



## Does the leverage ratio have an adverse impact on client clearing?

In the wake of the 2008 global financial crisis, the members of the G20 agreed to increase incentives for central clearing in order to mitigate counterparty risk in the financial system. In the past few years, however, tensions have started to appear in the client clearing market. One reason often cited for this is the introduction of the leverage ratio, as the measure does not take into account the initial margins collected by clearing members from their clients as part of derivative transactions.

While this failure to recognise initial margins is consistent with the objective of the leverage ratio – to provide a non-risk based measure as a backstop to the solvency ratio – penalising client clearing activities poses risks to financial stability that warrant further analysis.

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JEL codes  
G21, G23,  
G28

### September 2009

The G20 leaders at the summit in Pittsburgh make central clearing mandatory for all standardised, liquid over-the-counter (OTC) derivatives.

### December 2010

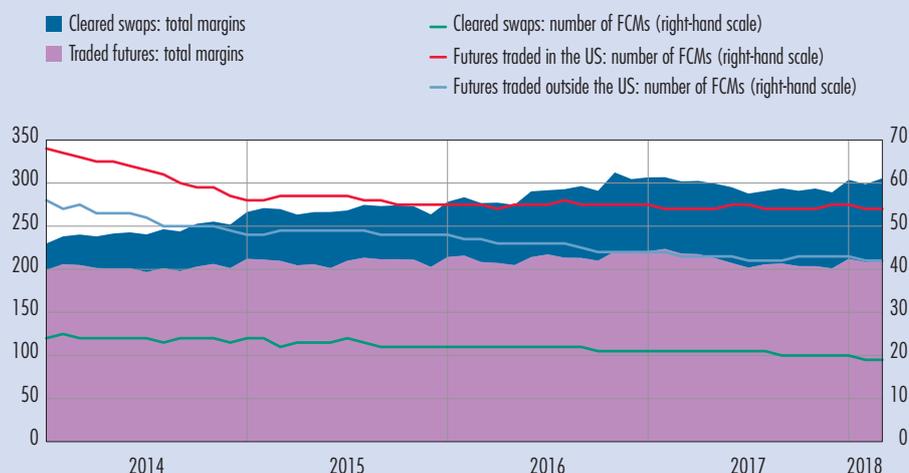
The Basel III Accord introduces the leverage ratio.

### Close to 60%

share of the clearing activities of the two largest members of each central counterparty (CCP) that are carried out on behalf of clients, in the majority of cases.

### Client clearing in the United States

(left-hand scale: margins collected from clients, in USD billions; right-hand scale: number of agents [futures commission merchants – FCM] by market segment)



Sources: Commodity Futures Trading Commission (CFTC) and Futures Industry Association (FIA).



### 1 The Basel Committee is conducting a review of the impact of the leverage ratio on client clearing

Under the current leverage ratio framework (see Box 1), clearing members offering client clearing services for derivatives are not allowed to deduct the initial margins collected from clients from the denominator of their ratio (see Box 2). This is consistent with the logic behind the ratio, which is that it should provide a non-risk based

measure of exposure and should not therefore take into account banks' credit risk mitigation techniques (including initial margin requirements).

In April 2016, the Basel Committee launched a consultation on the proposed revisions to the leverage ratio framework. Respondents stressed that the measure could undermine clearing members' ability to continue offering client clearing services. Their main contention was that the leverage ratio ignores the exposure-reducing effect of initial margins.

#### BOX 1

##### What is the leverage ratio?

The leverage ratio is a prudential instrument that measures the ratio of a bank's own funds to its total on- and off-balance sheet exposures. It was put in place in 2010 by the Basel Committee, a forum for international cooperation comprising the central banks and supervisors of 28 countries and tasked with defining common prudential standards for global banks.

