruments.

2. Monetary policy transmission

Enables the central bank to influence longer maturity rates by steering very short-term money market rates, affecting the credit demand in the economy.

3. Efficient allocation of liquidity

Fosters better allocation of financial resources by allowing for the transfer of funds from those who have it to those businesses and others that need the investment.

4. Risk mitigation

Enables banks to hedge currency, mitigate credit and market risks, together contributing to the overall resilience of the banking system and thus the economy.

5. Value of local currency

Supports de-dollarization, low and managed volatility of interest rates reduce the costs of government funding, improves the stability of the currency.

Performance 2023

Guarantee portfolio

The 2023 year-end outstanding gross notional guarantee portfolio showed a marginal growth of 2.6% to USD 331m from USD 323m in 2022. The growth reflects a difficult year for emerging and frontier markets which witnessed a record number of defaults and a substantial withdrawal by private investors, including Frontclear's partner beneficiaries. However, the 2023 annual production of USD 281m represents a 9% increase in new guarantees issued. The cumulative amount of guarantees issued to-date reached USD 1,480m.

In 2023, Frontclear mobilized USD 411m across 30 countries and 18 transactions. Mobilized funding declined by 44% relative to 2022, fully attributable to the risk environment in EMDCs - in Frontclear's largest market for mobilization Turkey and Egypt in particular. The cumulative 7-year mobilized funding reached USD 4,720m.

The transactions closed in 2023 in the Dominican Republic were the first of their kind cross-border repo transactions with local banks and mark an important milestone in the country's money market development following years of engagement by Frontclear, see Case: Dominican Republic. Frontclear also closed its first transaction in Uzbekistan where it facilitated the conversion of USD deposits to local currency for a local bank through the provision of non-deliverable forwards (NDFs).

A key driver of 2023 operating profit was the recovery of interest income from Frontclear's liquidity portfolio on the back of the sharp rise in USD interest rates in 2022. For 2024, Frontclear is optimistic about retaining good profitability and the ability to grow the portfolio. This growth will partly stem from the need to accelerate climate investments in local currency in EMDC and the related increase in attention for developing local markets.

5 transaction structures connecting domestic LCY markets

Frontclear connects frontier market banks to global interbank markets and unlocks domestic markets by providing credit guarantees to cover a transacting institution's counterparty credit risk, on the condition that local currency assets can be used for collateral management purposes.

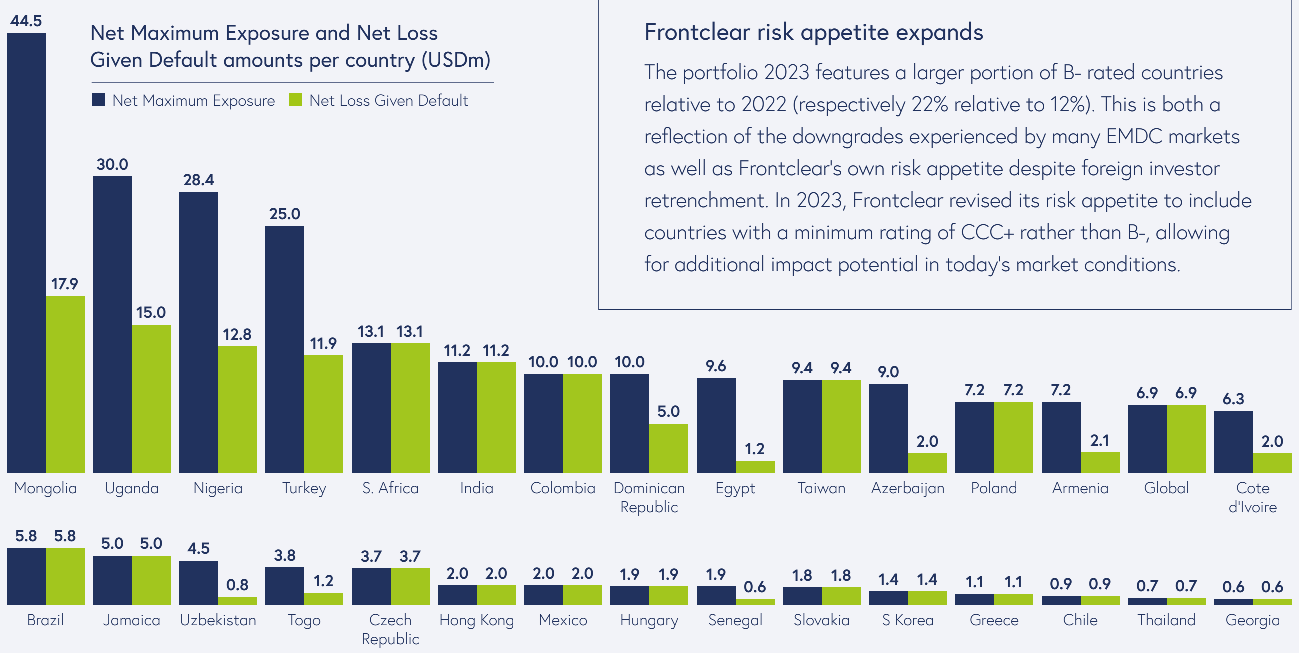
There are 5 transaction structures:

1. **Cross-border:** guarantee to the global beneficiary bank transacting with a local obligor bank
2. **Onshore:** guarantee to the local beneficiary bank transacting with a local obligor bank
3. **Principal:** Frontclear acting as principal to both the beneficiary and obligor bank
4. **Multiparty:** guarantee to all local banks transacting with one another bilaterally as part of platform (Tradeclear®)
5. **Plug-in:** guarantee to a Central Clearing Party for transactions by clearing members or CSD for transactions by participants

