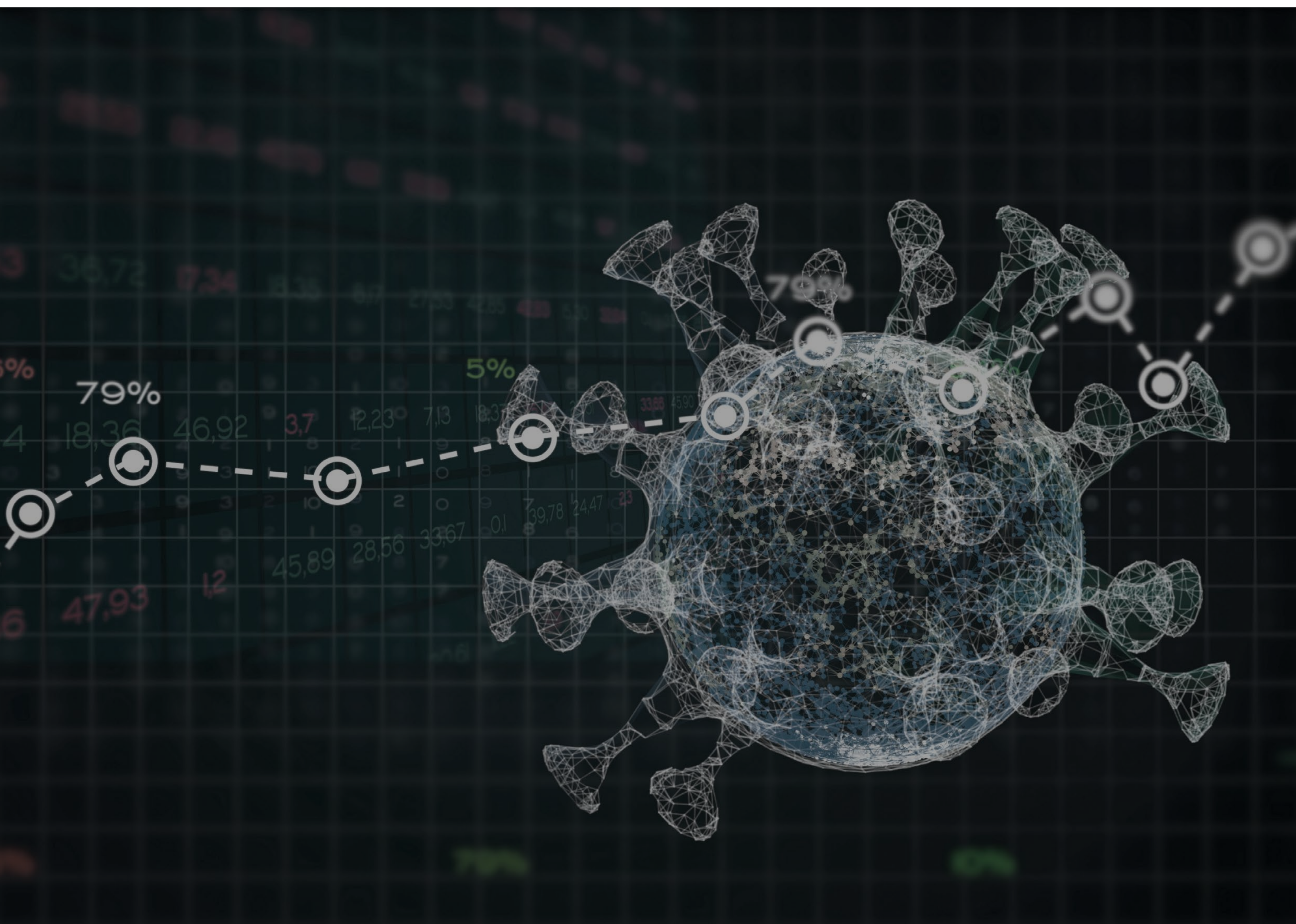
CAPCO

HAS MARKET INFRASTRUCTURE MADE THE GRADE DURING COVID-19 SO FAR?



SPEED READ

- The financial markets global infrastructure has largely performed successfully and has managed the spike in volatility and volumes well. This can largely be credited to the global reforms put in place following the events of 2008.
- Regulatory authority's globally will be reviewing events carefully and factor in actual problems observed to inform future regulatory driven resilience reforms.
- A spotlight has been shone on the need for firms that operate in this space to become more automated, efficientc and data driven. This was an existing trend but one which will now be further accelerated.

