the CREDIT PULSE

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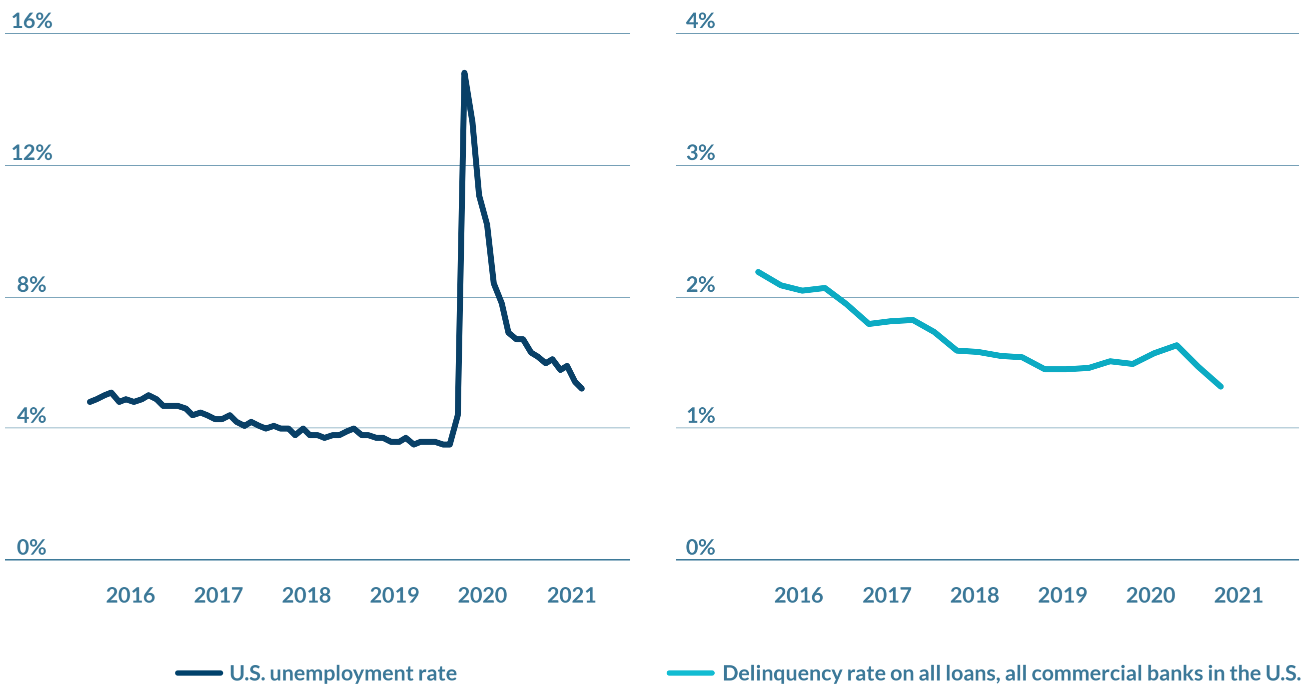
CREDIT RISK IN THE WORLD OF BAILOUTS AND EASY MONEY

In this issue of the Credit Pulse, *we look at the meaning of credit risk in a world flush with money and government backstops, and talk about how banks can jump into cryptocurrency lending and what they can do to monitor counterparty credit risk better.*

The economic recovery following the initial shock of the pandemic continued unabated in the second half of 2021. While growth has slowed from the record-breaking second quarter, the U.S. economy has already made up for the lost ground during the virus-induced recession in 2020 and is expected to grow almost 6% this year, which would be the highest annual growth since 1984. For banks, this speedy recovery has been a mixed bag. Along with countless government support programs for consumers and companies, the rebound has kept delinquencies and defaults at historically low rates. On the other hand, the government subsidies and stimulus packages used to spur the recovery have made it one without much use of credit. Loans and leases by commercial banks in the U.S. shrank for four quarters before stabilizing in the third quarter of 2021. Bank executives have been eager to resume lending but see their customers flush with cash. Record-low interest rates have also given corporations wider access to funding from bond markets, reducing demand for bank loans. Those conditions have prompted banks to ease loan underwriting standards — net 25% did so in the second quarter for both consumer and small business loans — in an effort to attract new customers.

Defaults and delinquencies haven't risen even after many government programs and lender deferrals granted have ended. While the government isn't offering new support to consumers and companies, some backing continues through older schemes such as the Paycheck Protection Program, known widely as PPP, which provides forgiveness of loans when certain criteria are met by borrowers and guarantees payment of amounts that are not forgiven.

