Equity Research Desk

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Importance of Central Clearing in Cash and Derivatives Markets

November 2019

In 2008 the global financial system without CCP collapsed

AIG execs hid risks from auditors, panel finds

Associated Press updated 10/7/2008 2:37:07 PM ET

WASHINGTON — Former top executives of insurance giant American International Group Inc. were on the receiving end of a verbal smackdown Tuesday as a congressional panel probed the chain of events that forced the government to bail out the conglomerate.

Maurice "Hank" Greenberg, who ran AIG for 38 years until 2005, again blamed the company's financial woes on his successors, former CEOs Martin Sullivan and Robert Willumstad. They, in turn, cast much of the blame on accounting rules that forced AIG to take tens of billions of dollars in losses stemming from exposure to toxic mortgage-related securities.

AIG, crippled by huge losses linked to mortgage defaults, was forced last month to accept an $85 billion government loan that gives the U.S. an 80 percent stake in the company. Last week, AIG said it has drawn down $61 billion of the loan, and planned to sell off some of its business units to pay off the loan.

"Both of you seem to be saying that those events had nothing to do with your management, it had to do with a tsunami of activities over which you had no control," said a House Oversight Committee Chairman Henry Waxman, D-Calif.

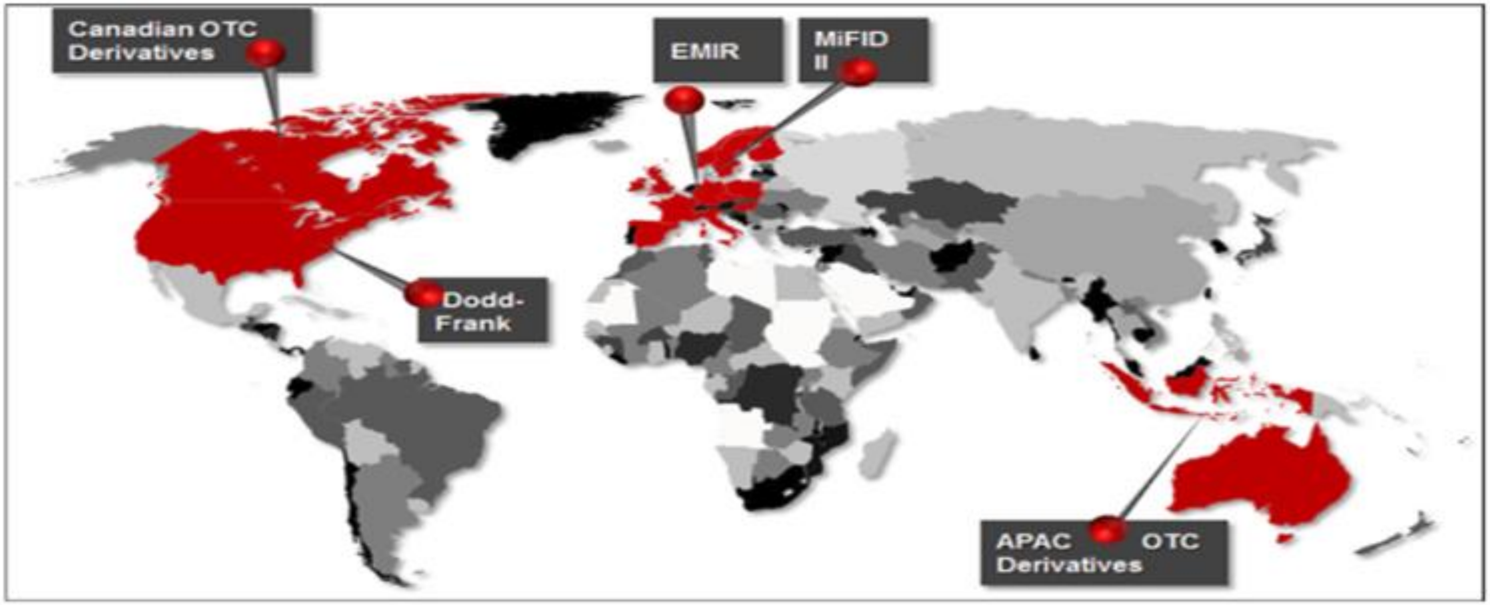
"You have cost my constituents and the taxpayers of this country $85 billion and run into the ground one of the most respected insurance companies in the history of our country," said Rep. Carolyn Maloney, D-N.Y. "You were just gambling billions, possibly trillions of dollars."

Lawmakers also upbraided Sullivan, who ran the firm from 2005 until June of this year, for urging AIG's board of directors to waive pay guidelines to win a $5 million bonus for 2007 — even as the company lost $5 billion in the 4th quarter of that year. Sullivan countered that he was mainly concerned with helping other senior executives.

Sullivan also came under fire for reassuring shareholders about the health of the company last December, just days after its auditor, Pricewaterhouse Cooper, warned of him that AIG was displaying "material weakness" in its huge exposure to potential losses from insuring OTC traded mortgage-related securities.

Source: US Department of the Treasury

This led to mandatory central clearing though CCP of all G20 countries



- US Dodd-Frank Wall Street Reform (known commonly as Dodd-Frank);
- The Markets in Financial Instruments Directive / Regulation (MiFID);
- The European Market Infrastructure Regulation (EMIR);
- Canadian Derivatives OSC Rule 91-507 Trade Repositories and Derivatives Data Reporting and Companion Policy 91-507CP;
- ASIC Derivative Transaction Rules (Reporting) 2013;
- Monetary Authority of Singapore (MAS) Securities and Futures Act Chapter 289;
- HKMA Securities and Futures (Amendment) Ordinance.

Source: Fenergo

CCPs disclose the risk of all participants in a single central repository, preventing any participant from hiding its real exposure

Lessons in clearing from Brazil
By Peter Madigan for Risk Magazine.
10 Jan 2011

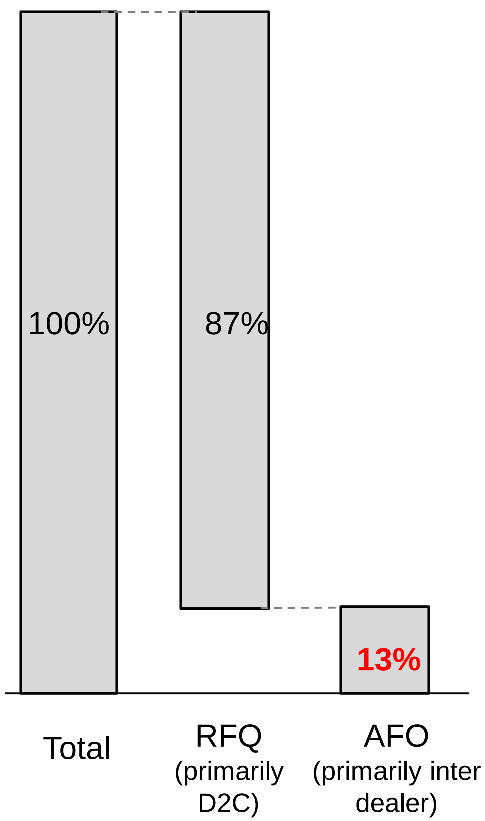
Alvir Hoffmann, deputy governor for supervision at the Banco Central do Brasil (BCB) in Brasilia.