BACKGROUND

While we are six months into the new world of the COVID-19 pandemic, and three months since western markets took a substantial hit, the time has come to pause and review how the 'machinery' of financial markets has fared. Perhaps due to my recent posting as 'Professor Daddy' during home-schooling, I thought it best to give a letter grade, mark areas for improvement, and what lessons can be learned for the future.

After the financial crisis in 2008, the collapse of credit, failure of certain banks, and increased volatility in all markets proved that exchanges, central counterparty clearing houses (CCPs) and general clearing members (GCMs) had successfully made the transition from open outcry members clubs to robust, electronic platforms that performed their primary task: accurate price discovery and successful transfer and mitigation of risk. CCPs had fully priced, cleared, settled and auctioned their positions, and then returned excess margin to the Lehman estate, all within a few days.

When compared with the OTC lawsuits in bankruptcy court that lasted seven years, market professionals and regulators deemed financial market infrastructure (FMI) to be the solution to banking's opacity. At the G20 Summit in Pittsburgh in 2008, global leaders clearly stated[1] that global rules needed to be standardized, institutions and processes more resilient, and that markets should be encouraged to embrace FMI's CCP risk models, transparent audit capability, and mandatory reporting.

1. https://www.fsb.org/wp-content/uploads/r_101025.pdf

BACKGROUND (CONTINUED)

To be fair, with newfound opportunities come new responsibilities, and regulators enacted new laws to bolster the operational requirements of FMIs. IOSCO published the PFMI[2] (Principles of Financial Market Infrastructure in 2012), laying out twenty-four principles to better manage market risk in financial market infrastructure. The US followed up by creating the Financial Stability Oversight Council (FSOC), a provision of the Dodd-Frank legislation to oversee FMIs. The FSOC deemed eight FMIs to be SIFMU, or Systemically Important Financial Market Utilities, which were subject to additional requirements including risk management frameworks, liquidity provision, recovery and resolution of CCPs and governance.

Some large banks were not altogether pleased with the bright, positive spotlights shown on FMIs, whilst the sell-side capital markets were subjected to increased capital requirements and an effective banning on principal trading. Calls rang out for CCPs to "Put more skin in the game", or to modify CCP waterfall risk modelling, where the last stage before total CCP default in a stressed scenario is the capital of said CCP. Since these changes, the banking industry ROE has largely dropped below 12 percent[3], whereas the for-profit FMIs have grown their market cap five-fold.

Another key tenet was reporting. After the Brazilian FX squeeze in 2002, the Brazilian regulators used a carrot-and-stick approach to improve this view on systemic risk. By granting capital gains tax relief only on OTC trades reported to a central trade repository, market participants were incentivized to report 99 percent of all activity. When the 2008 financial crisis hit, regulators were able to have a precise picture of bank exposures through BVF&M's CCP and CETIP's trade repository, thus limiting systemic risk.

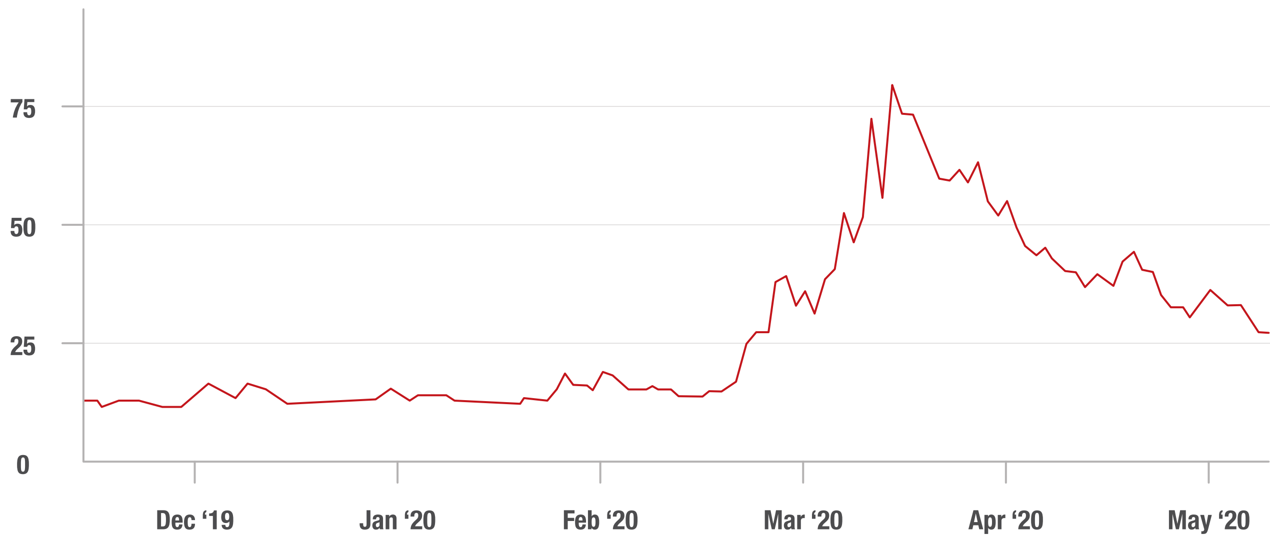
2. https://www.bis.org/cpmi/publ/d101a.pdf
3. https://www.ppeexchange.co.uk/