Delinquencies hardly budged even as unemployment spiked at the height of the pandemic



Source: Federal Reserve Bank of St. Louis

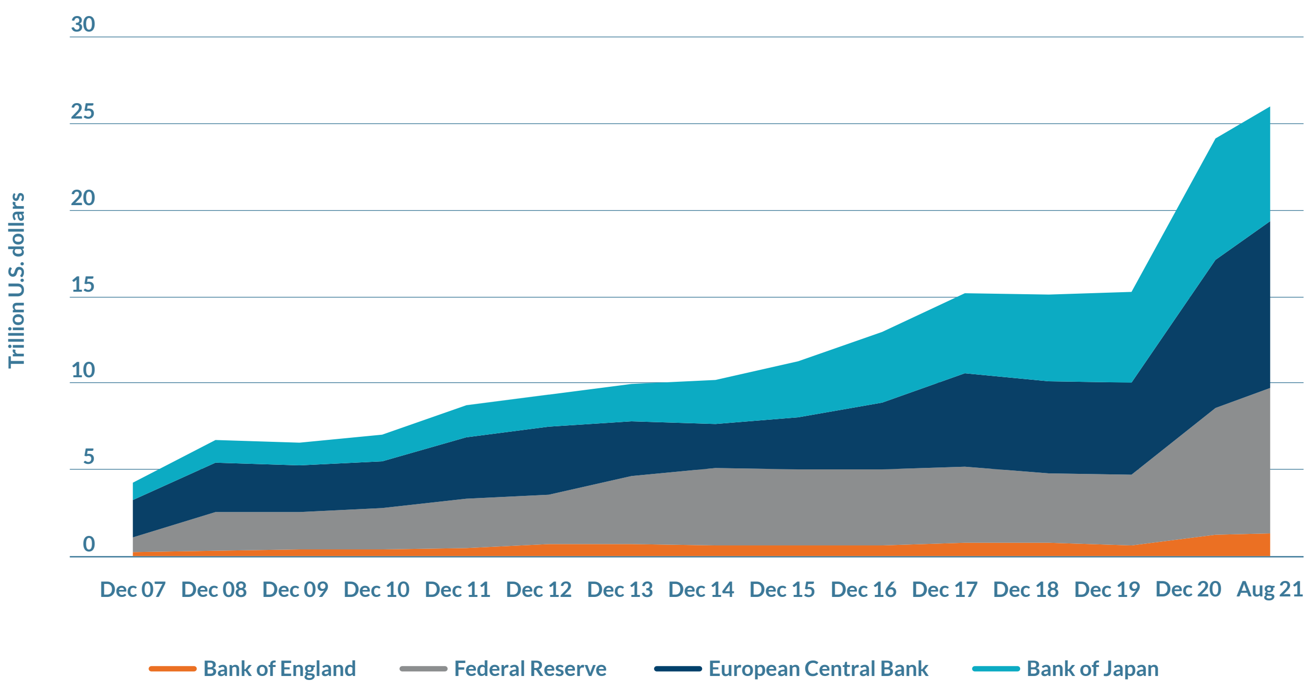
Loan loss models have had to incorporate the impact of massive government stimulus and bailouts during the last 18 months. At the onset of the COVID-19 pandemic, spurred by new loan loss reserve accounting rules (Current Expected Credit Losses, or CECL) introduced in response to the slower recognition of losses that occurred in the 2008 crisis, U.S. banks increased reserves by $88 billion. They subsequently began to release those starting in Q3 2020 as projected losses failed to materialize. Of course we could still see rising defaults as all debt moratoriums end and the economic recovery softens, but clearly, what was initially feared was prevented with government help.

Even though the public's ire was at the government rescues of failing banks during the 2008 financial meltdown, central banks' support for financial markets and the economy for many years following it has altered the dynamics of economic activity, going beyond crisis response to consistent backing with low interest rates and asset purchases. And during the pandemic-induced crisis, the U.S. Federal Reserve and other central banks provided even greater support for financial markets while governments in some countries bailed out airlines and a multitude of other sectors hurt by economic lockdowns as well as subsidizing small businesses, workers and consumers through multiple trillion-dollar packages.