Introduced as part of the Basel III framework,<sup>1</sup> the leverage ratio is a simple measure designed to complete the range of tools available to prudential supervisors. It has a twofold objective: i) to prevent excessive increases in the size of bank balance sheets, and ii) to reduce the model risk inherent in the solvency ratio. The latter was introduced under the Basel I Accord (1988) and modified by the Basel II Accord (2004), and is aimed at ensuring that banks hold sufficient capital to cover their risk exposure. To achieve this, it requires that bank exposures be weighted by a factor reflecting the associated risk. This has the advantage of adapting capital requirements to the actual level of risk incurred by the bank. However, it also has a downside linked to the uncertainty of the models used.<sup>2</sup> As a result, the leverage ratio was introduced as a backstop to the solvency ratio and is a non-risk based measure, meaning that bank exposures are not risk weighted and risk-mitigating techniques (such as the collection of collateral to guarantee an exposure) are not taken into account.

The leverage ratio was initially implemented as a Pillar 2 requirement, which meant it was calibrated specifically for each individual bank. In 2018, however, it migrated to Pillar 1 treatment at the international level (i.e. the same calibration is applied to all banks),<sup>3</sup> and was set at a minimum level of 3% with an additional surcharge applied for systemic banks. Since 2015, banks have been required to publicly disclose their leverage ratio.

$$\text{Leverage ratio: } \frac{\text{Tier 1 capital}}{\text{On- and off-balance sheet exposures}} \geq 3\%$$

1 The rules laid down by the Basel Committee (known as standards) set the minimum requirements that banks and supervisors must meet. Basel Committee standards are not legally binding. However, Committee members have a moral obligation to incorporate them into their legal and regulatory framework. Within the European Union, Basel Committee standards are usually incorporated into EU legislation. Basel III refers to the overhaul of standards initiated following the 2008 financial crisis and completed in 2017 – see Basel Committee on Banking Supervision (2017), *Basel III: finalising post-crisis reforms*, December.

2 "Model risk" is the risk that a model might underestimate or overestimate an entity's risk exposure.

3 In Europe, the migration to Pillar 1 will be effective once the revised Capital Requirement Regulation (CRR2) currently being discussed by legislators (European Parliament and Council of Ministers) enters into force – see also Box 3.

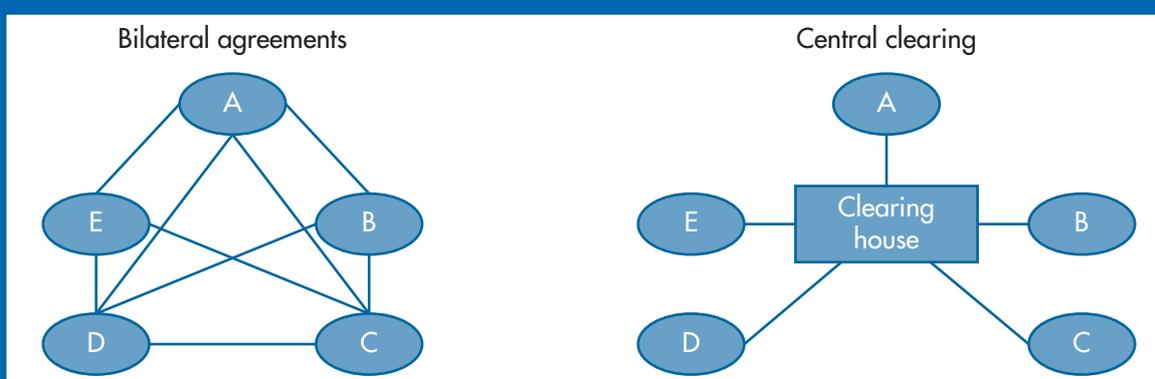


### BOX 2

## What are central clearing, initial margins and the central clearing obligation?

### Central clearing and initial margins

In **central clearing**, a central counterparty (CCP) interposes itself between the counterparties to a transaction (see diagram below) and becomes their single counterparty, acting as the buyer to every seller and the seller to every buyer, in accordance with the principle of novation.<sup>1</sup> The CCP therefore concentrates all the counterparty risk – that is the risk that a counterparty to the transaction might default before all associated commitments have been settled.



Institutions dealing directly with the CCP are called “clearing members”. As members of the CCP are required to meet certain operational, legal and financial requirements in order to limit the risk incurred by the CCP, they generally take the form of financial institutions, and in particular banks. To manage its counterparty risk, the CCP requires its members to post collateral (**initial margins**<sup>2</sup> and **variation margins**<sup>3</sup>) and to contribute to a mutualised default fund that will be used in the event of a member’s default. Clearing members must also be capable of taking the positions of a defaulting member onto their books.