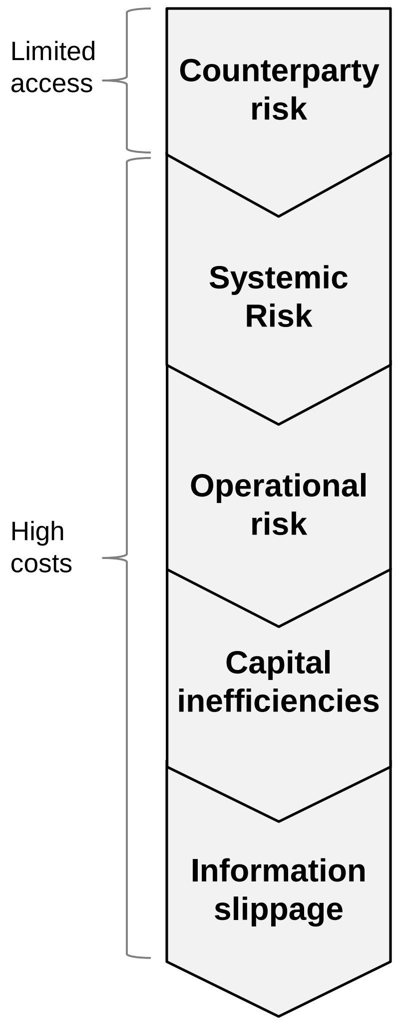
"However, having a single central counterparty makes supervisory duties simpler, considering our respective diverse procedures and methodologies can be fully integrated. Our perception is the higher the level of integration, the easier the oversight."

Source: Risk Magazine

In Nigeria, credit among banks is limited as the costs and risks of bilateral exposures are high

Government bonds trading





High counterparty credit risk of bilateral exposures

High costs and systemic risk of multiple bilateral relations

High operational risk of collateralizing bilateral positions

High capital cost of OTC exposures under Basel III

Over collateralization (no netting nor cross margining)

Information slippage, market impact due to name give up

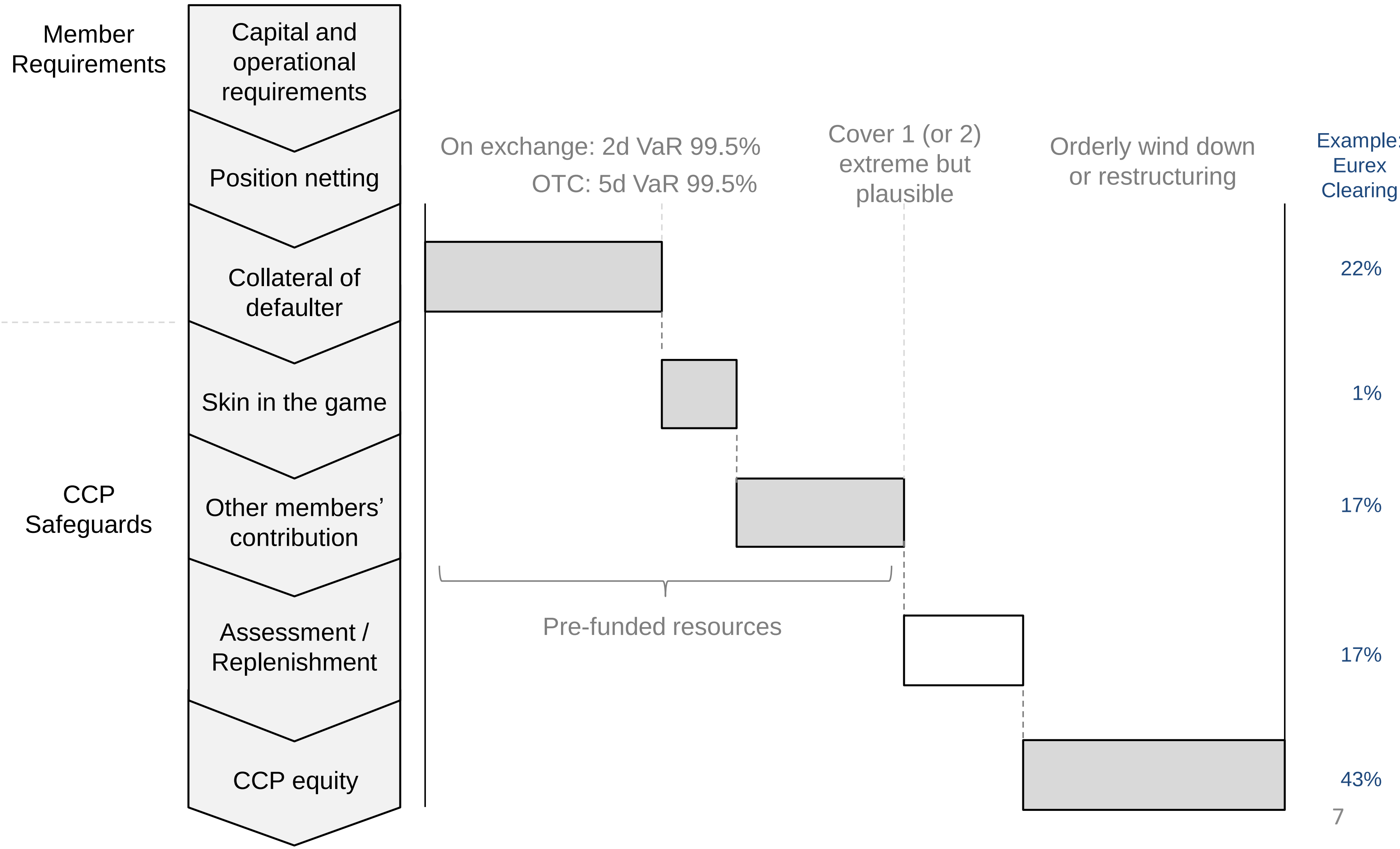
Source: FMDQ

CCPs are created to reduce the costs and mitigate the risks of bilateral exposures

Remove counterparty risk	**High counterparty credit risk of bilateral exposures** Remove virtually all counterparty risk through an efficient, well capitalized CCP
Reduce complexity	**High costs and systemic risk of maintaining multiple bilateral relations** Reduce the number of counterparties to only one through central clearing
Lower operational risk	**High operational risk of collateralizing bilateral positions** Rely on the CCP to define mark-to-market of positions and manage collateral
Reduce capital charge	**High capital cost of OTC exposures under Basel III** Lower banks’ capital charges by between 90% and 98% by using an eligible CCP
Bring capital efficiencies	**Over collateralization** Reduce 90%+ of collateral requirements through a CCP’s netting and portfolio margining
Enable full anonymity	**Significant information leakeage and market impact due to name give up** A CCP guarantees full pre and post-trade anonymity

Remove Counterparty Risk

In centrally-cleared markets, the CCP sets up minimum financial and operational requirements for qualifying participants and operates a risk management system that detects early the losses and prevents them from spreading by enforcing liquidation

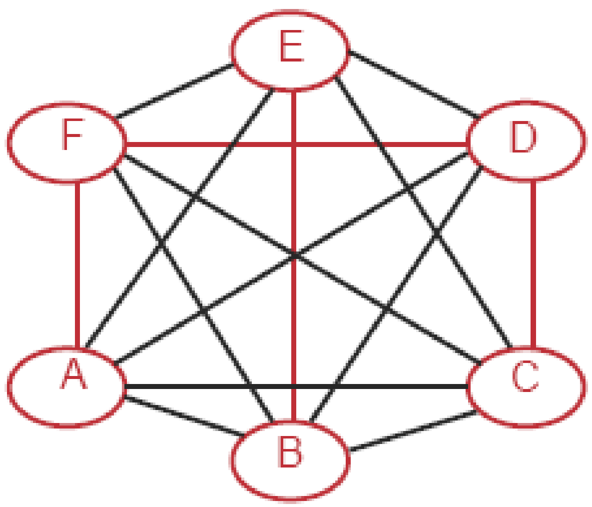


Reduce Complexity and Systemic Risk

In bilateral markets, participants needs to maintain direct relationships with each other. Conversely, in centrally-cleared markets each participant has just one relationship with the CCP. This results in operational efficiencies from simpler collateral movements.

