6. DEVELOPMENTS AND LICENCING OF CCPS

6.1 CASE STUDY: A SHORT TESTIMONY OF UNDERSTANDING COUNTERPARTY CREDIT RISK, THE DEVELOPMENT OF CHILEAN MARKETS AND IMPLEMENTATION OF A LOCAL CCP IN CHILE (BY PABLO RODRIGUEZ, CRO, COMDER CCP)

ABSTRACT

Counterparty Credit Risk ("CCR") for listed derivatives products had been managed for many decades using collateral in the form of margin, however, managing CCR using margin practices is relatively new in OTC derivatives products. It is fair to say that this new way to manage CCR is a consequence of the GFC and the implementation of the G20 derivatives reform, which introduced mandatory clearing for a big part of derivatives products and margin for uncleared derivatives. For this reason, understanding CCR management for OTC derivatives products has been a challenge for many markets participants and regulators.

In this case study, a personal testimony of dealing with CCR management and the struggle to implement a local CCP in Chile (a jurisdiction outside of the G20 countries) is presented. At the same time, it shows how Chile was able to experience the benefits of a local CCP during a financial crisis, like the one created during the Chilean unrest crisis (2019) and the COVID-19 crisis (2020).

6.1.1 A SHORT TESTIMONY OF UNDERSTANDING COUNTERPARTY CREDIT RISK

In the early morning of September 15th, 2008, a young market risk analyst by the name of Pablo Rodriguez based in the Canadian market, responsible for the analysis of the interest rates derivatives trading desks, was in a rush to perform an estimate of a particular area of work that he had not had experience in doing: the estimation of the total profit and loss ("P&L") and the total sensitivity (or what is called the Dollar Value of a Basis Point ("DV01") of the portfolio) of an isolated counterparty, to be specific – the Lehman Brothers' portfolio.

For the analyst, it was the very first time to be presented with such a task. According to the market risk analysis manual (also known informally as the "Market Risk Bible"), the P&L and the DV01 exposure of a specific trading desk had to be estimated and reported daily in consolidated terms (not by counterparty). The trader responsible for the respective desk had to sign such a report for confirmation. However, for that particular morning it was different since the Lehman Brothers' portfolio was isolated from the remaining portfolios.

Of course, the report presented to the head trader that morning was not usual because the trading portfolio was split in two. Consequently, the analyst presented the portfolio's P&L report (without Lehman positions) with a monumental loss since the Lehman portfolio was deeply in the money that day and the portfolio's DV01 report (without Lehman positions) had a large exposure. As protocol would dictate, the analyst requested the head trader to sign both reports and recommended that the traders close the DV01 exposure with immediate effect. The head trader replied so bitterly to the young risk analyst that it took some time for the analyst to understand why he had received such a reply.

As years passed and working as the CRO at the newly created Chilean CCP ComDer, Pablo was able to understand why the trader had responded with such severity back on that morning in 2008. The reason for his behaviour was that the analyst had crossed the (apparently thin) line between market risk management and counterparty credit risk management.

At the moment that the Lehman portfolio was isolated, and the analyst's recommendation was to close the Lehman portfolio risks, the analysis reported was no longer a market risk report, it was closer to a counterparty credit risk report (which at that time the head trader was not in charge of). Furthermore, the recommendations to reduce the DV01 exposure (which is similar to re-establishing a matched book) were closer to counterparty credit risk management recommendations than to market risk management recommendations.

A short recap of the definitions of these risks would be as follows:

- The market risk analysis of an interest rate portfolio is performed at the level of an aggregate portfolio where P&L movements of such books are driven by the change of market risk factors (similar to yield curve movements) and the size of the portfolio exposure (or DV01 exposure);
- Counterparty credit risk is a complex risk to assess because it is a hybrid between credit and market risk and depends on both changes in the creditworthiness of the counterparty and movements in underlying market risk factors, and in the case of Lehman you were able to face it (or really feel the pain) after the default of the counterparty.

At the time of the default of Lehman Brothers, it was a general belief that the probability of a default of a large international financial institution was very slim. Therefore, the counterparty credit risk management of a large bank was performed mainly through the granting of a derivatives credit risk line. The size of these credit lines were decided on the basis of the present and potential future exposure of the counterparty derivatives portfolio, and the risk appetite of the institution granting the line.

Of course, this is currently no longer the way to deal with these risks due to the fact that large global banks already implemented counterparty credit risk management at the business level through X-Value Adjustment ("XVA") desks and Collateral desks. The same is true for Chile where large domestic banks implemented these kinds of trading desks. However, this belongs to a different chapter of the development of the Chilean financial markets.