CHANGES MADE

All the while, FMIs began implementing new rules and processes, building robust operational risk frameworks, detailing risk and recovery resolutions, all for the purpose for national authorities and central banks to better understand counterparty risk and systemic exposure, and mitigate the impact of a theoretical CCP default and subsequent bailout. The new rules made sure that CCPs' critical functions are preserved while maintaining financial stability and helped to avoid the costs associated with the restructuring and the resolution of failing CCPs from falling on taxpayers.

So, to that letter grade. How did these human-made risk mitigation and price discovery processes fair in the current COVID-19 crisis? Overall, market infrastructure performed well, albeit with a few issues, deserving an 'A-' mid-term grade.

Financial volatility in western markets began rising as rumors of an epidemic came from China in late February 2020, gradually rising above 66 on March 27th (see graph below). Historically, the volatility is below 20, and markets become much less liquid and difficult to trade above 25. The volatility did not hit the record set in Oct 2008 of 79, but the sustained market conditions were similar and provide an accurate comparison.



Cboe VIX volatility six-month chart

MARKS AGAINST

In an event as massively disruptive as this global pandemic, which triggered every FMI business continuity playbook, even the Bank of England's operational resilience guidelines[4] do not expect perfection. Still, several events did occur that merit analysis and investigation:

Ronin Capital, a large Chicago-based proprietary trading firm, was on the wrong side of a volatility gamma short squeeze, and subsequently were unable to meet their margin requirements and suffered default. ABN-Amro, their clearing member had to step in and cover $200M of their losses[5], and the CME Group had to auction their portfolio as Ronin was unable to meet their position. So, the system worked, but the hard lesson is that a clearing member is only as good as its weakest client, as that client's failure to accurate measure their trading clients' risk can trigger the need to use other clients' margin on account. High market volatility levels can test the best of any risk management system, yet the industry may want to focus on enhancing real time micro risk monitoring.

Deutsche Boerse suffered a four-hour trading outage on April 13th [6], one of the longest stoppages for the normally resilient DB1 systems. The outage was caused by a malfunction in the internal communication of the trading system, and DB1 was at great pains to inform the market that it was not a cyber incident. Moreover, DB1 hosts the Xetra trading platform for several small markets (in Prague, Vienna, Budapest, Malta, Zagreb, Sofia and Ljubljana, and these systems were also impacted. Normally, market technology on an MSA operates separate incidences for each exchange, but the overall communications failure will bring questions to several competent authorities on outsourcing of technology and systemic risk.

CME Group did an excellent job of anticipating the double oil shock of 35 percent decreased demand with overproduction. Weeks prior to the crisis, CME engineered and tested negative pricing on their Globex trading platforms. Historically, negative pricing is very rare in trading, occurring only in non-storable commodities like power. The matching engine performed admirably, as did the price discovery model; WTI benchmark futures pricing, with feared shortages of storage in Cushing, accurately provided trading pricing on the last day of trading. Alas, some traders in the market were caught in the settlement/storage squeeze and laid bare the underlying issues of having a global physical commodity benchmark based in landlocked Oklahoma. A CFTC and DoE regulatory review of storage and pipeline participants is likely to follow.

Exchanges have generally transitioned to remote working without a hitch. Most exchanges have kept minimal office staff on-site for system monitoring, and to hedge a remote broadband outage. Since FMIs have very tight data and communication policies, new ways of working, either by Skype, Teams or WebEx, have worked internally, but not allowed seamless interaction with the outside world, namely members and customers. Whilst BAU has been consistent, new business and change management has been impacted. FMIs are still struggling with the difficult balance between data security and new forms of productivity.

Digital currencies have not proven to be the new 'gold standard' (or for that matter asset classes seen as a flight to quality), with sparse liquidity and uneven flows over the period. Despite COVID-19 possible virus transmission on actual metal and paper cash/fiat currency, it seems that digital market structure must further evolve the ecosystem to be proven credible.