Takeaway

Frontclear risk appetite expands

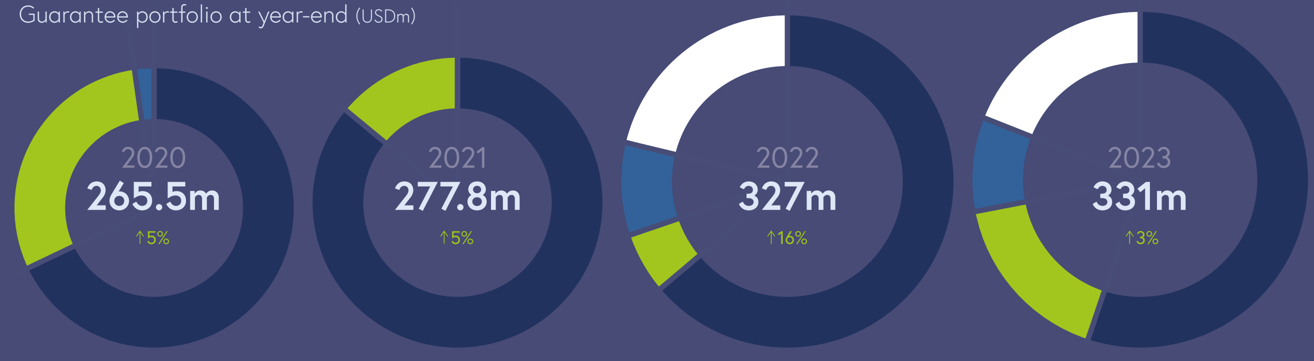
The portfolio 2023 features a larger portion of B- rated countries relative to 2022 (respectively 22% relative to 12%). This is both a reflection of the downgrades experienced by many EMDC markets as well as Frontclear's own risk appetite despite foreign investor retrenchment. In 2023, Frontclear revised its risk appetite to include countries with a minimum rating of CCC+ rather than B-, allowing for additional impact potential in today's market conditions.



Portfolio growth

Output indicator

Guarantee portfolio at year-end (USDm)



2020		2021		2022		2023	
Repo	68%	Repo	86%	Repo	64%	Repo	55%
Swap	30%	Swap	14%	Swap	6%	Swap	17%
NDF	2%			Tradeclear	9%	Tradeclear	9%
				Portfolio Guarantee	21%	Portfolio Guarantee	19%

Guarantee results

Output indicators

	2023	2015-23
Local banks onboarded	11	67
Regional and global banks onboarded	3	25

Outcome indicators

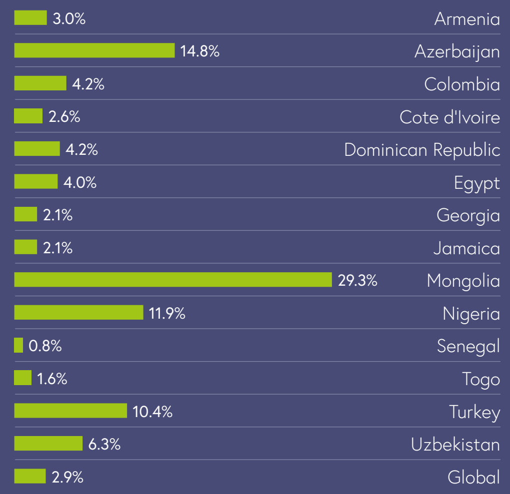
	2023	2015-23
Volume funding mobilized (USDm)	411m	4,720m

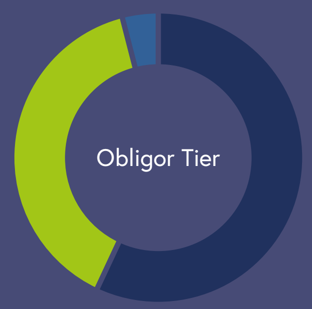
Takeaway

At 17%, swaps have nearly tripled as a proportion of the guarantee portfolio

Excluding the portfolio guarantee and Tradeclear, swaps represent 23% of the portfolio. NDF swap transactions across CIS dollarized markets improved local counterparty capacity to hedge against open LCY positions.

Country





Tier-1	57%
Tier-2	39%
Tier-3	4%

International USD Bonds	68%
EUR Cash	13%
USD Cash	10%
Domestic LCY Bonds	9%

Takeaway

Portfolio implications: swaps versus repo transactions

The 2023 obligor and collateral profile shows a clear diverging trend. Nearly all repo transactions were transacted with Tier 1 banks featuring USD bond collateral, inline with declining foreign investor appetite. Conversely the swap profile is fully Tier 2 and complemented by USD or EUR cash collateral.

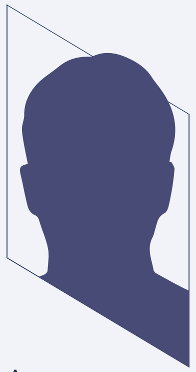
Connecting markets
Case: Dominican Republic

Since 2017, both Frontclear actively engaged the regulators and market participants in the Dominican Republic. That year, the technical assistance Donor Committee approved the Latin America (LATAM) regional strategy documenting two target areas for added-value technical assistance. The Dominican Republic became a core country first approved by the Frontclear Investment Committee (IC) in 2018 with a country limit of USD 60m and eligible collateral being USD cash, Eurobonds, local bonds in USD and Dominican Republic Pesos (DOP). More recently additional focus has been added based on reverse inquiries from the Banco Central de la República Dominicana (BCRD). In sum, the Dominican Republic approach is consistent with an Emerging Phase per the Frontclear Impact Strategy and reflects a work programme strong on diagnostics, market practice and commitment to deepen investor participation.

The combined areas are:

1. Regulatory review – custodial services for foreign investors;
2. Regulatory review – accounting and regulatory treatment of repo;
3. Money Market Diagnostic Framework (MMDF); and
4. Training of market participants.

The Dominican Republic work programme realized solid outcomes in 2023, including the first cross-border matched currency repo transactions between domestic banks and foreign investors. An instrumental change has been the May 2023 BCRD issuance of a regulatory clarification – Planteamientos en torno a las operaciones de Reporto. The BCRD, in a reverse inquiry to IFC, embarked on several regulatory engagements featuring Frontclear experts and laying the groundwork to launch the Money Market Diagnostic Framework (MMDF) in November. The BCRD and the Dominican Republic financial sector have high expectations as to the catalytic effect of these initial repo transactions and the market's global connectivity.



Anonymous
Domestic commercial bank

Cross-border peso-linked repo transaction

"Our capacity to diversify our funding base through treasury products like repo, expands our access to working capital and more importantly to acquire more assets. Simply put, we can do more for our clients and shareholders."

Banks in our domestic market recently gained access to the global interbank market following a May 2023 central bank regulatory clarification on repo transactions. The latter allowed for the use of collateral to secure transactions as is required by proper title transfer repo markets and where said transactions are currency matched. Since its introduction, banks have been able to diversify their funding base through cross-border repos guaranteed by Frontclear. The access has been fundamental to reducing the funding risk and to calibrating the tenors of assets and liabilities.

The Dominican Republic money and interbank market is a structurally vertical market. The pricing relationship is seasonal and often related to monetary policy. The vertical market is bolstered when the interbank rate rises above the policy rate. For this reason, the horizontal or interbank market remains fragmented and there is not an impetus or track-record to share liquidity among domestic market players.