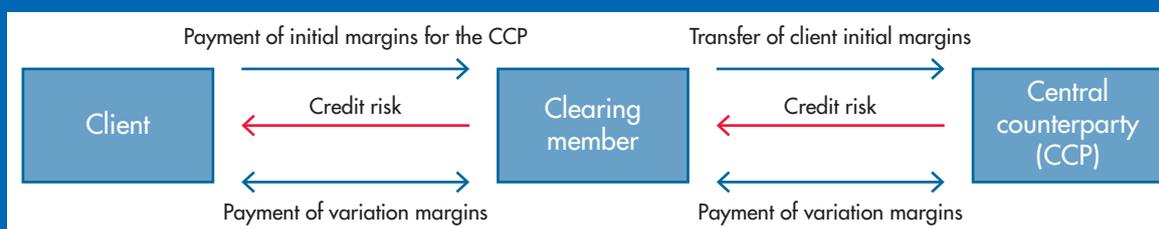
Clearing members fall into two categories: individual clearing members which only handle proprietary transactions, and general clearing members which handle both proprietary and client transactions. Where a member operates on behalf of a client, this is known as **client clearing**. In this case, the member acts as an intermediary between its client and the CCP, and all or part of the associated financial flows (margins, settlements) transit through it.

1 Novation is a legal substitution mechanism whereby the existing contractual obligations between the parties are cancelled and replaced (e.g. substitution of one of the parties to the contract). In the case of central clearing, a third party (a CCP) steps in between the original parties to the contract, becoming counterparty to each of them, and is tasked with fulfilling the contractual obligations of the original parties. The CCP thus becomes the buyer to the seller and the seller to the buyer.

2 Initial deposit required to cover potential losses stemming from movements in the market value of derivatives positions that need to be liquidated or replaced in the event of a default by a counterparty.

3 Payments covering gains or losses stemming from movements in the market value of open positions.

.../...



### The central clearing obligation

Following the 2008 financial crisis, the G20 members agreed to increase incentives for central clearing in order to mitigate counterparty risk in the financial system, and notably decided to make central clearing mandatory for standardised, liquid over-the-counter (OTC) derivatives. The decision, taken at the G20 Summit in Pittsburgh in September 2009, was subsequently implemented in the European Union under the EMIR regulation<sup>4</sup> and in the United States under the Dodd-Frank Act.<sup>5</sup>

Mandatory central clearing currently only applies to interest rate and credit derivatives. In the case of interest rate derivatives, it came into effect in the United States in February 2013, and in the EU, for clearing members, in June 2016. For credit derivatives, the obligation also came into effect in the United States in February 2013, while in the EU it was introduced for clearing members in February 2017.

<sup>4</sup> Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories. EMIR: European Market Infrastructure Regulation.

<sup>5</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act, 2010.

According to the profession, this lack of recognition of initial margins as a risk mitigant would generate additional costs for clearing members' clients, as well as making client clearing less profitable and increasing

the risk of sector concentration. It would also reduce incentives for central clearing, thereby undermining the goal set by the G20 of ensuring more transactions are centrally cleared.

### BOX 3

#### Implementation of the Basel standard in Europe and the United States

Contrary to the position adopted by the Basel Committee, the revision to the Capital Requirement Regulation (CRR2)<sup>1</sup> proposed by the European Commission in November 2016 allows for the recognition of the exposure-reducing effect of initial margins (IM offset) in the calculation of clearing members' leverage ratios.

Similarly, in the United States, one of the draft bills approved by the House of Representatives Financial Services Committee on 21 March 2018 was a measure allowing client margins collected for centrally cleared derivatives to be deducted from the denominator of the leverage ratio (known as the supplementary leverage ratio in the United States).

<sup>1</sup> Proposal of 23 November 2016 for a regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements and amending Regulation (EU) No 648/2012.