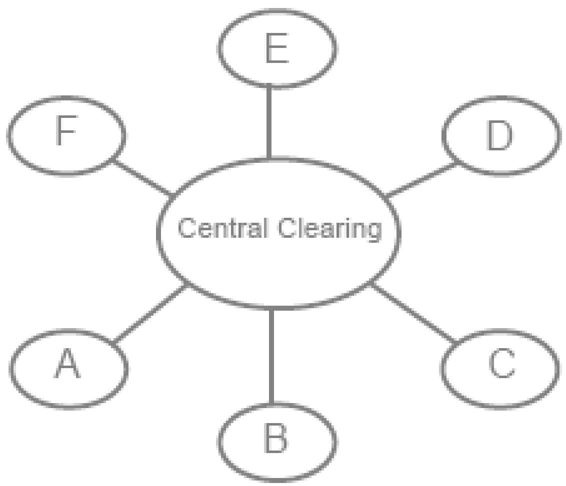
Example of a market with 6 participants

Bilateral



13 counterparty relations

Centrally cleared



6 counterparty relations

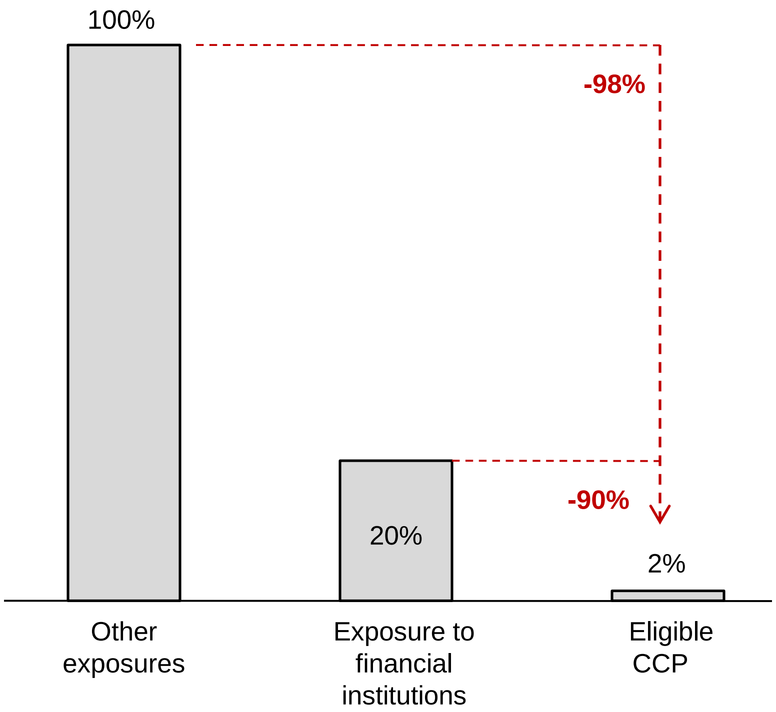
Reduce Capital Charge

Eligible CCPs enable banks to reduce their capital charge by 90% or more

Excerpt from Basel III Capital Accord (2012)

To address the systemic risk arising from the interconnectedness of banks and other financial institutions through the derivatives markets, the Committee is supporting the efforts of the Committee on Payments and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO) to establish strong standards for financial market infrastructures, including central counterparties. The capitalization of bank exposures to central counterparties (CCPs) will be based in part on the compliance of the CCP with such standards, and will be finalized after a consultative process in 2011. A bank's collateral and mark-to-market exposures to CCPs meeting these enhanced principles will be subject to a low risk weight, proposed at 2%; and default fund exposures to CCPs will be subject to risk-sensitive capital requirements. **These criteria, together with strengthened capital requirements for bilateral OTC derivative exposures, will create strong incentives for banks to move exposures to such CCPs.** Moreover, to address systemic risk within the financial sector, the Committee also is raising the risk weights on exposures to financial institutions relative to the non-financial corporate sector, as financial exposures are more highly correlated than non-financial ones.

Comparative Risk Weights

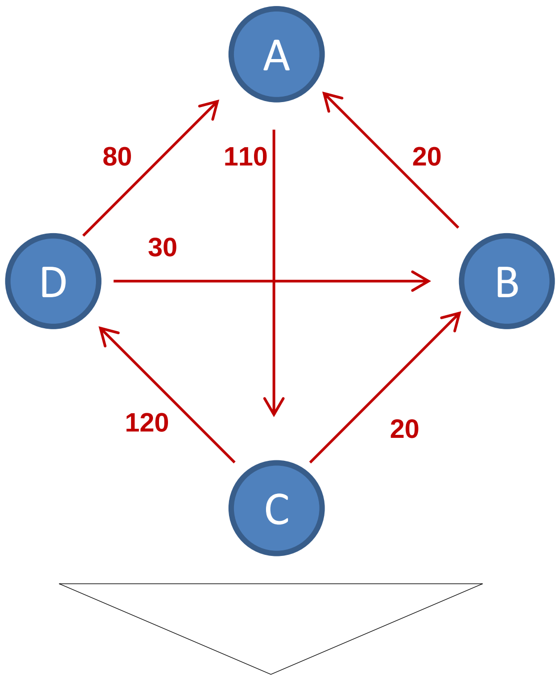


Source: Basel III Capital Accord, Risk Resources. IIROC Portfolio margining feasibility analysis

Bring Capital Efficiencies

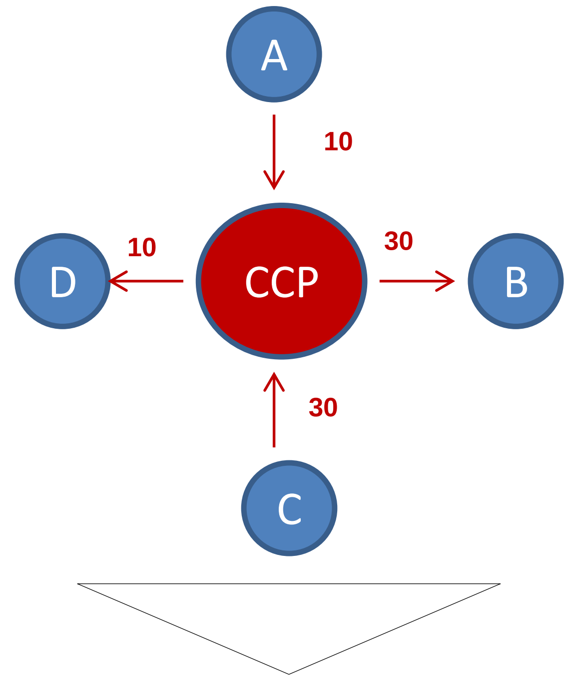
In centrally-cleared markets, multilateral netting allows to reduce credit in the system