The possibility of bailouts and massive financial support for every corner of the economy becoming habitual presents a dilemma for risk managers, at least when it comes to unexpected shocks. Should they start including such government backing in their loan loss models each time there's a sharp downturn that governments might consider as worthy of stepping in? What if some governments don't follow the script next time? Or what happens if support wanes over time, exposing weaknesses in the economy eventually? Easy monetary policies in effect since 2008 have created zombie companies that are able to survive thanks to near-zero interest rates. If and when rates were to rise, there could be a flurry of corporate failures that could raise loan losses. Yet the developed economies of the world might be stuck in a low-rate environment that they cannot easily get out of, perpetuating the inefficiencies as well as the low delinquencies for years or decades to come. Quantitative Easing, known as QE, where central banks buy government bonds and other debt securities to prop up financial markets and the economy, might be here to stay as well.

"With all the stimulus packages one after another, government debt keeps piling up, so central banks cannot increase interest rates, or governments would have a hard time paying," says Alberto Gallo, head of global credit strategies at Algebris Investments and a longtime critic of easy money. "That creates a QE-infinity trap. That means we'll have zero interest rates forever, zombie companies kept alive and some of the workforce that left never coming back."

Central bank assets jumped once again with pandemic response



Sources: Reuters, Trading Economics, ECB, Fed, BoJ

Fed officials are debating when to ease off on the accelerator. The so-called tapering of the Fed's monthly purchase of Treasuries and mortgage-backed securities might start as early as November, Chairman Jerome Powell said following the September meeting of the central bank's rate-setting committee, though he said it was possible they could wait longer if needed. He also said the Fed would watch the potential economic impact of new virus strains and wouldn't rush to raise interest rates following such tapering. Even if the U.S. central bank manages to reduce the amount of securities it's buying monthly, that still won't mean the end of QE, just a lighter version, according to Gallo. The European Central Bank said in September it will "moderately lower the pace" of its bond buying in the last quarter of the year. While some emerging-market central banks have reversed easy-money policies and even started jacking up interest rates, the developed world seems to be stuck in QE forever.

The never-ending monetary and fiscal support from Western governments hasn't only hampered the predictive ability of banks' loan loss models. The combination of heavy monetary and fiscal support and low interest rates has also led to increased risk taking by investors. Cryptocurrencies, which were born after the 2008 crisis, have benefited from this constant flood of money, repeatedly breaking price records as more and more people jump in to take part in the rapid price appreciation. With interest rates stuck at zero (or below zero in some cases — the amount of negative-yielding debt exceeded $16 trillion globally in August 2021), investors are forced to turn to riskier bets for positive returns. Some of those result in staggering losses, as we've seen in the last six months with Archegos and Greensill, two financial failures that may cost investors billions of dollars. Such risks have rehashed the importance of counterparty credit risk management in a highly volatile and risk-prone world.

Understanding crypto assets and FOMO

By repeatedly reaching stratospheric highs and then collapsing somewhat before going for the next high, Bitcoin has drawn the attention of wide swaths of the public worldwide, making cryptocurrencies a household concept and attracting millions of people as investors. Or rather, Bitcoin has become a household name and is still the most popular cryptocurrency, but its wide popularity has also helped other crypto assets gain some following and investment along the way. More than 30 million Americans have invested in Bitcoin, and the number of cryptocurrency investors worldwide has surpassed 100 million as the pandemic boosted their popularity. Lending based on crypto has also picked up in the last 12 months. Although it's still a very insignificant portion of the loan market, the tenfold growth within a year (from $2 billion to over $20 billion) hints at a much more crucial place for crypto lending in the near future.

Unlike fiat currencies and traditional assets such as a house, crypto assets are typically recorded in decentralized ledgers using blockchain technology. Dollar transactions are cleared against banks' ledgers through a central bank's clearing system. House purchases are recorded in a governmental agency's books or in court records. The blockchain ledgers are collectively maintained by the participants in each crypto asset's network. In addition to cryptocurrencies, whose values are determined by market forces, there are three other types of crypto assets: stablecoins, central bank digital currencies (CBDCs) and non-fungible tokens (NFTs). Stablecoins came out in response to the extreme volatility in the values of initial cryptocurrencies and are pegged against a fiat currency like the U.S. dollar or a basket of such currencies. CBDCs are being discussed by central banks around the world but have not been widely introduced yet by any. NFTs are used to provide a certificate of authenticity for digital artwork, music or videos.