In the agreement finalising Basel III, published on 7 December 2017, the Basel Committee decided not to allow the offsetting of initial margins in the calculation of clearing members' leverage ratios. However, it agreed to conduct a review of the impact of the leverage ratio on clearing members' activities by January 2019. The review is being carried out in coordination with the Financial Stability Board (FSB), which has been tasked with assessing the effectiveness of the central clearing incentives for OTC derivatives in the post-crisis reforms ahead of the G20 summit at the end of 2018.

## 2 Some of the recent changes in client clearing may have been caused by the leverage ratio

### Supply pressures have been observed in the client clearing market since the implementation of Basel III

Since 2002, there has been a decline in the number of client accounts held with clearing members (futures commission merchants – FCMs) in the United States (see chart below). Between 2002 and the 2008 crisis, this can be explained by the trend towards sector

consolidation. Since the crisis, however, the continuing decline could be attributable not just to ongoing consolidation, but also to certain regulatory changes in the United States and to the post-crisis regulatory framework. It is likely that the introduction of mandatory central clearing under the 2010 Dodd-Frank Act initially prompted banks to invest in client clearing in anticipation of a rise in volumes. However, this was probably followed, as of 2014, by a gradual withdrawal of banks from these activities, which may be attributed to the implementation of Basel III.

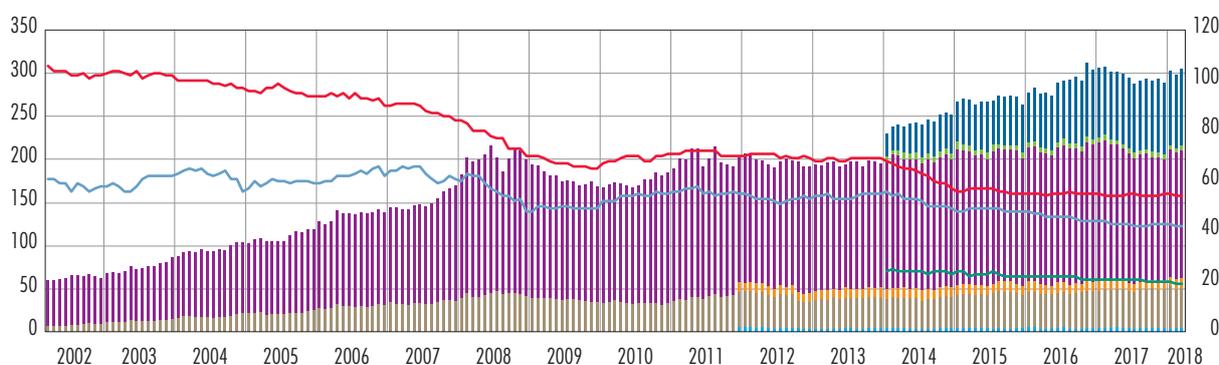
In a speech dated June 2017, the Chairman of the Commodity Futures Trading Commission (CFTC), J. Christopher Giancarlo, highlighted a fall in the number of FCMs in the United States,<sup>1</sup> and noted that several banks had exited the market, including State Street, The Bank of New York Mellon, Nomura, Royal Bank of Scotland and Deutsche Bank.

Studies by the Banque de France and the *Autorité de contrôle prudentiel et de résolution* (ACPR – Prudential Supervision and Resolution Authority), including interviews with market participants, confirm that demand

### Evolution of client clearing in the US, 2002-18

(left-hand scale: funds received from clients, in USD billions; right-hand scale: number of participants [futures commission merchants – FCM] by market segment)

- Cleared swaps: required margins
- Cleared swaps: excess margins
- Futures traded in the US: required margins
- Futures traded in the US: excess margins
- Futures traded outside the US: required margins
- Futures traded outside the US: excess margins
- Cleared swaps: number of FCMs (right-hand scale)
- Futures traded in the US: number of FCMs (right-hand scale)
- Futures traded outside the US: number of FCMs (right-hand scale)



Sources: Commodity Futures Trading Commission (CFTC) and Futures Industry Association (FIA).

<sup>1</sup> <http://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-22>



for central clearing is rising as a result of regulation. Clearing members are also looking more closely at how the business is affecting their capital requirements.