In summary, Lehman Brothers declared itself in bankruptcy, the 2008-2009 GFC hit almost all developed nations, and the G20 committed to implement big regulatory reforms:

- **Basel III:** to improve the resilience of the international banking system and impose higher capital as well as margin requirements for non-centrally cleared transactions; and
- **The Derivatives Market Reform:** to reform the OTC derivatives market by mandating central clearing for standardized OTC derivatives and, where appropriate, exchange or electronic trading of standardized OTC derivatives, as well as reporting of all transactions to trade repositories.

In practical terms, counterparty credit risk management changed completely after the implementation of the G20 reforms, moving away from granting credit lines and essentially absorbing default losses through capital in the case of the default of a counterparty, to collateralize the counterparty credit risk exposure – under extreme but plausible scenarios – through the inclusion of variation margin, initial margin, and default (or guarantee) funds.

6.1.2 WHAT HAPPENED IN CHILE – WHEN NO DEFAULT MEANS A LOT OF DIFFICULTIES TO UNDERSTAND THE MEANING OF COUNTERPARTY CREDIT RISK

Fortunately, the Chilean financial system was not hit hard during the GFC and no financial institution was declared in default during this period. In fact, the Chilean financial system has been very fortunate (without bank defaults) since its last major crisis, the Latin American debt crisis at the beginning of the '80s, where the Chilean government made a major intervention in the financial system at a taxpayer cost of 35.2% of the GDP.

As in any financial crisis, in the aftermath of the debt crisis, Chilean regulators implemented tough regulations that allowed the banking system to grow healthily in the following years. One of these regulations was the large exposure limit, which limits the largest amount of the credit exposure that a bank can face to any conglomerate to 10% of the capital.

These 40+ years without defaults in Chile showed that the use of credit lines to manage the counterparty credit risk of derivatives was well suited to all Chilean banks till the beginning of the last decade. However, one of the main components of Chilean banking regulation gave the Chilean Central Bank more attributes to intervene in a failing financial institution, with a negative consequence: an ISDA negative netting opinion on derivatives products due to the attribution of the Central Bank.

After the GFC, the Chilean derivatives market experienced important growth which gave rise to an issue with the large exposure limit (full utilization of the credit line mainly because of the lack of a positive legal netting opinion). Furthermore, top Chilean officials and top management at local banks were aware of the G20 derivatives market reforms and the importance to have a derivatives CCP in the Chilean jurisdiction that can incorporate the best standards to manage counterparty credit risk. All this led to the creation of ComDer.

6.1.3 THE BIRTH OF COMDER CLEARING HOUSE

In 2009, Chile passed a national law (law 20.345) that set the principles and rules for the incorporation of Central Clearing Houses in Chile. One of the many positive consequences of this law was that the Central Bank of Chile recognized that financial products cleared in a CCP under the 20.345 law can obtain a positive netting opinion (the Chilean Central Bank later amended the regulation for bilateral trades, which let ISDA grant a positive netting opinion for bilateral trades in 2019).

With this new law in operation, a consortium of Chilean banks decided to proceed with the creation of a local CCP in 2011. In the following years, ComDer was created, and partnered with Calypso (now Adenza), one of the world's leading financial software providers, to be ComDer's full technological solution (front-to-back). Later in the case study, we will explain the importance of this decision for ComDer.

ComDer started its operation in July 2015, with 13 CMs, and since its inception, the Chilean banks largely use ComDer to clear their derivatives (mainly inflation and FX derivatives). However, it is important to mention that in the implementation of a local CCP counterparty credit risk management was not a significant concern for local banks (especially for local trading desks) because of the lack of bank defaults in the last 40 years, as we mentioned earlier, and the granting of derivatives credit lines.

During the first years of ComDer's operations, due to collateral requirements, the cost of clearing was the main complaint received because it was not custom for banks to post variation and initial margin or contribute to a default fund for that matter. It is important to mention that Basel III capital requirements were not yet in place in Chile (Basel requirements were implemented in Chile in 2021).

Overall, ComDer revolutionized the way Chilean banks managed counterparty credit risk, moving away from granting derivatives credit lines to other banks to the inclusion of posting collateral to ComDer.

With regards to operations, ComDer was largely an improvement in the local market due to the full implementation of Calypso thanks to which it experienced a perfect track record of operational activities, eliminating settlement disputes among the banks. Additionally, the netting effects in risk exposure and settlements payments were substantial enough for the CMs to remain at ComDer. This provided ComDer with an advantage in the local market and an important recognition for excellence in its daily operation.

Nevertheless, the lack of clearing incentives in Chile such as mandatory clearing, uncleared margin rules, and even capital benefits, in addition to 40+ years of no banks' defaults, created a difficult environment to sell the importance of managing counterparty credit risk in a CCP to banks, and especially to trading desks at the banks.