With the opportunity to add repo funding, banks in the Dominican Republic are in a better position to reduce balance sheet risks and actively offer clients the financing in the currency, tenor and interest type they need. This ultimately reduces the exposure to unnecessary financial risk for our clients – the local businesses. The Frontclear guaranteed repo transaction was a new product for banks. Its benefits have been demonstrative and with currently tight DOP liquidity, more banks are entering the cross-border repo market. Banks are currently exploring repo transactions with additional counterparties and the Frontclear experience and learning contributed greatly to this wider connectivity.

One of the challenges to the Dominican Republic financial market will be to advance to a best practice-based repo market, also seeking to deepen the local capital market by including repos for corporate debt and potentially including green bonds. A further challenge will be to improve swap markets as today's derivative products are limited.

"From an ISDA perspective it is crucial to sort out the netting issues first (as they apply to derivatives and securities financing transactions equally) and also to provide a proper legislative basis for title transfer collateral."

Peter Werner
Senior Counsel, ISDA

Emilio Garcia
Vice President Treasury, Banco Caribe

Cross-border USD-linked and peso-linked repo transactions

"As a bank, we actively seek opportunities in the capital market that can be financed at favorable rates. Our objective is to capitalize on the arbitrage potential between the cost of capital and the returns from our investments. This strategy allows us to generate a spread, enhance our profitability and do more for the real economy."

Frontclear and Banco Caribe had been engaging since 2019 but have remained unable to close a transaction as long as DOP bonds could not be used as collateral. The BCRD regulatory clarification, issued May 2023, made the difference and is the result of many years of interactions with market players such as banks and interested parties like Frontclear. Banco Caribe was one of the first banks to put the regulation to the test by closing two currency-matched cross-border transactions with Frontclear: a USD 10m 6-months repo disbursed in USD and another USD 8m equivalent 12-months repo disbursed in DOP. These transactions were collateralized by sovereign bonds and DOP-linked bonds issued by the Ministry of Finance of the Dominican Republic.

A key transaction motivation has been to diversify the liabilities side of the balance sheet, expanding Banco Caribe's capacity to source DOP outside of the very tight domestic market. With peso liquidity so low, bank competition for depositors has hyped up interest rates to 14%. Banco Caribe took the decision to improve our sourcing of DOP and the Frontclear guaranteed transaction in the cross-border market turned out a more attractive rate. Money is fungible and these transactions have helped us lower our weighted cost of capital.

The transactions have had a very positive impact. Our team learned in-depth the conditions, rights and obligations outlined in a GMRA through the Frontclear capacity building. Staff from operations, mid-office, accounting and legal grew familiar with and could fully grasp what was required to realize best practice implementation. Working with Frontclear has catalyzed additional interbank relationships and improved our global connectivity.

With such regulatory changes, there is increased capital market appetite for the Dominican Republic. A next target is to enter into FX forward agreements with international counterparties and under best practice ISDA documentation. As one of the most important actors on the local FX market, Banco Caribe is at times short and requires coverage from a long USD/peso forward. Today's forward market is small and the only source is the BCRD with its book-related constraints. The challenge here is to obtain regulatory permission to use cash as collateral for cross-border transactions. Such currency restrictions have their purpose but inhibit the market's further development. Banco Caribe welcomes the efforts of parties like Frontclear and the ISDA on this journey.

Planteamientos en torno a las operaciones de Reportoneed

Click to read

"Frontclear has had significant influence in the development and advancement of the repurchase transactions market in the Dominican Republic – particularly banking institutions and broker dealers. After years of banks interacting with Frontclear, through the Dominican Association of Commercial Banks, their concerns were elevated to regulatory authorities. Authorities have responded favorably, contributing to multiple bank repo transactions."

Rhina Martinez
Partner at Squire Patton Boggs, Dominican Republic

Key Indicators

- 3 local banks onboarded
- 2 regional and global banks onboarded
- USD 80m (equivalent) volume funding guaranteed
- 6 transactions closed *(cross-border)*
- Funding diversity
  - Tier 1 *(2 banks)*
  - Tier 2 *(1 bank)*
- USD 80m volume funding mobilized
- 1 agreement with central bank
- 2 regulatory engagements
  - Money Markets Matters *(49 attendees)*
  - MMDF kick-off session *(49 attendees)*
- Increased knowledge regulators
- 2 areas identified for advisory and feasibility review
  - Legal and regulatory review: Clarifying the accounting treatment of cross-border repos
  - Money Market Diagnostic Framework *(MMDF)*
- 1 area concluded for advisory and feasibility review
  - Legal and regulatory review: Clarifying the accounting treatment of cross-border repos
- 1 legal reform realised
  - Regulatory clarification regarding cross-border repos between financial institutions
- 1 money market training
  - Understanding and implementing GMRA for the BCRD
- Training diversity
  - 21 participants *(21 regulators)*
- Increased knowledge banks
- 2 funding partnerships
  - IFC/WB co-funding to MMDF
  - JODEA co-funding to MMDF
- 1 knowledge partner
  - ISDA contribution to BCRD engagement

Developing domestic LCY markets

The interbank market: de-risking the financial system

A truly resilient domestic financial system best able to transform savings to loans on terms and conditions favorable to businesses and households, features a participatory and liquid interbank market. These markets facilitate efficient allocation of capital, enable banks to manage idiosyncratic and external shocks, and enhance the transmission of monetary policy signals. Interbank markets are markets where banks lend and borrow LCY and/or hard currency funds from each other for the sake of meeting their daily liquidity needs. Banks regularly face unexpected short term liquidity risks in their everyday business particularly in times of volatility. A vibrant interbank market ensures access to liquidity through a mechanism that reallocates funds through the financial system and reduces the over-reliance on the central bank as the lender of first resort.

Although the cornerstone to a strong domestic financial system, interbank markets are often missing in EMDCs. Frontclear identifies a common challenge to be structural market segmentation due to credit risk concerns. Under normal market conditions, let alone in a crisis, (perceived) counterparty credit risk quickly dislocates banking relationships. Entrenched market segmentation pushes banks to rely on central bank standing facilities for their liquidity adjustment despite often high levels of excess liquidity in the banking system. Where liquidity trading does occur, it is limited to a few often larger counterparties. Segmentation thus prevents relatively smaller banks from mobilizing funds at lower rates, making the trickle-down effect of lowering the overall cost of capital in a financial system more difficult.