4. https://www.bankofengland.co.uk/prudential-regulation/publication/2018/building-the-uk-financial-sectors-operational-resilience-discussion-paper
5. https://www.thetradenews.com/abn-amro-confirms-200-million-hit-clients-failed-margin-call/
6. https://www.marketscreener.com/DEUTSCHE-BORSE-AG-449617/news/Deutsche-Borse-Technical-glitch-halts-trading-on-Frankfurt-stock-exchange-for-four-hours-30409255/

GOOD WORK

Let's look at the successes.

- Save for one incident, risk transfer model of the CCPs and clearing members worked well, and there were no CCP defaults
- Matching and clearing largely performed well across all asset classes and were able to cope with increased volumes and order flow
- Liquidity and market maker activity was robust during higher periods of trading and remained strong through April 2020
- Circuit breakers on exchanges worked to plan, giving the markets time to pause before resuming trading
- Regulators admirably fought social media and political pressure to keep the markets open
- The last vestige of open outcry trading, the LME, was forced to temporarily close **Ring Trading** price discovery and settlement was seamlessly moved to their electronic platform, and liquidity has broadly stayed strong

ROOM FOR IMPROVEMENT & NEXT STEPS

Going forward, it is helpful to frame the current crisis into three phases to determine how to prioritize the efforts required in the changing landscape:

1. **Rapid response, or fixing immediate, burning issues.** Thus far, FMIs have done fairly well during the 'fog of pandemic' and the inevitable regulatory post hoc review will show that the system worked.

2. **Adopt and enhance.** FMIs must adapt to new ways of working, and become digital at pace, by:

a.) Developing and optimising the new ways of working to improve efficiency

b.) Digitization of more key processes, including improving payments, settlement times and risk management

c.) Review and redesign customer and members journeys to enable digital channels of communication, including automated reporting

d.) Planning for the return and reintegration of the workforce, and to adjust to a bifurcated customer landscape

e.) Enable automation at enterprise scale, to improve integration and communication between large corporate groups and their customers;

f.) Continue cybersecurity assessment and risk mitigation, while resolving data protection issues with newer technologies such as cloud and video conferencing

g.) Focus on operational resilience and understanding what your customers and members need in terms of services and tolerance levels

h.) Reviewing cost optimization and reduction of non-accretive revenue streams

3. **The 'new normal'** will see FMIs evolving their operating models over the next six months; FMI's primary clients, sell-side clearing and trading members, and buy side trading firms, are changing and adapting at record pace, and FMIs need to actively coordinate and adjust. New issues will include:

a.) Supporting a dynamic work environment. Many FMIs are already planning on new remote working models, either weekly shifts or changing smaller meeting rooms to allow work-home video conferencing

b.) Post-pandemic economic downturn and recession environment will put capital pressures

c.) Launching new products to deal with increased central bank liquidity activity

d.) Define 'new normal' scenario testing models

e.) Building resilience and agility into technology and agreeing industry tolerance levels for member and customer requirements

FMI OPERATIONAL RESILIENCE

Much of the FMI sector is highly regulated, and global competent authorities have endeavored since the last crisis to fortify rules and regulations to ensure systemically important market utilities could handle black swan market impacts. In 2018, the Bank of England led global regulators in their push for operational resilience across all financial participants, changing the question from "If an event happens, what would you do?" to the more real-politick request "Prove to me empirically that when an event happens, your systems, people, providers and property are strong enough to handle it". This new BoE framework is being closely watched and followed by other global PRAs, and industry participants alike. The Head of Post Trade at the London Clearing House (LCH) has said that after the last crisis, CCPs became more robust, but going forward, operational resilience will now be part of their branding, with the model being nuclear power plant levels of risk management.

FINAL THOUGHTS

Finally, as the markets still roil and society overall is in crisis, one story of innovation in the FMI sector has strengthened my faith, not only in the ability of market infrastructure to solve capital markets problems, but also in the people behind the markets. The PPE Exchange[7] was built and launched (pro bono) in less than a month by Shoothill, a West Midlands software firm, with the goal of bringing together users and suppliers of personal protection equipment (PPE) to more efficiently improve the supply chain of PPE supplies.

To financial market infrastructure players as a whole, I would tell them, as I tell my kids after we scan and upload their homework, "Good job, but there is still room for improvement. Because there will be definitely more lessons to be learned tomorrow."

7. https://www.ppeexchange.co.uk/

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