Several clearing members say they are willing to accept new clients, which could indicate that they still have spare capacity. However, the same members also say that the cost of providing client clearing services is rising, notably as a result of regulation, and that this is being passed on to clients in the form of higher prices. A number of clearing members are also reported to have partially or completely exited the market, which chimes with the comments made by the Chairman of the CFTC. This could in part explain the increase in demand for client clearing, as some institutions have noted clients looking for more than one clearing member to ensure they still have access to services in the event one member exits the market.

End-users of client clearing services also appear to have noted supply pressures. Some report that clearing members are restricting the range of collateral they accept, either in terms of quality or by applying additional haircuts. Clients also say that certain members have either stopped their activities altogether or frozen their customer base. They have also noticed changes in pricing policy, with some clearing members raising their prices and/or adjusting the way they charge for services.

Clearing members use a range of techniques to mitigate their risk exposure, including asking clients to compress their transactions, which consists in optimising the number of exposures between counterparties. However, this is not always suitable for directional portfolios (where positions do not match but instead have either a strong buy or sell bias), where the buy and sell positions can only be offset to a limited extent or not at all. Moreover, CCPs are broadening access to their services by allowing clients to participate directly, generally with the backing of a traditional clearing member (see section below on sponsored clearing).

### **New models such as “sponsored clearing” are emerging in response to the reduced availability of client clearing**

The increased incentives for central clearing have pushed CCPs to develop new “direct access” models for clients

in order to limit the impact of the leverage ratio on clearing members. This trend may also be attributable to the decline in the availability of client clearing services.

Several CCPs now allow end-users to become direct participants via a so-called “sponsored” access arrangement where a clearing member acts as the “sponsor”. The latter is responsible for contributing to the default fund and for participating in auctions in the event of a third-party default. For clients (e.g. insurers, pension funds), the arrangement has the advantage of allowing them to have a segregated position on the CCP’s books, while also providing increased security. Clients have direct access to the CCP, but without having to meet the usual requirements for direct membership. For the sponsors, in those cases where they are not required to guarantee client transactions, the model has the benefit of reducing their capital requirement.

This type of participation has been authorised in at least two EU countries and is currently used by three CCPs: ICE Clear Europe Ltd, Eurex Clearing AG and LCH Ltd. In the United States, only one sponsored access model exists – that of CME Clearing which was set up at end-2016 and closely resembles that of ICE Clear Europe Ltd.

Not all these models lead to a reduction in the sponsor’s leverage ratio capital requirement (see Box 4). At this stage, banks appear to be more interested in using these models for their repo transactions, as the methods for calculating exposure to these activities under the leverage ratio framework are more conservative than for derivatives. Certain end-clients have expressed an interest in sponsored clearing, but many feel that the associated operating costs are too high.

### **The role of the leverage ratio in shaping these developments**

It is difficult to isolate the specific role played by the leverage ratio in shaping developments in the client clearing market. However, market participants regularly cite the leverage ratio as one of the main obstacles to their activities – alongside other prudential measures such as the net stable funding ratio (NSFR).



### BOX 4

#### Treatment of sponsored clearing under the leverage ratio framework

The impact of sponsored clearing on clearing member agents (i.e. the sponsors) depends on the specific terms of the arrangement and the risks to which the sponsor remains exposed.

If the clearing member/sponsor guarantees the commitments of the sponsored client vis-à-vis the CCP, then it remains exposed to that client. Under current regulations, it must therefore continue to include that exposure in its ratio denominator, in the same way as it would for a direct client. Conversely, if the clearing member does not guarantee the sponsored client's commitments to the CCP, it does not have to include that exposure in its denominator. This treatment reflects the clearing member's reduced exposure to the client.

One question that arises, however, is whether or not the sponsor has an implicit obligation to support the client if it gets into difficulty (step-in risk<sup>1</sup>). In general, supervisors need to monitor these arrangements closely, and analyse contracts to determine whether they include any implicit guarantees and thus avoid any undue reductions in capital requirements.

<sup>1</sup> Risk that a bank might support an ailing client beyond its contractual obligations in order to preserve a commercial relationship or avoid a reputational risk.