Climate finance is the pressing agenda. It is inseparable from the overall need to develop domestic financial markets and at their nucleus, the domestic money and interbank – swap and repo – markets. Previous and on-going shocks from climate, conflicts and post-pandemic conditions, underscore how essential participatory and liquid money and interbank markets are to the capacity of financial markets to distribute risk and be more resilient.

Basel Committee and climate-related risk drivers in the financial system[10]

According to the Basel Committee on Banking Supervision, evidence suggests that the impacts of these climate-related risk drivers on banks can be observed through traditional risk categories. The potential effects of climate risk drivers (physical and transition risks) in each risk type are as follows:

Credit risk

Credit risk increases if climate risk drivers reduce borrowers' ability to repay and service debt (income effect) or banks' ability to fully recover the value of a loan in the event of default (wealth effect).

Market risk

Reduction in financial asset values, including the potential to trigger large, sudden and negative price adjustments where climate risk is not yet incorporated into prices. Climate risk could also lead to a breakdown in correlations between assets or a change in market liquidity for particular assets, undermining risk management assumptions.

Liquidity risk

Banks' access to stable sources of funding could be reduced as market conditions change. Climate risk drivers may cause banks' counterparties to draw down deposits and credit lines.

Operational risk

Increasing legal and regulatory compliance risk associated with climate-sensitive investments and businesses.

Reputational risk

Increasing reputational risk to banks based on changing market or consumer sentiment.

Poorer countries are more exposed to climate risk, because agriculture sectors account for a larger share of GDP (see de Bandt, Jacolin and Lemaire, 2021).

[10] Source: Climate-related risk drivers and their transmission channels, p.1, April 2021, Basel Committee on Banking Supervision, BIS.

Aude Pacatte
Director, Head of Portfolio Management EMEA, EBRD

Onshore capacity is the solution

"Significant levels of largely USD-based climate finance loans will expose domestic borrowers to currency risk. A lasting and sustainable solution is to develop the availability of local currency in the domestic financial markets."

The development community has a responsibility to encourage the use of LCY in domestic markets. Especially given the reality of debt distress for hard currency borrowers upon devaluation of their local currency. EBRD recognized this early-on given the long history of persistent dollarization typifying several EBRD markets. We raise LCY financing through a mix of instruments including swaps and bond issuances, working to develop LCY liquidity pools and manage them onshore with domestic counterparties. Doing so allows us to offer more flexible local currency products to our borrowers, with loan features better meeting their needs. EBRD is thus contributing to the development of the financial system, supporting the introduction of new instruments by teaching the banks who largely lack the tools to manage the financial risks on their own balance sheet.

Onshore market participation often needs to be combined with policy work to reinforce and support the development of domestic financial markets. Strengthening the central bank's capacity to operate an inflation targeting regime that anchors interest rate expectations is key to enhancing the credibility of the domestic currency and to increasing the local currency savings pool. This needs to be combined with building the capacity of domestic banks to improve their risk management. The latter is central to the transforming of this increased local currency savings pool into products they can offer to their clients and on the terms and conditions that meet their needs and expectations.

The Money Market Development Framework (MMDF) developed and launched by Frontclear in 2018, is a question based diagnostic tool to guide central banks in their efforts to improve domestic money markets – including monetary policy. The MMDF and tool found its inspiration in a 2016 EBRD publication "Framework for Developing Money Markets in Frontier and Emerging Market Economies". It has proven to be very useful in countries where implemented by EBRD and others by Frontclear. Typically after monetary policy, the focus is the short term money market both unsecured and secured, repo and derivatives. Capital markets in these countries are less immediate priority than ensuring that banks can risk manage with available treasury products that enhance pricing and liquidity while contributing to a reduced cost of capital.

Sufficient and affordable domestic capital

The IMF concluded in an April 2023 publication that about 60% of low-income countries currently face high risk of debt distress. Examples of Frontclear countries of operations going through a debt restructuring are Zambia and Ghana. Many other EMDCs are experiencing the unexpected side-effects of rising interest rates on both USD based private and once considered inexpensive concessional financing, as well as a burgeoning domestic debt market due to an increase of domestic interest rates. These high debt burdens severely limit fiscal space.

According to the Climate Policy Initiative (2023), the EMDCs account for 1% of climate finance needs today while this figure will need to reach more than 35% by 2030. The IMF estimates that 80-90% of all climate finance in EMDCs will need to come from private sources, both domestic and international[11].

“Stronger local financial markets will make the global financial system more equitable as well: domestic markets that can deliver investment at scale reduce the need to seek international public capital.”

Tariye Gbadegesin
CEO Climate Investment Funds (CIF)

The typical EMDC investor base is relatively thin, dominated by the banking system. Where banks can participate in the money and interbank market, they are better able to manage their liquidity and balance sheet risks and reduce funding costs. In turn, their productive capacity to increase lending on the terms and tenors required by real economic actors is improved. This role serves price discovery and offers improved benchmarking for pricing a wider range of long term domestic assets, including climate finance investment. The domestic investor base, including asset managers like pension funds and even banks in EMDC markets, often shy away from price uncertainty – or wider bid/ask spreads – typical to investments outside of government securities. This phenomenon known as 'crowding-out' has only been exacerbated post-pandemic by high levels of public debt issuance with elevated coupon rates. Efforts to raise domestic resources for climate finance and other productive use of domestic capital, must recognize that a pre-condition is safe, transparent and efficient money and interbank markets.

[11] Action Agenda, Mobilising Domestic capital to drive climate positive growth, 2024.

Evans Osano
Director Capital Markets, FSD Africa

Domestic resource mobilization

"Across Africa, there is opportunity to invest our institutional capital in areas that impact the real sector including climate finance. Domestic and regional fund managers need to diversify away from government securities. FSD Africa together with partners like Frontclear, actively tackle the obstacles holding back the shift of our domestic investor base into more productive investments in the local economy."

There are more than USD 2.5 trillion assets under management across Africa and this is expected to grow to USD 6.5 trillion by 2040. There is great opportunity to mobilize these resources and allocate them into productive investments that deepen domestic capital markets, including those required to meet the climate finance challenge. Converting these assets is an ambitious target.

A key obstacle is 'crowding-out'. Government securities, which are typically seen as risk-free, offer high real interest rates, denying investments into the private sector. Tenors for these government securities are relatively short and secondary markets very thin. Where African markets are at high risk of debt-distress, FSD Africa has observed significant interest from institutional investors to diversify their portfolios away from government securities and in a few countries intermittent investor interest in corporate debt and debt funds is visible – small steps to more diversified investor choices. The actual lift-off of broadened domestic market mobilization is held back by uncertainty around the perceived risk of alternative investments and the required degree of investor compensation – a more transparent risk/return profile.