Bilateral



Exposure of 380

Centrally cleared

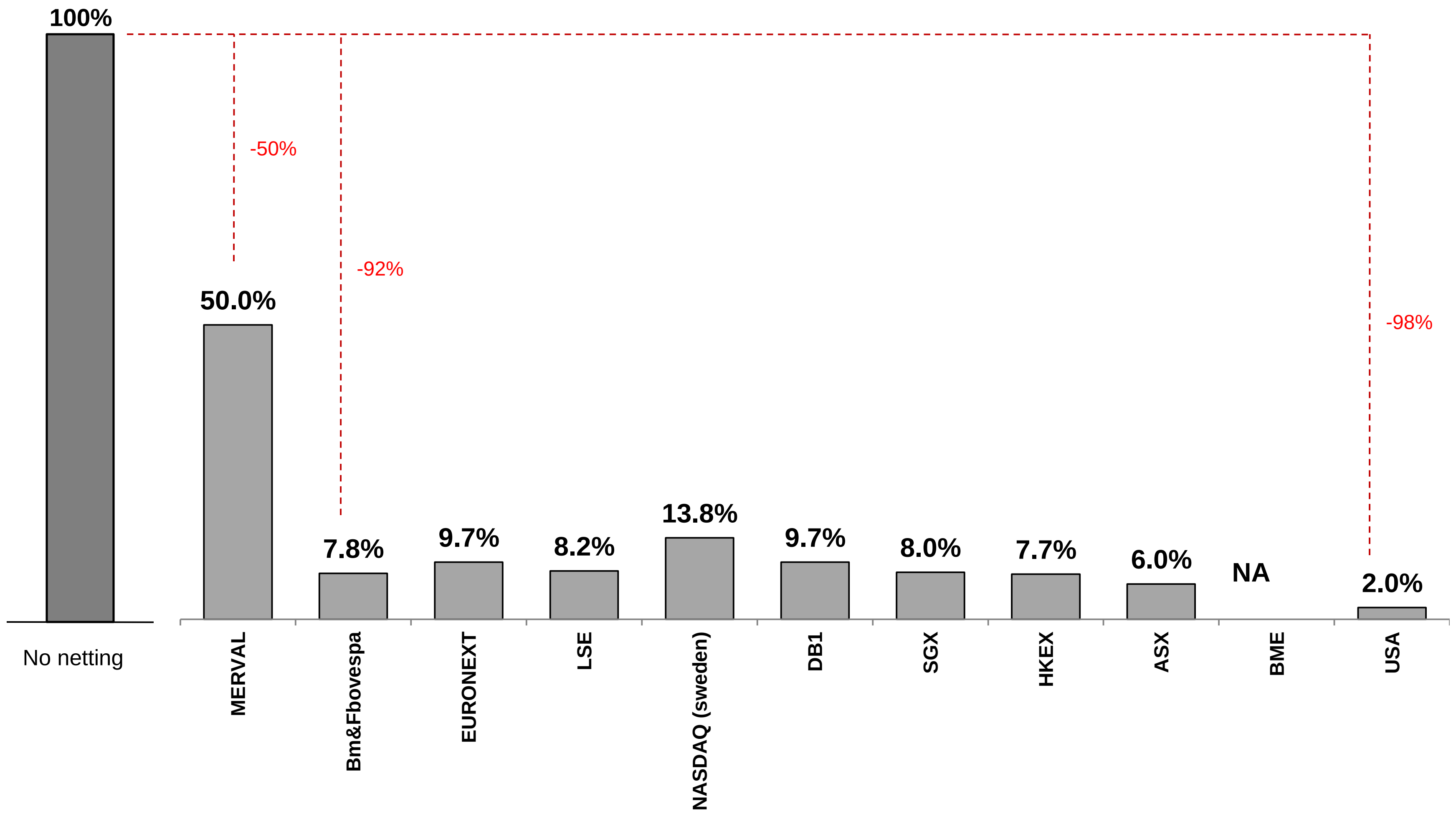


Exposure of 80

Bring Capital Efficiencies

Multilateral netting at CCPs compresses exposures by 90%+ in the system

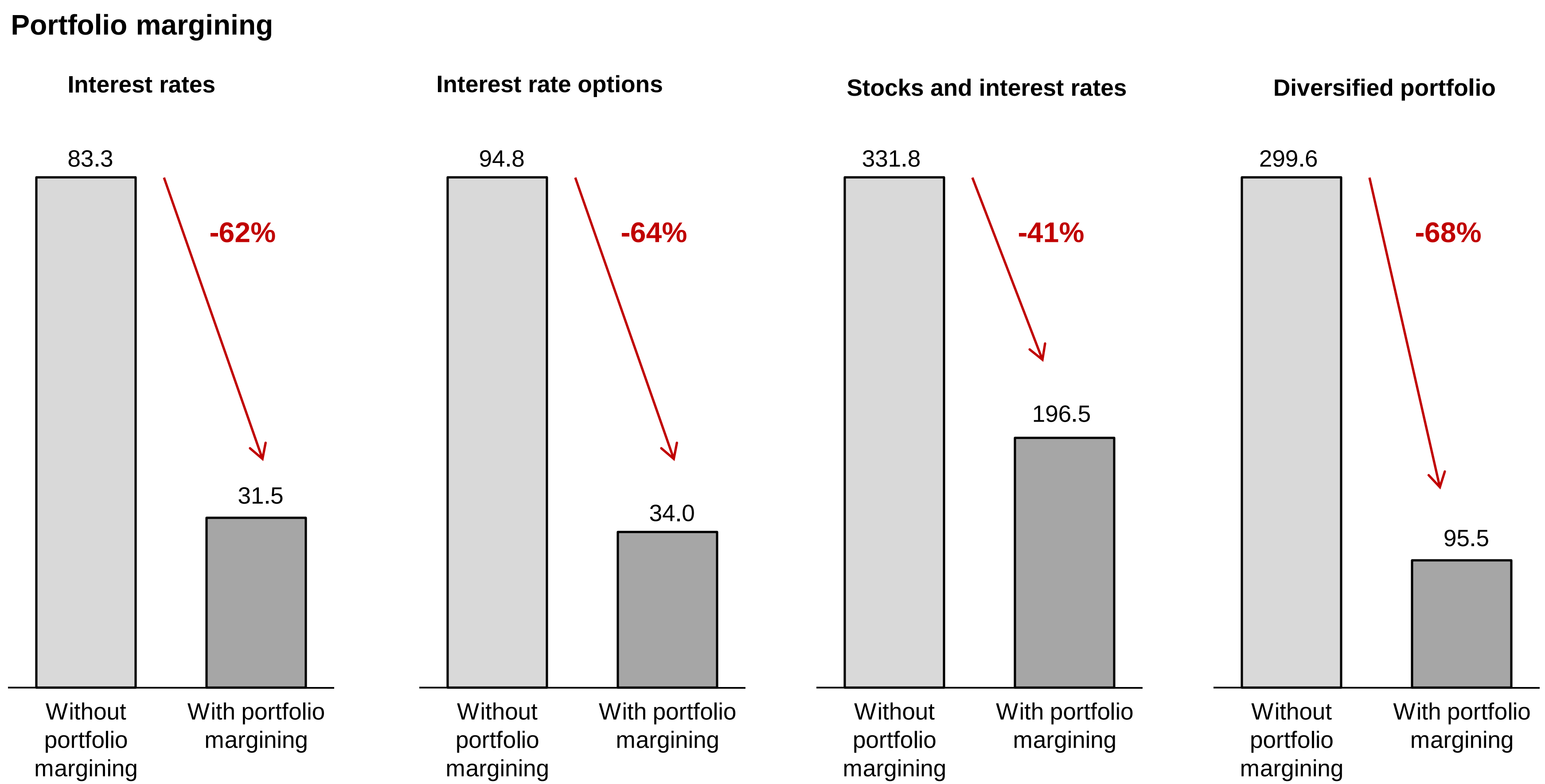
Impact of netting on exposures and collateral requirements
(1-netting ratio)



Source: companies

Bring Capital Efficiencies

Portfolio margining at CCPs reduces collateral requirements by 2/3



BM&FBOVESPA AND CETIP MERGE TO FORM B3 – PRESS RELEASE

"A major advantage the new business offers the market is greater capital efficiency for clients through the possibility of using, for example, OTC and exchange-traded derivatives with the same central counterparty"