As the market capitalization of cryptocurrencies reached $2 trillion in 2021, banks and other traditional financial services firms are paying more attention to the market and considering opportunities for where they can jump in. For banks, the most natural way to do so is through lending. And there's quite a bit of crypto-based lending already happening, though most of it not involving banks so far. One typical form of this lending comes from the desire of crypto asset holders to cash in some of their riches gained from rising values, without actually divesting any of their holdings. It's similar to borrowing money using shares in a stock, such as Apple, as collateral when you want to buy a new car. You don't want to sell any of your stock to buy the car since you expect the shares will be worth more in a few years, so you borrow against it. Since cryptocurrencies and other crypto assets have been on a rising trend in the last decade, many crypto holders also would like to do the same. Others borrow money to buy cryptocurrencies, in the belief that they can reap gains above and beyond the interest they're going to pay on the subject loan. Crypto assets purchased with such a loan are typically used as collateral during the repayment period, just like a mortgage on a house.

Most of this lending is now being done by a recently emerged industry called Decentralized Finance, known as DeFi. These are basically application-based platforms using blockchain technology to match borrowers and lenders directly. Most of them are built on the blockchain of Ethereum, the second most popular cryptocurrency after Bitcoin, because Ethereum's code structure enables smart contracts that allow this matching without humans involved. In addition to DeFi, centralized lending — the traditional intermediation between borrower and lender — also exists, and a few small banks have already started offering crypto-based loans.

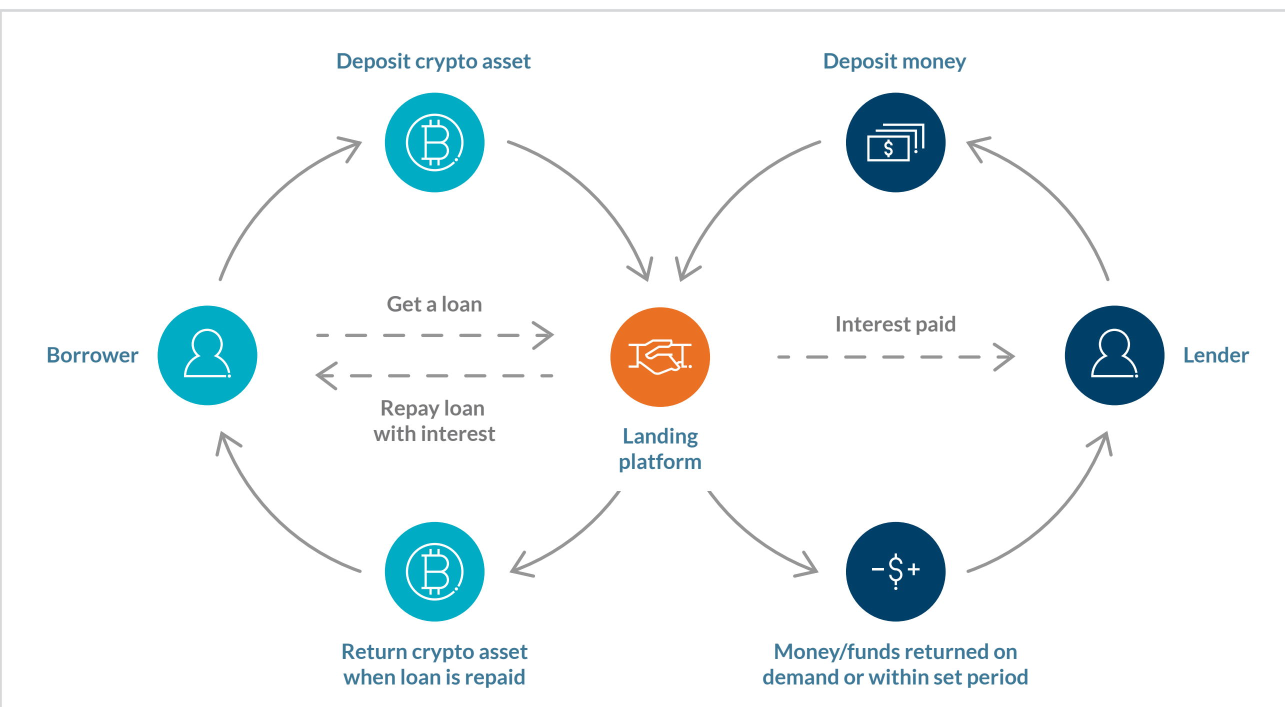
Small but growing: DeFi lending has surged in the last 12 months