Frontclear's work to develop the domestic money and interbank market is important to improve market transparency. A more liquid and participatory repo market based on government securities as collateral strengthens price discovery and the development of a reliable reference rate – a baseline against which to price longer-term assets such as corporate debt and green bonds. FSD Africa is highly supportive of Frontclear's onshore/onshore guarantee structures: Tradeclears Uganda and Zambia are in implementation while Tradeclears Ghana and Tanzania are in feasibility study phase. All have the potential to significantly reduce the counterparty credit risk in the short term market, improving domestic market liquidity with all the benefits to reference rate development, price transparency and an overall reduction to the cost of capital.

FSD Africa would welcome more such de-risking guarantees, whereby development institutions co-invest in structures like Frontclear that build the enabling environment and market infrastructure or directly invest alongside domestic investors to drive new asset classes. In parallel, the introduction of a ratings culture for publicly issued debt would help investors to understand and pinpoint risk relative to the reference rate and other rated securities. The success of all such activities goes hand in hand with up-skilling investment managers to better understand risk targets, investment strategies and processes.

Developing domestic LCY markets

Case: Tradeclear Feasibility

Solution

The product of a Tradeclear Feasibility Study, a technical assistance trajectory, is an optimal Umbrella Guarantee Facility (UGF) structure tailored to the needs of a developing domestic market. Central to a UGF is risk mitigation through a guarantee to all participating and transacting financial institutions, essentially overcoming market segmentation by containing the credit risk concerns. The result is a more liquid domestic LCY market based on new and expanded interbank lines, contributing to a more active price discovery in the local market.

A well-designed UGF in an enabling national regulatory environment, when implemented, also offers inroads for international agents looking to tap these markets for FX hedges. This access to onshore capacity enables lenders to engage in deliverable swaps with local counterparties, or at the very least the convergence of offshore and onshore market pricing by building more certainty around the neutrality of observed local market FX and interest rates. Whether through direct participation in such markets or through using the Frontclear balance sheet, EMDC-based and internal financial institutions become connected to serve the needs of both sides.

UGF domestic market benefits

- Financial market stability through improved interbank liquidity among different bank tiers
- Valuation of swaps and repos based on market agreed valuation curve
- Improved price discovery around FX and interest rates in the local market
- Improved secondary bond market liquidity
- Reference rate development
- Reduced reliance on central bank windows
- Improved monetary policy transmission mechanism
- Stepping stone to domestic financial clearing infrastructure

Process

A typical Tradeclear Feasibility Study uses online and live interviews, workshops and extensive desk study on legal and operational topics, to analyze and assess:

1. Current market structure (FX, repo and bond markets)
2. Dynamics of financial system liquidity and liquidity management
3. Degree of market segmentation and role of (perceived) credit risk
4. Market operational challenges (knowledge and infrastructure)
5. Legal and regulatory environment
6. Market governance and oversight (policy priorities and organization)
7. Demand
8. Capacity

The process is highly interactive and participatory, spanning an average time-frame of 6 to 9 months. The result is a Tradeclear Execution Pack, which is submitted to the country's central bank or regulatory authority with a request for a Letter of No Objection (LONO). Once having received a LONO, Frontclear begins Tradeclear implementation. Throughout the process, Frontclear works to sensitize the market to the Facility GMRA and ISDA documentation and to build overall market operational capacity through Frontclear Academy Tradeclear Tutorials – delivered both onsite and online.

Results

Across 2023, Frontclear, together with central banks and other regulatory bodies, agreed or implemented 4 Tradeclear Feasibility Studies: Zambia, Tanzania, Ghana and Botswana. These complement the ongoing evolution of Tradeclear Uganda – the fifth Tradeclear in the SSA region. By January 2024, the Bank of Zambia, following a due-diligence process on the proposed structure and execution pack, granted Frontclear approval to implement Tradeclear Zambia through a Letter of No Objection (LONO).

> *"Today, the Bank will be launching the interest rate based monetary policy framework, with the 7-day Interbank rate as the operating target. Taking note of the fragmentation observed in the interbank cash market and confirmed in the MMDF, we are all banking on the success of the Tradeclear initiative to address this. We very much look forward to receiving the legal review package. We have engaged our legal team ready for the next steps."*
>
> Anonymous
> Central bank

Tradeclear related results by country in 2023 alone

Tanzania
Tradeclear Feasibility Study

1 agreement with central bank

3 regulatory engagements
- Tradeclear Feasibility:
  - Kick-off workshop *(33 attendees)*
  - Legal and regulatory review *(34 attendees)*
- MMDF findings and recommendations workshop *(11 attendees)*

Increased knowledge regulators

3 areas identified for advisory and feasibility review
- Money Market Diagnostic Framework *(MMDF)*
- Tradeclear Feasibility study
- Tradeclear Feasibility: Legal and regulatory review enforceability GMRA and ISDA documentation

1 area concluded for advisory and feasibility review
- MMDF

Training diversity
- 14 Frontclear Academy licenses including Tradeclear Tutorials *(9 banking staff, 2 regulators, 3 other)*

Increased knowledge banks

2 funding partnerships
- UNECA co-funding Tradeclear Feasibility
- FSDA co-funding Tradeclear Feasibility

Ghana
Tradeclear Feasibility Study

1 agreement with regulator (GFIM Committee)

6 regulatory engagements
- Tradeclear Feasibility:
  - Launch event *(107 attendees)*
  - Working session draft review *(10 attendees)*
  - GFIM presentation *(84 attendees)*
  - SEC presentation *(13 attendees)*
  - CSD presentation *(11 attendees)*
  - Working group discussions *(9 attendees)*

Increased knowledge regulators

2 areas identified for advisory and feasibility review
- Tradeclear Feasibility study
- Tradeclear Feasibility: Legal and regulatory review enforceability GMRA and ISDA documentation