In a report dated June 2017,<sup>2</sup> the US Treasury estimated that, because of the low-margin and high-volume nature of the business of providing client clearing, high leverage ratio capital charges discourage firms from providing such services. According to CFTC estimates cited in the report, recognising the exposure-reducing effect of initial margins in the calculation of the leverage ratio would reduce bank capital requirements by only 1% but would reduce clearing costs by 70%.

<sup>2</sup> US Department of the Treasury (2017), *A financial system that creates economic opportunities – Banks and credit unions*, June.

<https://www.treasury.gov/press-center/press-releases/Documents/A%20Financial%20System.pdf>

<sup>3</sup> BCBS, CPMI, FSB and OICV-IOSCO (2017), *Analysis of central clearing interdependencies*, July. Analysis of data from the 25 largest clearing members of 26 different CCPs. <http://www.fsb.org/wp-content/uploads/P050717-2.pdf>

Similarly, market participants frequently cite the increase in capital requirements in recent years as a barrier to the expansion of client clearing, and single out the leverage ratio – and in particular the lack of recognition of initial margins – as the main constraint. Some market participants say that these constraints are being passed on in the form of higher clearing costs for end-users.

### 3 The supply pressures observed in the client clearing market could have negative consequences for financial stability

The decline in the number of clearing participants is leading to increased sector concentration and making the remaining players more systemically important. In his June 2017 speech, the CFTC Chairman (see footnote 1) said that in some US exchange traded derivatives (ETD) markets, nearly half of all transactions are cleared by just three or four FCMs.

Similarly, an international report on central clearing interdependencies published in 2017<sup>3</sup> found that, although client initial margins represent, in the majority of cases, less than 5% of the total margins posted to CCPs by clearing members, for the two largest members of each CCP, they account for more than 60%.

This increased sector concentration poses a risk to the portability of positions in times of stress. Indeed, during periods of tension, CCPs increase their margin requirements while bank capital levels fall, making it harder for banks to accept positions from defaulting clearing members. If a defaulting member's positions cannot be "ported" (i.e. transferred), then the CCP is obliged to liquidate them, potentially causing spillover effects in the markets.

Sponsored clearing arrangements where the clearing member/sponsor does not guarantee client transactions can also change the risk profile of the CCP, as sponsored clients (pension funds, investment funds, insurers) tend to have a different risk profile from traditional clearing



members. Some (e.g. insurers) have a directional risk profile, while others (e.g. non-financial corporations) are not subject to supervision. In addition, clients may have assets that are not eligible as collateral with the CCP, whereas regular clearing members are able to offer a collateral transformation service. Moreover, where clients have direct access to CCPs, responsibility for evaluating those clients and managing any defaults is transferred to the CCP. Lastly, sponsored clients with directional positions may have difficulty taking on the positions of another CCP member in the event of a default.

## 4 Conclusion

Initial analyses by the Banque de France and ACPR show that banks have seen a rise in demand for central clearing over the past few years, notably as a result of the new regulations and obligations, and that some appear capable of absorbing this demand.

There are nonetheless signs of tensions in the central clearing market. Although this cannot be attributed solely to Basel III – there has been a trend towards consolidation since the start of the 2000s – a number of market participants have ceased their activities in recent years, leading to increased sector concentration and a heightened risk of non-substitutability. Banks are also keeping a closer eye on the costs related to central clearing, which,

according to end-users, is leading to higher prices, restrictions on the range of collateral they can post and increased pressure to compress transactions. In parallel, CCPs are developing direct participation models for clients, which will enable them to meet rising demand while also reducing the impact of new regulations on clearing members.

It is relatively difficult to pinpoint the specific role played by the leverage ratio in shaping trends in the market, even though it is regularly cited by participants as one of the factors behind the current supply pressures.

These pressures pose a potential risk to financial stability. Increased sector concentration poses a risk to the portability of positions in times of stress. Moreover, the decline in the availability of client clearing services is making it harder for certain clients to hedge their exposures – in particular market participants with directional positions such as insurers, pension funds, certain asset managers, sovereign counterparties and corporations. Lastly, sponsored clearing arrangements where client transactions are not guaranteed by the clearing member are altering the risk profile of CCPs.

Consequently, allowing initial margins to be deducted from the leverage ratio denominator would attenuate some of the negative effects of the measure on client clearing.

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