Source: B3, Risk Resources. IIROC Portfolio margining feasibility analysis

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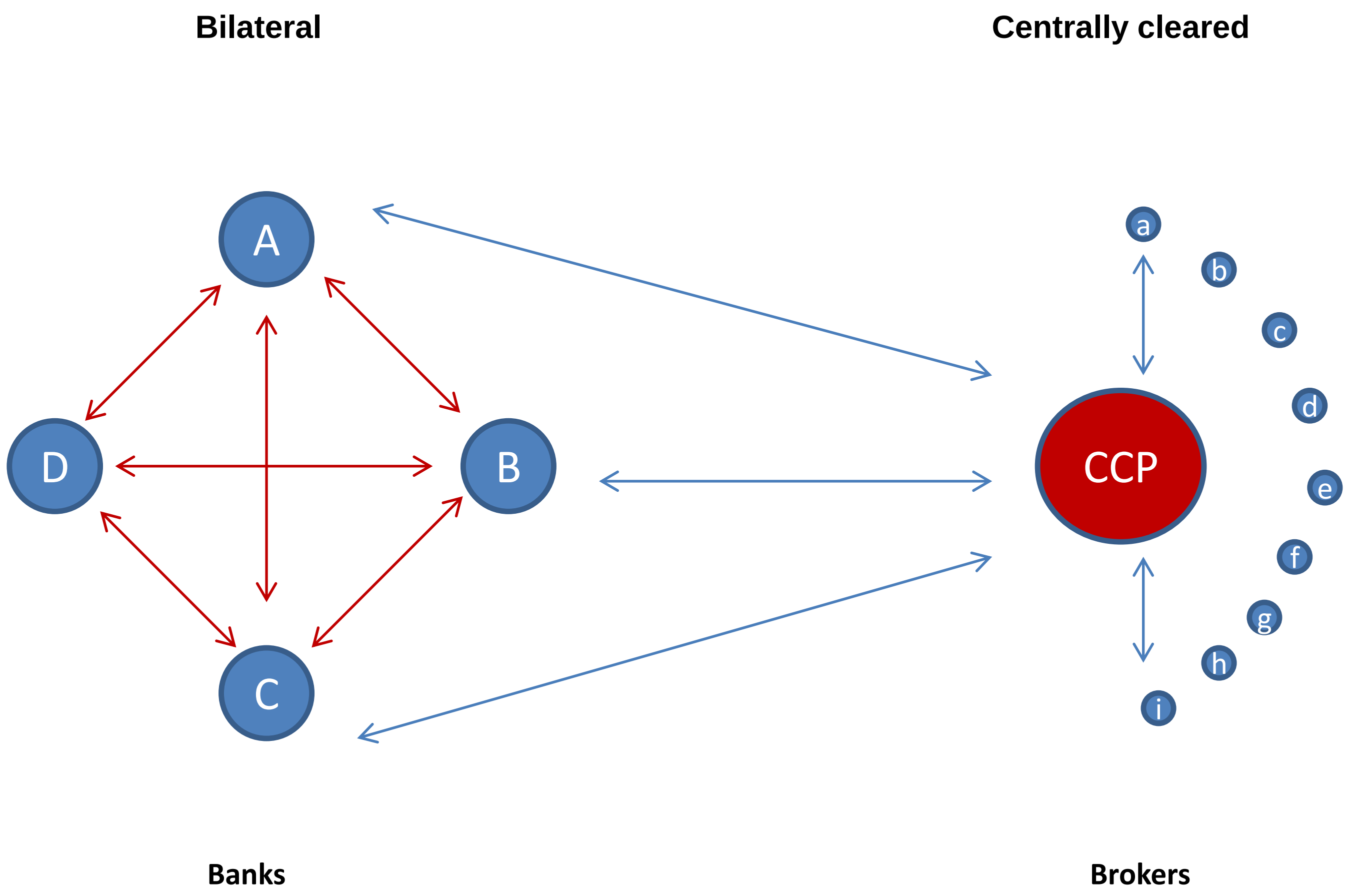
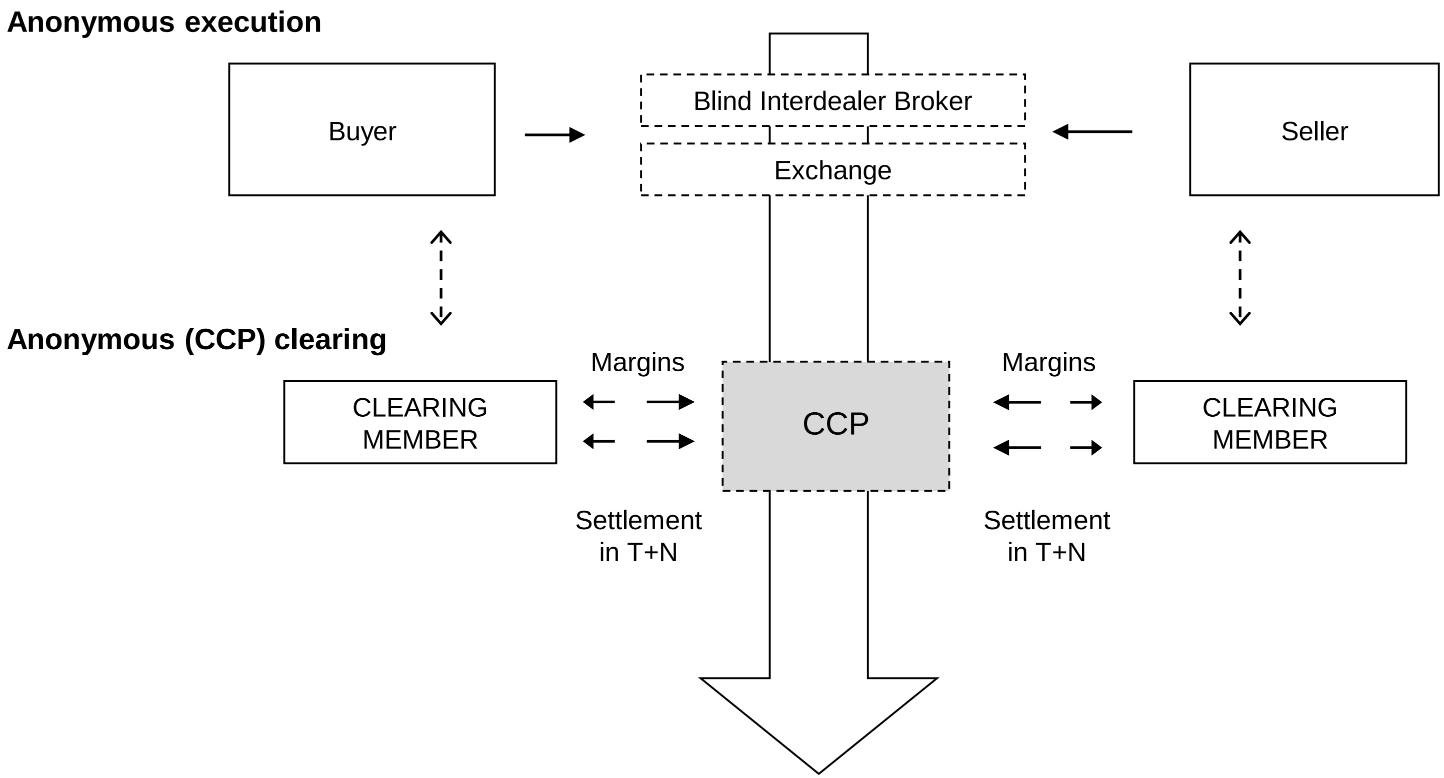
Expand the Number of Participants

In bilateral markets, large participants trade only among each other as they do not want to be exposed to the credit risk of smaller participants. In a centrally-cleared market, large participants trade with smaller ones as they face the risk of the CCP.