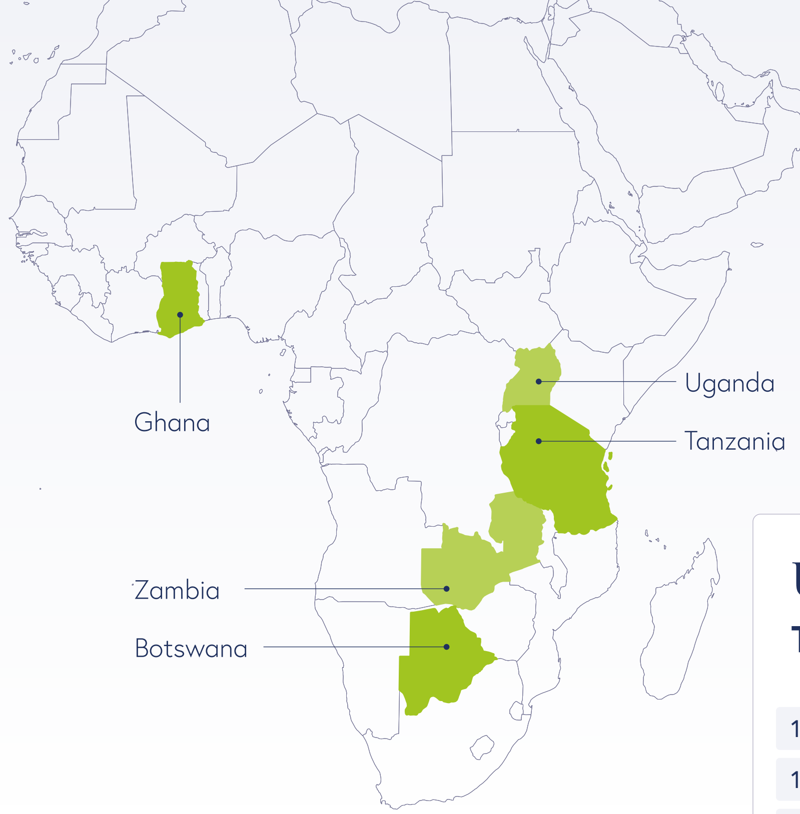
Training diversity
- 128 Frontclear Academy licenses including Tradeclear Tutorials *(58 banking staff, 11 regulators, 59 other)*

Increased knowledge banks

1 funding partnership
- FSDA funding Tradeclear Feasibility

Tradeclear platform demo environment
Click to read

Tradeclear Tutorials
Click to read



Botswana
Tradeclear Feasibility Study

1 agreement with central bank

1 regulatory engagement
- Money Market Development Framework *(MMDF)* kick-off session *(22 attendees)*

3 areas identified for advisory and feasibility review
- MMDF
- Tradeclear Feasibility study
- Tradeclear Feasibility: Legal and regulatory review enforceability GMRA and ISDA documentation

1 money market training
- Money Markets Matter *(37 attendees)*

Increased knowledge regulators

Training diversity
- 38 Frontclear Academy licenses including Tradeclear Tutorials *(22 banking staff, 14 regulators, 2 other)*

Increased knowledge banks

2 funding partnerships
- UNECA co-funding Tradeclear Feasibility
- JODEA co-funding Tradeclear Feasibility

Uganda
Tradeclear implementation

11 local banks onboarded (Tradeclear)

1 agreement with central bank

3 regulatory engagements
- Tradeclear legal documentation workshop *(25 attendees)*
- Market rates and interbank incentives workshop *(17 attendees)*
- MMDF Academy *(7 workshops)*

2 areas identified for advisory and feasibility review

2 areas concluded for advisory and feasibility review
- Legal and regulatory review enforceability GMRA and ISDA documentation – 3rd party transactions
- Repo Guidelines *(launch at the WB/IMF Annual Meeting)*

1 legal reform realised
- BOU Repo Guidelines

Increased knowledge regulators

Training diversity
- 23 Frontclear Academy licenses including Tradeclear Tutorials *(19 banking staff, 1 regulator, 3 other)*

Increased knowledge banks

2 funding partnerships
- FSDA funding Tradeclear implementation
- UNECA co-funding MMDF and MMDF Academy

4 knowledge partners
- ICMA, ISDA and A&O contribution to Repo Guidelines *(3)*
- OGR contribution to Market rates and interbank incentives workshop

Volume in-kind contribution
- USD 8,625 equivalent

Zambia

In 2022, the Bank of Zambia confirmed its commitment to a Tradeclear Feasibility study per a formal request to Frontclear's partner and co-funder UNECA. The Tradeclear Feasibility study topped several years of collaboration between the Bank of Zambia, Securities and Exchange Commission (SEC) and market practitioners, all having been detailed in an October 2018 MOU between Frontclear and the Bank of Zambia. The Zambia approach is consistent with an Emerging Phase per the Frontclear Impact Strategy and reflects a work programme strong on diagnostics, market practice and commitment to deepen investor participation. The combined areas are:

1. Money Market Diagnostic Framework (MMDF);
2. Legal and regulatory review;
3. Tradeclear implementation; and
4. Training of market participants.

The Zambia work programme realized solid outcomes in 2023, including completion of the Tradeclear Feasibility atudy and the Bank of Zambia approval to implement Tradeclear Zambia (January 2024). The collaborative process to approval has been highly interactive and is an investment in the Facility's success once launched.

Zambia

Tradeclear Feasibility Study

1 local bank onboarded

1 regional bank onboarded

USD 5m volume funding guaranteed

1 transaction closed *(cross-border cross-currency NDF)*

Funding diversity
- Tier 3 *(1 bank)*

USD 5m volume funding mobilized

1 agreement with central bank

1 agreement with local banking association

8 regulatory engagements
- Tradeclear Feasibility:
  - Kick-off workshop *(60 attendees)*
  - 2 working sessions BOZ due diligence team *(17 attendees)*
  - Draft structure workshop *(20 attendees)*
  - Online presentation to commercial bank CEOs *(Bankers' Association Zambia) (20 attendees)*
  - Legal requirements documentation workshop *(53 attendees)*
  - Implementation workshop *(12 attendees)*
- MMDF Academy *(7 workshops)*

Increased knowledge regulators

8 areas identified for advisory and feasibility review

8 areas concluded for advisory and feasibility review
- Legal and regulatory review:
  - Market engagement on legal enforceability
  - GMRA and ISDA enforceability
- Money Market Diagnostic Framework *(MMDF)*
- Tradeclear Feasibility study:
  - Report on the implementation of repurchase transactions in Zambia
  - Opinion on licensing requirements in Zambia
  - Opinion on the enforceability of ISDA and GMRA transaction documentation
  - Opinion on operational settlement

1 legal reform realised
- Tradeclear Feasibility: Circular clarifying no fee structure on repo transactions *(SEC)*