Source: DeFi Pulse

One of those is Silvergate Capital Corp., a California-based banking organization with $12 billion in assets. Silvergate started offering crypto loans in 2020 and in a little more than a year saw their share in its loan portfolio surge from 0 to 27%. As traditional consumer and corporate lending shrank in the last few quarters parallel to the industry trend, Silvergate's crypto-based loan growth offset those declines. Silvergate offers two types of loans. In its direct lending product, the bank lends dollars for customers to buy Bitcoin, which is held at an exchange as collateral for the loan. In its indirect scheme, Silvergate lends money to third-party digital currency lenders, which then make loans to their clients and post Bitcoin collateral for their borrowing. In both schemes, the bank uses a custodian for safekeeping the collateral and a cryptocurrency service provider to monitor the collateral coverage ratio.

In deciding whether to follow Silvergate's example and join the crypto asset party, there are several points banks need to consider. The returns from crypto lending are high, as there's growing demand and few funding sources right now. But the digital currencies and other crypto assets in use today are highly volatile because they don't have government backing like fiat currencies or other financial assets. That makes crypto assets inherently more difficult collateral, requiring constant monitoring of values and coverage ratios. Traditional banks might not have existing governance, controls or infrastructure to support such lending activity and may have to turn to third parties as Silvergate has. As regulators turn more of their attention to the potential money laundering that can be carried out through cryptocurrencies, crypto lenders are being required to implement Know-Your-Customer (KYC) standards. Most DeFi platforms lack such programs and are ill-suited to build them, as the origins of the concept of decentralized lending is based on anonymity of the customer. Banks can have the upper hand here, as they already have sophisticated KYC and anti-money laundering systems in place, which they can use to monitor their crypto clients.

How crypto lending works



FOMO, which stands for Fear of Missing Out, is a term popularized by crypto enthusiasts as the value of Bitcoin and other digital currencies surged in recent years, prompting many uninitiated investors to consider investing in crypto assets so as not to miss out on spectacular returns being enjoyed by others. FOMO is also forcing banks, asset managers and other financial firms to seriously consider offering crypto-related products and services. Even JPMorgan Chase CEO Jamie Dimon, initially one of the most vocal critics of cryptocurrencies in the industry, has changed his tune recently, acknowledging that clients want them, so banks have to provide access to them.

"My own personal advice to people is: Stay away from it," Dimon said in the firm's annual shareholder meeting in May 2021. "That does not mean the clients don't want it. This goes back to how you have to run a business. I don't smoke marijuana, but if you make it nationally legal, I'm not going to stop our people from banking it. A lot of our clients are asking, can we help them buy or sell cryptocurrency? And we're investing in that as we speak." Back in 2017, Dimon had described Bitcoin as a "fraud," and for years criticized the asset class as having no inherent value. In July 2021, the bank started offering its wealth-management clients the opportunity to invest in a Bitcoin fund as well as four other cryptocurrency products.

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> — Jamie Dimon, CEO of JPMorgan Chase

In his May 2021 remarks, Dimon also said the crypto world could benefit from a more comprehensive regulatory framework. Even though regulators were "a day late and a dollar short," they will likely pay more attention to digital currencies soon, he speculated. Two months later, Federal Reserve Chairman Jerome Powell said in congressional testimony that the central bank is in the process of examining the role of crypto assets in digital payments. Stablecoins, which might gain more prominence in payments, will "need an appropriate regulatory framework" if they were to take on that role as expected, Powell said. The Fed is also considering whether to issue its own CBDC, though the debate on that is still in early stages, the chairman said.

In June the Basel Committee on Banking Supervision proposed a new rule setting out potential capital requirements for some crypto assets. The proposal considers tokenized crypto assets — bonds, loans or equities recorded via blockchain or similar digital technology — as the least risky type of crypto asset for ownership. Capital requirements for these can be equal to the level demanded for the same type of underlying security. For stablecoins, banks would need to add counterparty credit risk for the guarantor of the stabilization mechanism. For cryptocurrencies such as Bitcoin or Ethereum, the proposal suggests a 1,250% risk weighting — which is basically full capital reserving — due to the high volatility and opacity of such instruments.

In 2020, the European Commission proposed an extensive set of rules to regulate crypto assets in the European Union. The Regulation on Markets in Crypto Assets, referred to as MiCA, is still making the rounds in the EU legislative process. It would subject cryptocurrency exchanges to consumer protection, transparency and governance standards. The United Kingdom has recently started requiring crypto firms to register with the Financial Conduct Authority (FCA), which has led some to withdraw applications.