This is also true because understanding counterparty credit risk management is not an easy feat hence it is important to reflect on real events which were experienced by Pablo during his tenure in the Canadian market. It is vital to remember that Chile is a country outside of the G20 jurisdictions, and as a result, these market reforms are fairly new.

6.1.4 THE CHILEAN UNREST CRISIS AND THE COVID-19 CRISIS

As mentioned previously in the case study, the Chilean market experienced 40 years without critical situations, which translated to a relatively low market volatility and no bank defaults. This came to an end in October 2019, as a result of a social explosion that started with an increase in the public transport tickets' prices. This unrest situation quickly escalated and evolved in a profound political and social crisis.

After an unprecedented Central Bank intervention in the market, and a political agreement to change the Chilean Constitution, the market started to return to normality, but this was the first real test for ComDer and the new way to manage counterparty credit risk.

First, and because of the existence of ComDer, banks did not have to cut credit lines with other banks (there was no reason since ComDer is the only counterparty in the market, with an *essentially* AAA rating). This allowed the Chilean banks to continue having their regular liquidity in the derivatives markets, without experiencing the typical market freeze in this kind of a situation.

Second, banks did not increase counterparty credit exposures, mainly because of the daily variation margin calls. Also, because of the high volatility, many intraday margin calls were requested to CMs, and in all the cases they were settled in less than 30 minutes.

Third, no operational failures or disputes occurred during this first crisis, which gave the bank CMs the trust that they do not have to worry about facing other difficult operational situations.

Fourth, and due to the role of the CCP, there was quality information flow to the regulators to support their financial decisions.

In March 2020, the world entered into the COVID-19 pandemic just when Chile was getting out of the problems created by the unrest situation. Consequently, the Chilean market faced the same volatility issues as the rest of the world was facing due to the COVID-19 Crisis. It is fair to state that the CC hit Chile as hard as the unrest crisis and caused the same kind of market volatility and uncertainty issues as described before.

The summary of the two crises is this: for a country like Chile, having a CCP is fundamental to dealing with the market uncertainty because of the reduction of counterparty credit risk and the increase in market information available to the regulators and the market itself. It is unquestionable that all the benefits that we mention here would be instrumental to properly manage a default in the CCP and would increase the probability of re-establishing a matched book very quickly.

A summary of all these benefits ties in well with what the Former Minister of Finance, and now a member of the ComDer´s Risk Committee, Rodrigo Valdés used to say: "ComDer allowed the country to experience the importance to have the benefits of a first world-class market infrastructure in a developing country."

However, both crises reveal an important issue that needs to be addressed in the near future in the Chilean capital market which is a lack of a repo market.

6.1.5 THE FUTURE OF CLEARING IN CHILE: THE DEVELOPMENT OF THE REPO MARKET

Chile has been very fortunate with the timing of the financial system assessment done by the IMF. In particular, the IMF performed its last Financial Sector Assessment Program between 2020 and 2021, exactly during the two worst Chilean financial crises of the last 40 years.

In November 2021, the IMF completed its assessment and one of the conclusions drawn was that mutual and pension fund redemptions during 2019 and the subsequent Chilean Central Bank measures taken in both crises (unrest and CC), used to relieve the impact of the shocks, highlighted some structural liquidity risks that needed to be addressed.

The IMF commented that, despite a well-developed capital market, an institutional repo market does not exist in Chile, as banks prefer exchanging liquidity on an unsecured basis, with the central bank serving as the backstop. It also observed that setting an appropriate risk/reward and regulatory incentives to develop this market should be a policy priority in the next couple of years. For this reason, the IMF recommended strengthening of the liquidity management framework for mutual funds and the development of the interbank repo market.

It is interesting to observe that this recommendation is done while market stakeholders are pushing to expand the benefits of central clearing into the US Treasury repo market.

As people use to say: timing is everything in life and it looks like the timing for the clearing of repos could be knocking on the door also in Chile. At least we believe that all the benefits of clearing, especially during a financial crisis, and at a time when the Chilean government needs to increase the government bond issue to attend to all the new social demands, could be helpful in the development of a resilient repo market.

To conclude, at ComDer we were able to experience many different benefits that a country enjoys when it has a local derivatives CCP, especially during markets crises, despite the lack of clearing incentives like mandatory clearing, uncleared margin rules, and capital benefits. For this reason, we believe that clearing benefits are going to be translated in the future to new markets, like the repo market. We should also be able to expand the benefits of clearing outside the interbank dealing market into, for example, mutual funds, pension funds, and other institutional investors.