1 market infrastructure solution achieved
- Tradeclear Feasibility: LONO issued by the Bank of Zambia

4 money market trainings
- Understanding and implementing ISDA
- Deep dive Derivatives
- Fixed-income boot camp
- Basel II/III

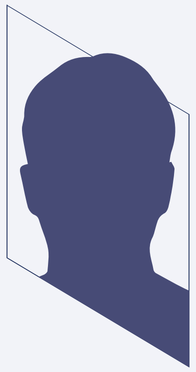
Training diversity
- 106 participants *(98 banking staff, 8 regulators)*
- 24 Frontclear Academy licenses including Tradeclear Tutorials *(20 banking staff, 4 regulators)*

Increased knowledge banks

2 funding partnerships
- UNECA co-funding Tradeclear Feasibility
- FSDA co-funding Tradeclear Feasibility

3 knowledge partners
- ISDA contribution to legal and regulatory review and reform
- ICMA contribution to legal and regulatory review and reform
- ABN AMRO Clearing Bank contribution to operational settlement review

Volume in-kind contribution
- USD 60,600 equivalent



Anonymous
Domestic commercial bank

Tradeclear Zambia Feasibility Study

"Access to both hard currency and LCY liquidity in Zambia is a struggle. Conditions tighten each time the currency slips away causing inflationary pressures and a restrictive monetary policy response. Any liquidity sits with the larger banks and does not stream through the market. Solutions like Frontclear's Tradeclear are welcome."

In Zambia, there are limited ways for financial institutions to raise funding in the market. Simply put, in absence of a repo market, banks have few treasury instruments to raise cheaper funding and reduce overall cost of capital to lend to Zambia's households and businesses. Where markets are very tight the central bank is the singular course of liquidity. Inevitably, the horizontal interbank market is crowded-out by this vertical alternative. The onshore guarantee facility designed during the 2023 Tradeclear Zambia Feasibility process caters to improving market efficiency and the productive use of capital.

We are fully convinced that the Tradeclear Zambia Feasibility process was well-designed and implemented. Frontclear engaged with the Bank of Zambia at the start and secured the central bank's commitment, sending a clear signal to the market. During the Feasibility process, the numerous working sessions included banks' front-, mid- and back-office. The sessions detailed the Tradeclear risks and benefits. Frontclear took the time to ensure broad-based understanding on key observations related to the legal and regulatory environment and best practice documentation and to operational settlement challenges caused by the country's dual Central Securities Depositories (CSDs). The strong Feasibility process brought all to the same table and galvanized our energy to move the market forward.

Within the banks, the Frontclear trainings and the Feasibility study helped give the legal teams the required understanding to make independent assessments versus relying on treasury colleagues. Up-skilling among smaller bank teams in particular, has been an obvious result. This together with Tradeclear legal documents tailored to ensure Automatic Early Termination (AET) in the case of a default, sets a solid foundation on which to implement Tradeclear Zambia. However, the shortcomings of the Zambian legal and regulatory framework relative to title transfer and close-out netting require costly and time-consuming further internal legal review and independent opinion. Given this project falls under the Central Bank's mandate of market development, their increased involvement in addressing the regulatory concerns would increase ultimate bank and investor comfort.

The Bank of Zambia extended its approval to Frontclear to implement Tradeclear in January 2024. Our expectations of Tradeclear Zambia are that it will reduce the credit risk concerns and bring a more efficient market and break the inability of monetary policy to flow, improve price discovery and reduce the overall cost of capital. From a country perspective, this would put the Zambian market on the map.

Holistic TA toolkit

Frontclear's technical assistance implements a holistic 5-part TA toolkit that delivers insights and solutions to developing the required enabling conditions for a more liquid and participatory domestic LCY market. All contribute to international connectivity where the legal and regulatory reform secures enforceability of GMRA and ISDA transaction documentation and where an eventually implemented Tradeclear can guarantee cross-border.

A tailored technical assistance approach is dependent on the initial market analysis determined through the MMDF. The resulting baseline is plotted along one of the three stages of Frontclear's Impact Strategy. Developing domestic LCY markets is a 5 to 10 year commitment between regulators, market actors and Frontclear.

1 Money Market Diagnostic Framework (MMDF)

MMDF study — ADVISORY

Insights through a deep-dive analysis of:
- Current level of money market development
- Market environment
- Central bank activity
- Resources
- Detailed baseline against which to review market development over time
- Sequential recommendations for structured reforms to best improve the market (focus on central bank operations)

MMDF Academy — TRAINING

- Supporting regulators (CB, MinFin, pension fund authorities, etc.) to better understand central bank operations and the money market through interactive hybrid workshops

2 UGF: Tradeclear Feasibility Study

Market demand and design — ADVISORY

Determining:
- Optimal mix of financial instruments (e.g. repo, FX swaps and other)
- Eligible market participants
- Eligible LCY collateral
- Transaction terms and conditions (guarantee amounts, tenors, pricing and operational mechanics)

3 Legal and Regulatory Framework

Legal/regulatory review and reform — ADVISORY

- Backstopping local regulatory reform processes
- Detailed review of relevant local regulation relative to ISDA and GMRA enforceability
- Recommendations towards positive ICMA and ISDA opinions
- Reform through drafting support of revised language towards positive opinions

4 Settlement Infrastructure

Settlement review and reform — ADVISORY

- In-depth reviews of clearing and settlement challenges
- Recommendations towards improved operational settlement and platform
- Recommendations towards improved settlement finality
- Reform through support to develop improved platform and processes

5 Financial Skills and Knowledge

Frontclear Academy — TRAINING

Hybrid (online/onsite) training programme

11 Tradeclear Tutorials , including but not limited to:
- Swap products
- Repo products
- Effectively pricing repo to market rates
- GMRA and ISDA enforceability in the local market context
- Accounting for repo

10 extensive courses, including but not limited to:
- Accounting for derivatives
- Bond accounting and repos
- Collateral management
- Deep-dive derivatives
- Repo primer
- GMRA primer

Performance 2023

Technical Assistance portfolio

Since inception, the TA work has conducted 196 activities stemming from 83 approved projects. 2023 technical assistance expenditures declined to USD 305k (19%) compared to USD 364k in 2022. In direct contrast to the spending decrease, the number of activities increased by 72% (from 32 in 2022 to 55 in 2023). Similarly, the number of 2023 approved projects also increased by 4 or 50% compared to 8 in 2022. This is to a lesser degree attributable to an increase in MMDF trajectories including the first in Latin America. However, the greater increase stems from the driving force of Tradeclear Feasibility studies across 5 SSA markets and showcased in this Impact Report. Regulator and market engagements throughout the development and implementation of such high added-value projects account for 24% in 2023 versus 5% in 2022.