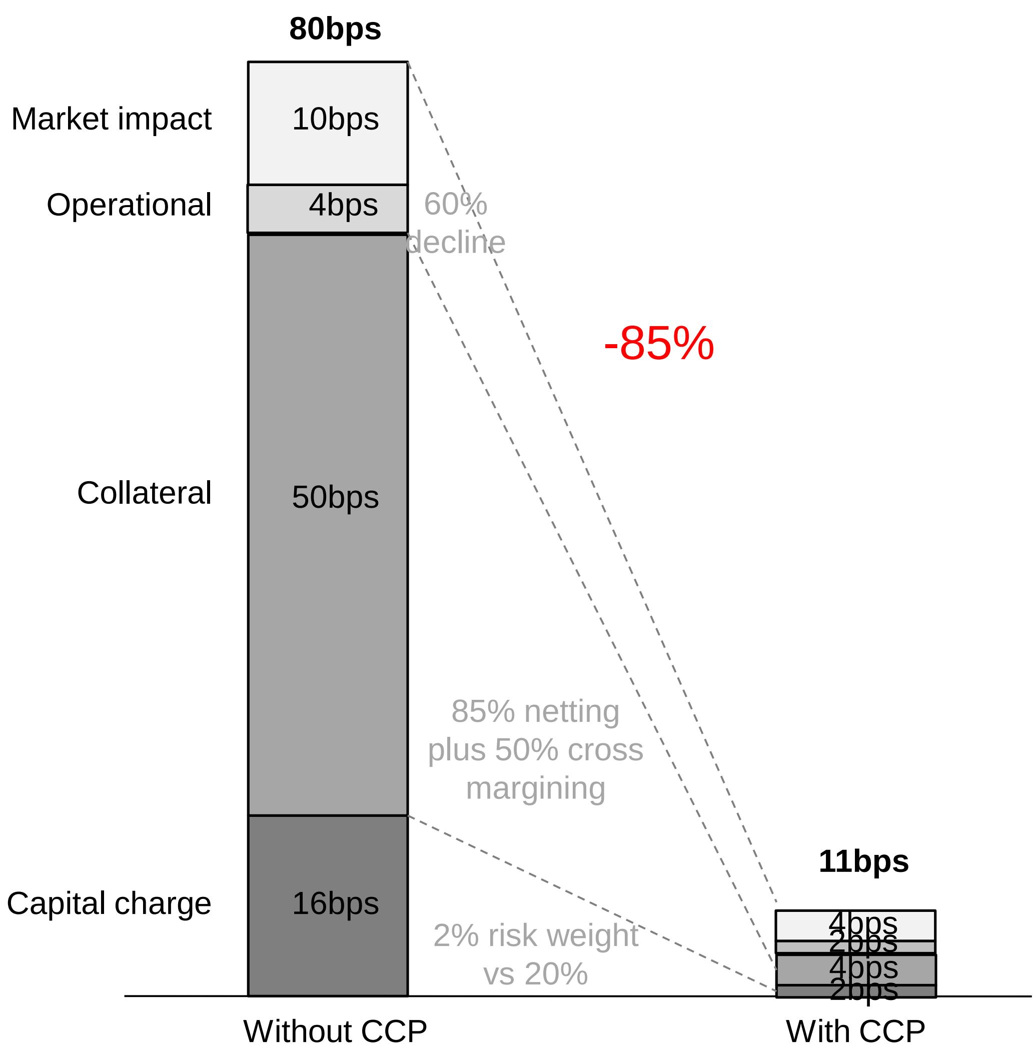
Enable Full Anonymity

The CCP becomes counterparty to each trade, therefore, preventing the leakage of information after name give up. As a result, friction declines and participants trade more actively.



Impact on Participants:

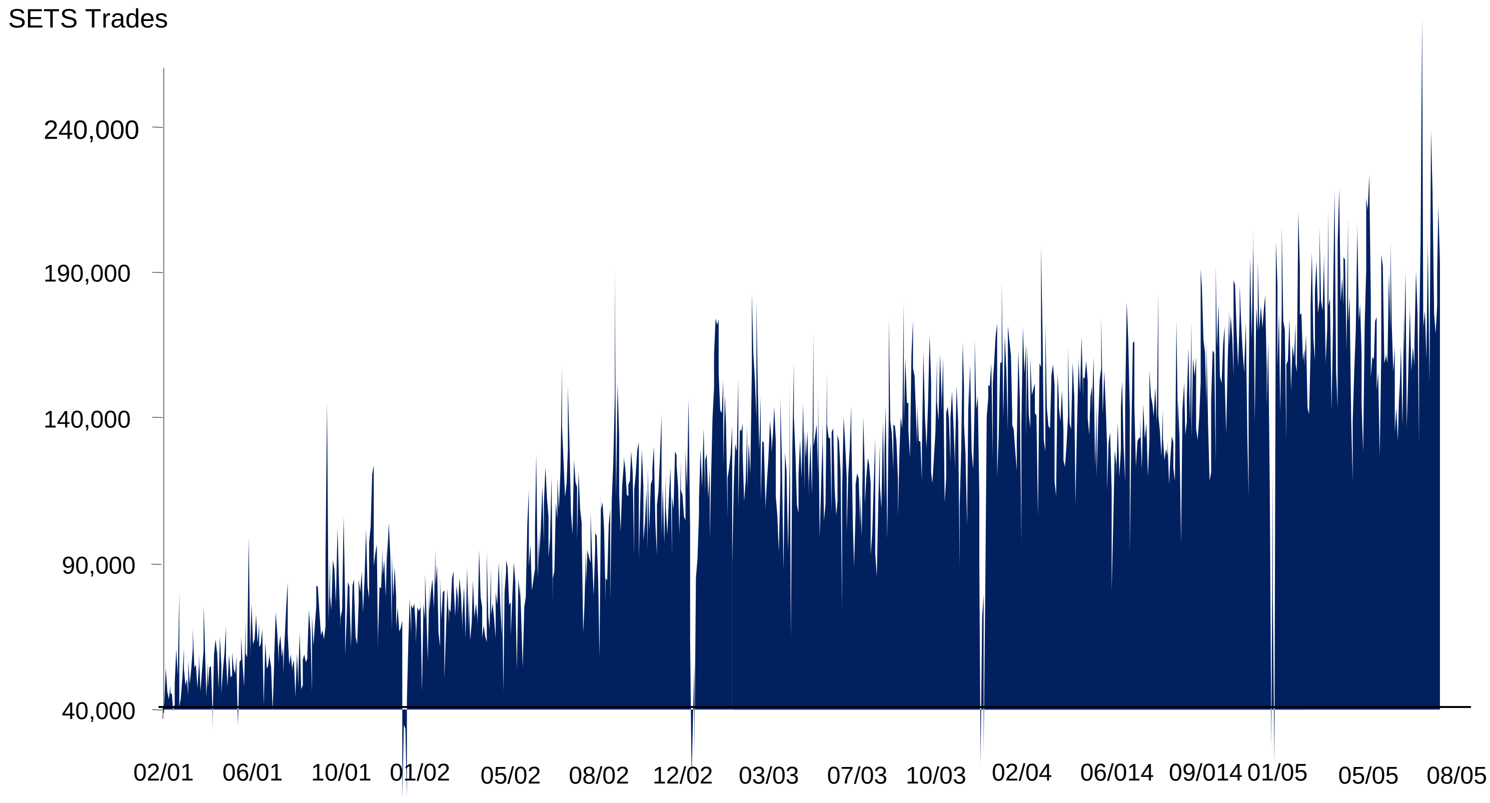
On average, based on global experience, a CCP reduces participant's costs by 85%



Impact on the Market

Introduction of a CCP in 2001 boosted trading on the LSE. The number increased from 40,000 to 190,000