In August 2021, the FCA said Binance, one of the largest global crypto exchanges, had failed to respond to the regulator's basic queries, rendering its U.K. unit unfit to be supervised effectively. The FCA has also warned the public about the risks of buying cryptocurrencies and against FOMO.

While Chinese regulators have tried to crack down on crypto activities, their efforts have so far failed to end that nation's love affair with digital currencies. Most recently in September 2021, China's central bank announced a blanket ban on all cryptocurrency transactions in the country. Despite an initial dip following the announcement, prices of Bitcoin and other crypto currencies recovered soon after as investors discounted the crackdown remarks in light of previous failed efforts.

In the U.S., as consumer complaints about cryptocurrencies rise, the Consumer Financial Protection Bureau is coming under political pressure to increase its oversight of the space. Securities and Exchange Commission (SEC) Chairman Garry Gensler has called for Congress to give his agency more powers to regulate crypto trading and protect investors. In September Coinbase abandoned plans to launch a lending product after the SEC warned the largest cryptocurrency exchange in the U.S. that it would face an enforcement action if it did. Treasury Secretary Janet Yellen met with banking and markets regulators in July, asking them to come up with a regulatory framework on stablecoins. State regulators have also started to crack down on the industry. Texas, New Jersey and Alabama have recently accused BlockFi, a non-bank lender that offers similar loan structures discussed above, of offering unregistered securities after the company raised almost $15 billion for its interest-bearing crypto accounts.

President Joe Biden's proposed $1 trillion infrastructure program will partly be paid by taxes the government hopes to collect from crypto investors. The Senate approved the infrastructure bill, asking a wide array of financial companies to report cryptocurrency transactions exceeding $10,000 to tax authorities. The crypto industry's lobbying to narrow the scope of the reporting requirement failed even though the lobbying efforts held up the approval of the bill for several days in the Senate. House Democrats gave the nascent industry's lobbyists another issue to fight against when they proposed in mid-September adding digital assets to a rule intended to prevent tax loopholes.

Counterparty credit risk makes a comeback after Archegos, Greensill

While retail investors have rushed to buy cryptocurrencies with money slushing in their pockets and interest rates at rock bottom, some institutional investors have ratcheted up their risk-taking as well, and it didn't always end well. In March, two financial firms collapsed, causing billions of dollars in losses to their creditors and other investors. Greensill Capital, a supply-chain financing firm, failed when its insurer declined to continue the insurance of its loans, fund managers marketing its packaged loans suspended them and regulators in Germany shut down a sister bank. Hedge fund Archegos Capital Management fell apart a few weeks later when its highly leveraged bets on some corporate stocks lost value and collateral had to be liquidated. Softbank Group Corp., which had invested $1.5 billion in Greensill, wrote its investment down basically to zero. Credit Suisse Group, which was managing funds tied to Greensill, is trying to recoup money from the companies whose debt Greensill had financed as well as getting ready to sue Greensill's insurer. Investors, who may be facing up to $3 billion of losses in the funds, might sue the bank, according to media reports.[1] Archegos-related losses exceeded $10 billion at five investment banks that were lending to the family office of Bill Hwang for its stock market bets. Credit Suisse, which bore the brunt of those losses, commissioned an internal investigation into what went wrong in its internal controls.

The two scandals have rekindled focus on the dangers of counterparty credit exposures and the need for rigorous risk management practices. Credit Suisse's own analysis of its practices found that even though the firm had the right architecture of risk controls and processes, the rules were put aside in the case of Archegos, which was given special treatment for too long. And when risk managers concerned about rising exposures suggested imposing additional margin requirements on the investment firm, the business side fought back, arguing it would push away the client to rival banks.[2]

Looking at the lessons from the two recent events and remembering the failings of risk management prior to the 2008 financial crisis, this is a good time to review and evaluate the infrastructure around counterparty credit risk management. Here are some key elements to consider:

Governance

- Establish guidelines and monitoring for portfolio credit quality, concentrations, tenors and covenants on cash distributions
- Conduct periodic (at least annual) counterparty review and assignment of risk ratings
- Define formal reporting requirements on counterparty credit exposures
- Require independent monitoring and reporting of aggregate credit exposure for each counterparty (including all credit exposure from other business lines) and comparison limits
- Establish mechanisms for policy and limit exception approvals and reporting (including escalations)
- Lay down policies around undisclosed counterparties and nonperforming contracts, including requirements for timely action for distressed borrowers
- Ensure board oversight of the risk process and mechanisms