Tradeclear Feasibility studies are only undertaken with the explicit approval and collaboration of a country's regulator, usually the central bank. The design of a Tradeclear structure to the specific market circumstances requires high levels of engagement of all market stakeholders to ensure continual technical feedback and learning and equally important, shared ownership. This process intensity is visible in the 67% increase in financial market trainings and regulator engagements in 2023 relative to 2022 numbers. A vibrant LCY interbank market is dependent on a conducive regulatory framework and settlement system to secure investor comfort. As such, legal and regulatory review and reform as well as review of settlement infrastructure are part and parcel of the Tradeclear Feasibility process. This is reflected in the 2023 increase of such activities to 7 from 5 in 2022.

Of the total 2023 expenditure, 80% was allocated to projects in SSA. The large SSA footprint continues to build on Frontclear's position as a solidly established, trusted and knowledgeable adviser on money and interbank market development. The regional technical assistance track record expanded to include the signing of another large-scale MOU with the Bank of Botswana (December 2023), including but not limited to an MMDF and the design of a Tradeclear structure tailored to the market's particularities. Similarly, by reverse inquiry, the Bank of Madagascar requested an MMDF process through IFC and as part of its capital market development programme.

Across 2023, current partners such as ICMA, ISDA, ABN AMRO Clearing Bank, Allen & Overy and 8 new partners contributed in-kind advisory work valued at a USD-equivalent of 55K – an 11% increase over 2022. The technical expertise required to implement much-needed market infrastructure is sourced from both the Frontclear TA partner network and increasingly from Frontclear itself in the context of proprietary product development such as Tradeclear.

Peer-to-peer netting workshop for SSA regulators

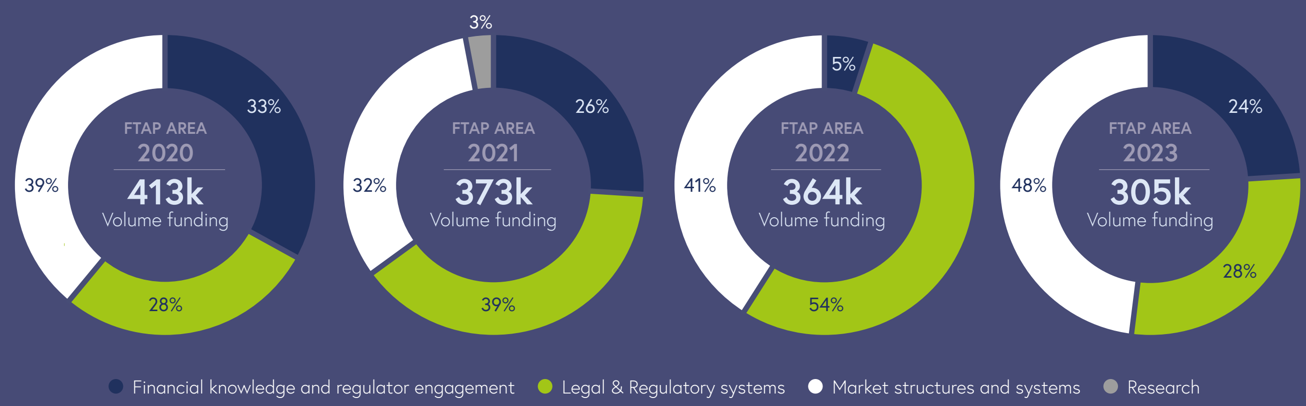
Amsterdam
November 2023

Four SSA central banks joined together in 3-day intensive Frontclear Netting Workshop in Amsterdam. Participants included heads of both legal and financial market departments from the National Bank of Rwanda, Bank of Uganda, Bank of Tanzania and National Bank of Ethiopia. Frontclear and multiple partners including ISDA, ICMA, ISLA, Societe Generale, Standard Bank, ABN AMRO Clearing Bank and FMDQ, addressed: **What is Netting, its importance to financial markets stability and what is optimal Netting Regulation?** The latter is fundamental to the enforceability of GMRA and the ISDA transaction documentation. Where confirmed by a positive legal opinion, a country secures investor comfort, greater transparency and much improved access to domestic and cross-border liquidity. Following the workshop, 3 of the 4 countries have requested Frontclear support on netting regulation.

Portfolio results

Output indicators

Annual TA expenditure and % breakdown by area



Takeaway

Market infrastructure is time and resource intensive

At 48% (increase of 7% over 2022), expenditures on market infrastructure including Tradeclear Feasibility and settlement systems, continue to expand. Complementarily, these trajectories are process intensive requiring high levels of stakeholder engagement, see Case: Tradeclear Zambia. This will expand further in 2024 with the expected scaling-up of domestic guarantee facilities in SSA and other regions.

Tier 1	31.7%
Tier 2	16.7%
Tier 3	7.9%
Regulator	14.1%
Law firms	0.9%
Other	28.6%

	2023	2015-23
Financial knowledge trainings & regulator engagements	40	119
Training satisfaction	99%	99%
Training participants	227	2415

7 Activities to address legal and regulatory review and reform
— 36 Cumulative

8 Activities to address market structures and systems
— 41 Cumulative

Takeaway

Operational skills training through Tradeclear Tutorials

The delivery of practical operational skills continued largely through the Frontclear Academy platform, to which 11 Tradeclear Tutorials were added in 2023. A total of 227 licenses were extended in 2023 spanning 5 countries.

Outlook 2024

Frontclear's next ten years of developing and connecting domestic LCY money and interbank markets underscores it being a step-by-step process tailored to specific circumstances. The country-specific cases detailed in this Impact Report document the efforts to improve monetary policy, legal and regulatory frameworks, settlement and financial infrastructure and the general skills and knowledge of regulators and bank staff to transact and access liquidity both locally and abroad. The efforts span several years while more developed domestic financial systems are needed to address the needs of climate finance today. With the understanding that EMDCs are more susceptible to risk events, climate change related or other, it is all the more imperative to begin the investment building domestic LCY markets today.

Frontclear vision is that of a globally connected money market that is stable and inclusive and facilitates economic growth, climate resilience and poverty reduction in EMDCs. In this regard, Frontclear will continue to scale its operations and pivots towards becoming a financial infrastructure provider in the coming years, notably via the deployment of Tradeclear.

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