LSE Order Book Trading Post-CCP

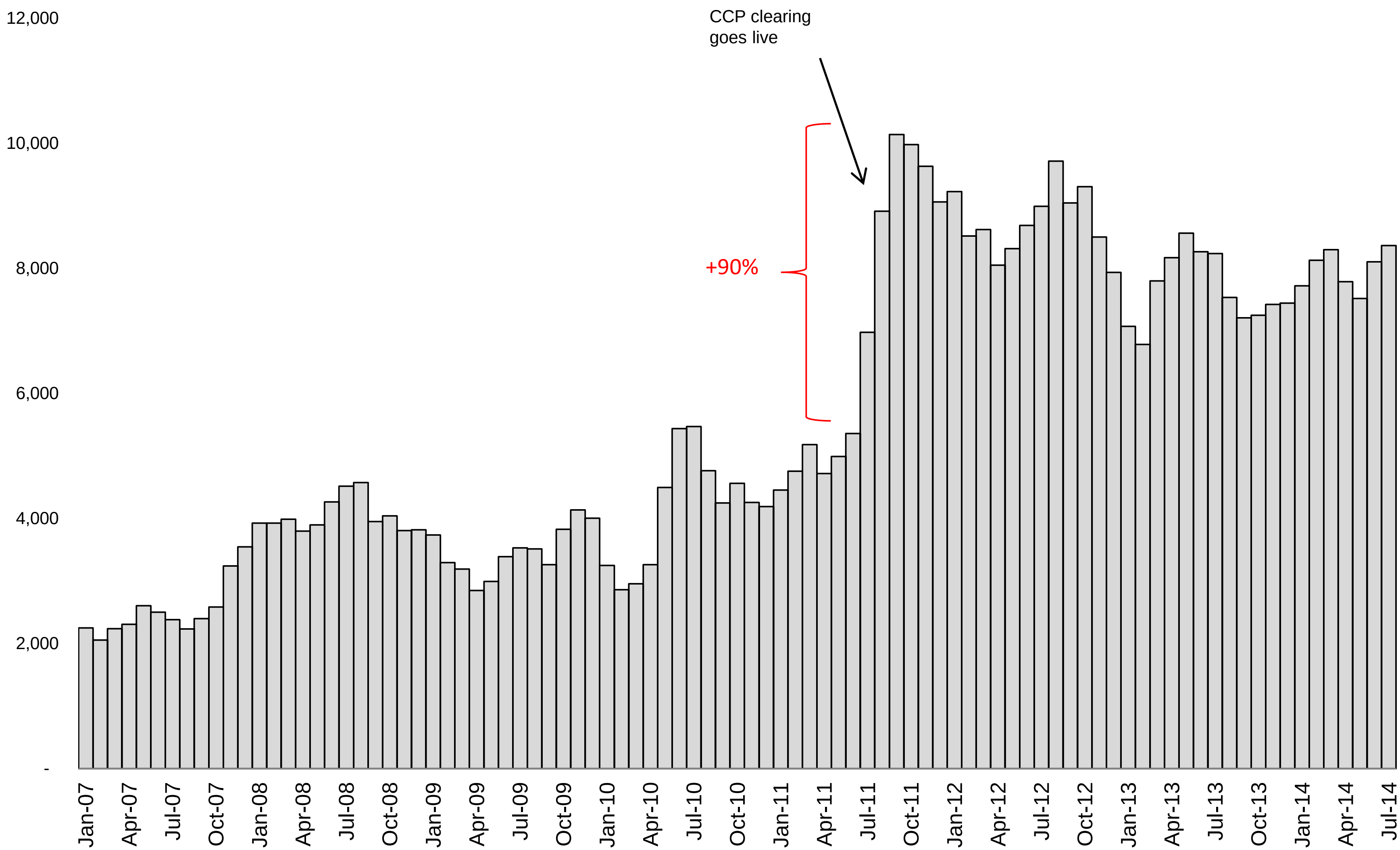


Source: LCH

Impact on the Market

In Chile, the introduction of a CCP helped increase volumes by 90%

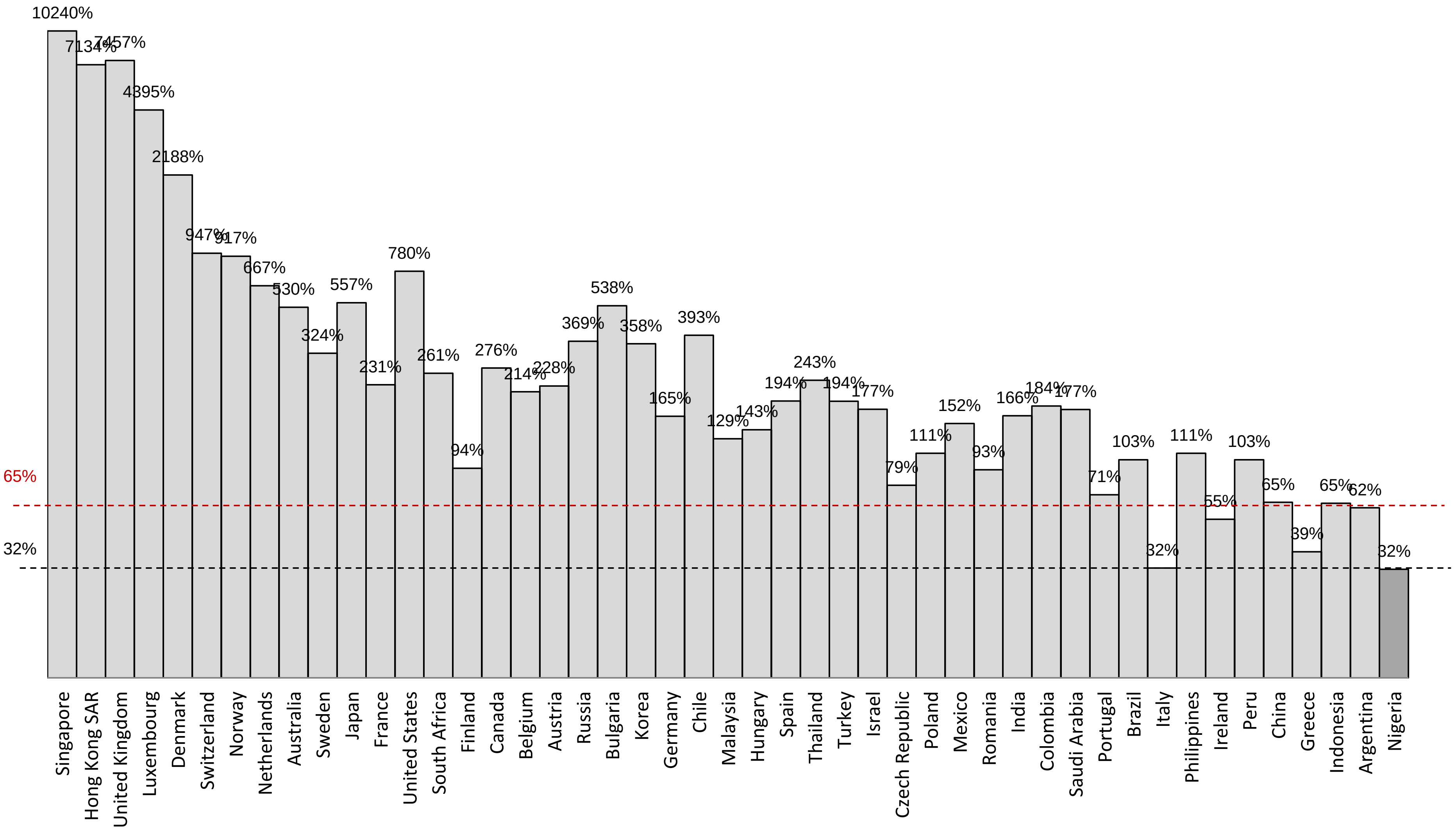
BCS # of trades



Source: BCS

In Nigeria, a CCP could at least double spot FX penetration levels

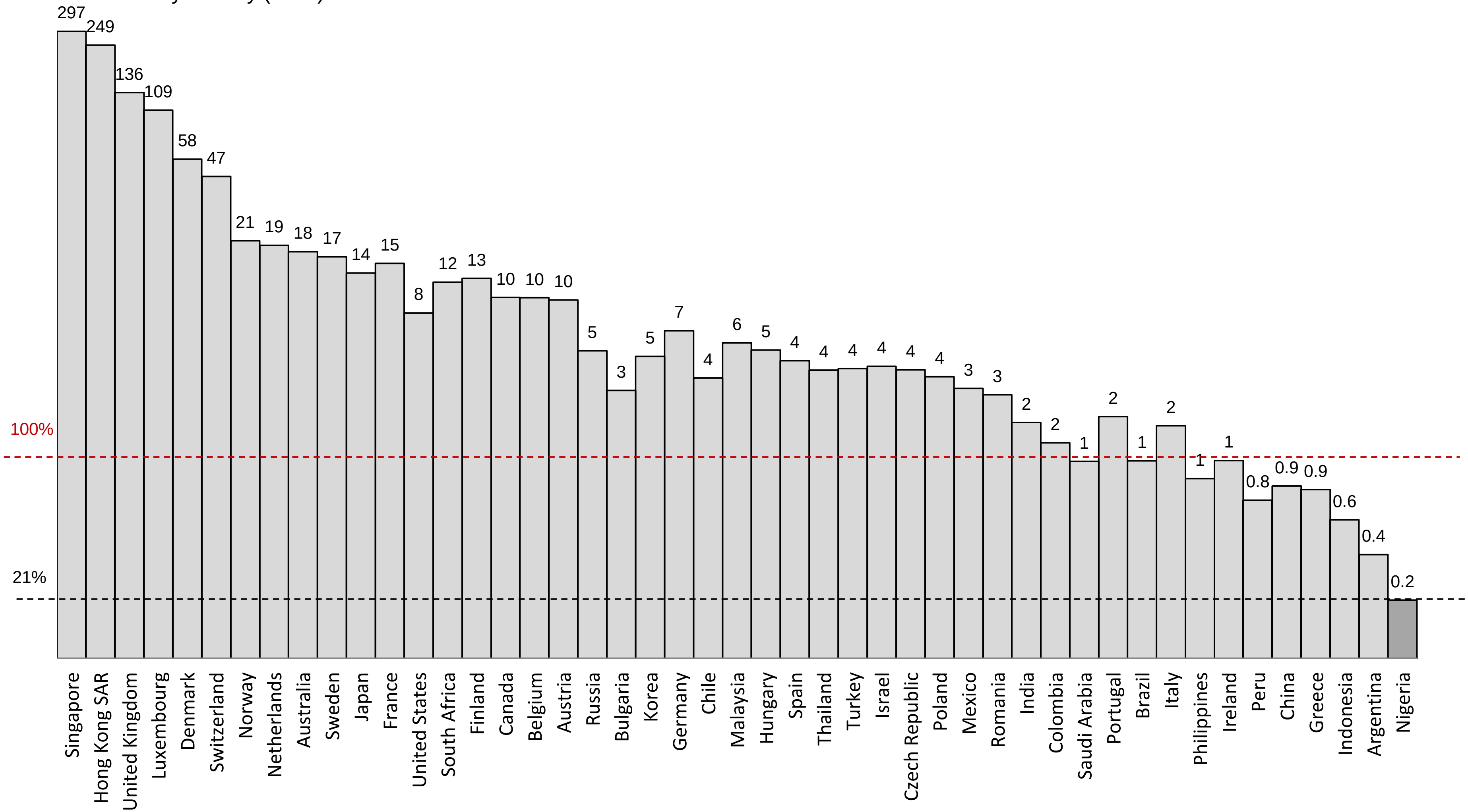
Spot FX turnover to GDP
FX turnover by country (2016)



In FX derivaties, penetration levels can expand 5x in line with other emerging markets

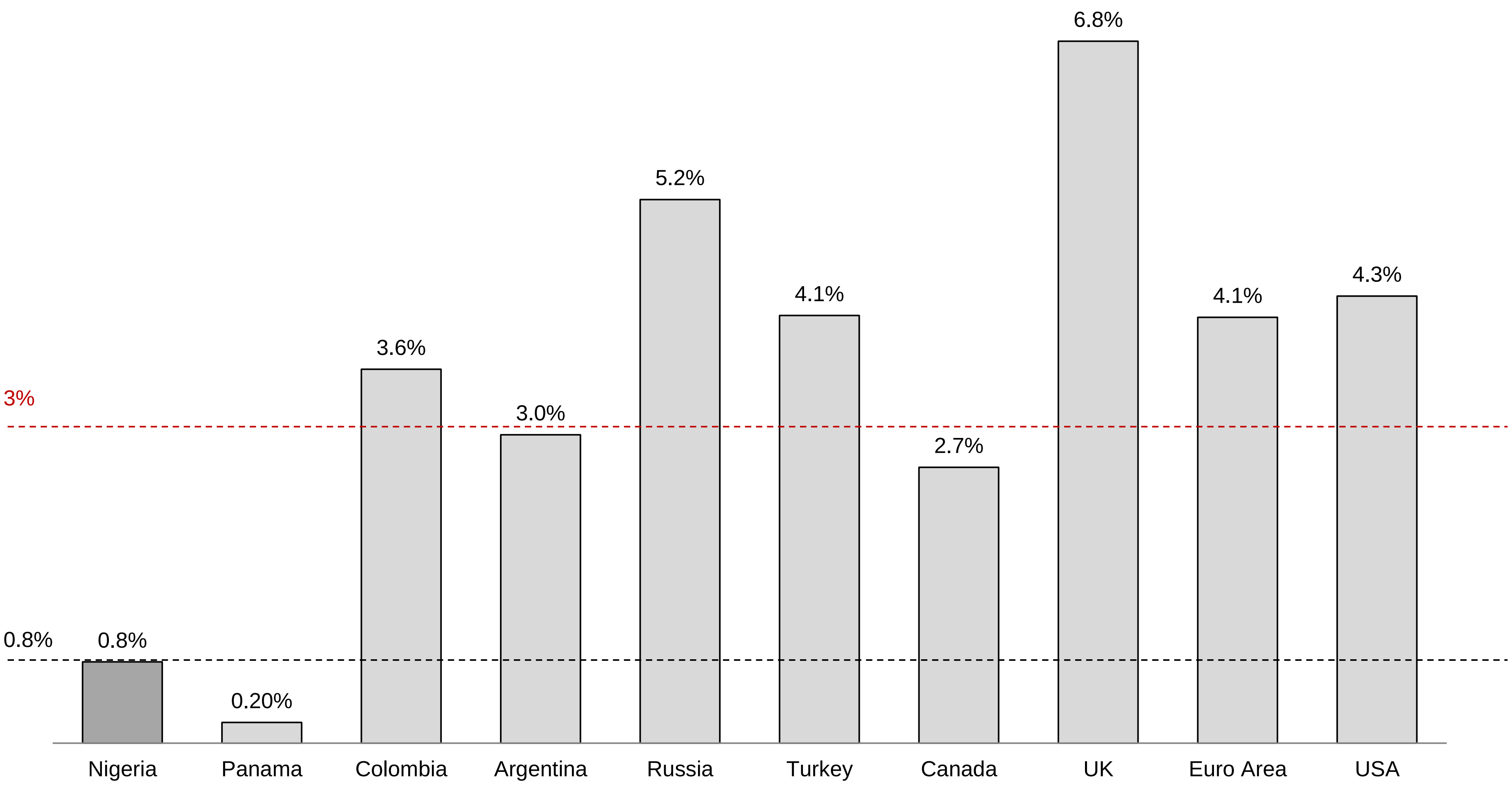
FX derivatives turnover to GDP

FX turnover by country (2016)



In Repos, penetration can expand 4x to reach 3% of bank deposits, in-line with other EMs

Repo outstanding / bank deposits
(2016)



A CCP would result in the following benefits for the market and the economy:

Users

- Gain access to new efficient tools for hedging and investing
- Lower the cost of trading

Participants

- Lower capital and collateral requirements
- Find an opportunity to increase revenues and profitability

Market

- Increase volumes and liquidity
- Increase transparency and strengthen market integrity

Economy

- Help lower the interest rates in the economy
- Reduce systemic risk