Process

- Carry out monitoring of limits, alignment to risk appetite and approvals independently from the trading floor
- Establish controls for prohibiting traders from conducting transactions with counterparties for whom no limits are established
- Make sure limits breached are appropriately mitigated and/or approved
- Monitor net positions to determine impact of changing market rates and the counterparty's ability or willingness to fulfill the contract
- Carry out regular stress testing that includes the impacts on unwinding hedges in a stressed market
- Implement exposure trade capture that ensures that all trades are mapped to the correct credit line
- Make sure failed collateral calls and disputes are escalated to the appropriate credit risk officers

[1] "Credit Suisse Readies Insurance Claims on Greensill Losses," Financial Times, June 16, 2021.

[2] "Credit Suisse Group publishes the report of the independent external investigation into Archegos Capital Management," Credit Suisse, July 29, 2021; "Credit Suisse Failed to Act on Archegos Risks, Report Says," The Wall Street Journal, July 29, 2021 ; "Archegos Was Too Busy for Margin Calls," Bloomberg, July 29, 2021.

- Establish early warning indicators, monitoring default clauses such as minimum Net Asset Value
- Set up processes to manage external news feeds for information related to credit worthiness of counterparties
- Upgrade systems and automate Counterparty Credit Risk Management (CCRM) reporting to create more real-time ability to monitor counterparty exposures

The two recent incidents have also shown that the firm's culture and processes need to allow and encourage effective challenge of the business side by risk managers. This was a problem that was supposed to be fixed after the 2008 financial crisis. Prior to the meltdown, risk managers lacked clout on Wall Street and at most financial firms worldwide. But the crisis reminded regulators, executives and boards that the core business of banking is managing risk and that the guardians of that function need to be heeded seriously at all times.[3] Yet clashes between risk managers and the business side can still occur, as the Archegos and Greensill episodes show. Firms need to make sure that when that happens, the risk function can effectively challenge the business decisions. Here are some elements to ensure the system works:

- Independence of credit risk oversight from trading and sales functions need to be ensured
- Credit risk function needs to be given full authority to question traders and salespeople
- Credit risk function needs to participate in new product approval process
- Risk managers should have the ability to escalate their concerns all the way to upper management and the board, without impediment from the business side

Capital rules related to counterparty credit risk were revised and made more onerous following the 2008 crisis by the Basel committee. European and U.S. supervisory agencies now include counterparty risks in their annual stress tests of the biggest banks. U.S. regulators revised their supervisory guidance on CCRM in 2011 to incorporate lessons learned during the crisis. The crisis highlighted weaknesses in CCRM, especially in monitoring and managing exposure limits and concentration risks, the regulators said when introducing their revised framework. The CCRM guidance lays out the supervisors' expectations on governance, measurement, systems infrastructure and risk management procedures.[4] While the guidance was intended mostly for banks with large derivatives portfolios, regulators have urged banks without such holdings to apply the elements relevant to their own risk profile as well.

The guidance puts some responsibility on the board and senior management of financial firms to monitor their CCRM functions. It also emphasizes frequent and comprehensive reporting of counterparty exposures to the board and management. The guidance also notes that internal audit should regularly assess the bank's CCRM framework as part of its audit plan.

Clashes between risk managers and the business side can still occur, as the Archegos and Greensill episodes show. Firms need to make sure that when that happens, the risk function can effectively challenge the business decisions.

[3] "After Crisis, Risk Officers Gain More Clout at Banks," The Wall Street Journal, June 25, 2014 ; "RISK Mismanagement - What Led to the Financial Meltdown," The New York Times, January 2, 2009.

[4] "Interagency Supervisory Guidance on Counterparty Credit Risk Management," Office of the Comptroller of the Currency, June 29, 2011.

In closing

Rounds of fiscal and monetary stimuli, along with bailouts of various sectors in trouble, may alter the measurement of bank credit risk going forward. But the money slushing around in the financial system and the economy has also fueled investments in crypto assets, led to risky bets by market players and increased overall volatility. If on one hand some risks may be decreasing or being deferred due to government support, others are rising as risk-taking grows and parties seek higher returns. Banks' risk functions need to ensure they adequately consider such risks in their models while recalculating the coefficients of some old risks.

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