BOX II.1
RECENT EVOLUTION OF CHILEAN FINANCIAL ASSET PRICES

The effects of the social crisis that began on 18 October are already evident in several early indicators. The October IMACEC fell 3.4% in annual terms—and the nonmining component fell 4%—while the latest measures of consumer and business confidence reveal a decline month-on-month. However, the speed of the events implies that some indicators with a longer lag—such as employment, corporate profits, and investment plans—have not yet incorporated these effects. Furthermore, these data reflect both the major short-term disruptions and the medium-term uncertainty. Consequently, it is difficult to extract clear signals for predicting the duration and magnitude of the impact on the economy. In this context, the financial markets are a very useful source of complementary information, since the high frequency of the data allows a constant evaluation of the events—for example, the positive impact on the exchange rate and the stock market on the day the agreement on a new Constitution was announced—and reflect, in part, economic expectations at longer terms. This box documents the recent evolution of Chilean financial prices, putting their magnitude and characteristics into historical perspective, as well as the measures taken by the Central Bank to mitigate the financial frictions deriving from the high volatility. The analysis concludes that the movements are obviously idiosyncratic and fundamentally associated with the recent local events. The evidence available to date also shows that the liquidity provision measures have managed to partially mitigate the high volatility in some prices and interest rates in the financial market.

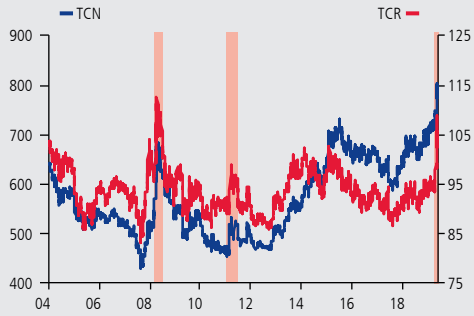
Recent evolution of Chilean asset prices in perspective

Since 18 October, there has been a marked deterioration in the most important financial indicators for the Chilean economy. The Chilean peso depreciated nearly 13% against the dollar in both nominal and real terms. The IPSA stock index fell almost 9%, while UF long rates increased by 45 basis points (bp), sovereign spreads (CDS spreads) by over 20 bp, and corporate spreads (AA at 5 and 7 years) by almost 110 bp[1]/.

In the last twenty years, there have only been two occasions when the peso depreciation, accumulated in thirty days, was comparable to the current trend: the eruption of the global financial crisis (in late October 2008) and the euro crisis (early October 2011) (figure II.11, panel a). With regard to the stock market, the accumulated decrease in the IPSA is among the four largest drops recorded since mid-2004, while the increase in long-term interest rates is in the top three for the same period (figure II.11, panels b and c).

FIGURE II.11
Financial price movements in historical perspective

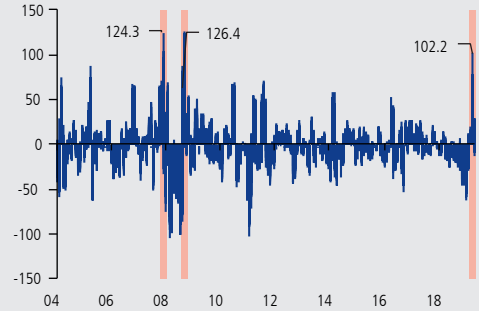
(a) Nominal and real exchange rate (*)
(chilean pesos; index: 2018 = 100)



(*) Left vertical bar indicates the global financial crisis; central vertical bar, the euro crisis; right vertical bar, the current social crisis.

Source: Central Bank of Chile and Bloomberg.

(b) Change in the BCP-10 (*)
(accumulated in 30 days, basis points)

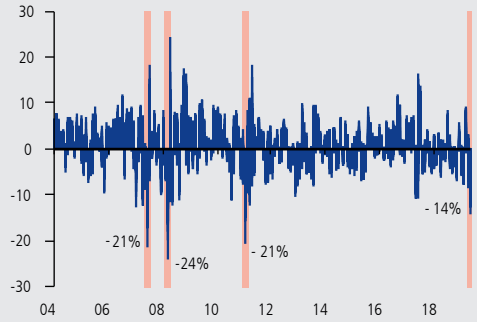


(*) Left vertical bar indicates the global financial crisis; right vertical bar, the current social crisis. The numbers indicate the peaks recorded in the different episodes.

Source: Central Bank of Chile.

[1]/ These changes are calculated using the daily value of the series on 18 October and on the cutoff date of this Report, so they differ from the values presented in chapter II, which use the average of the last ten business days.

(c) Change in the IPSA (*)
(accumulated in 30 days, percent)



(*) Left vertical bars indicate the global financial crisis; central vertical bar, the euro crisis; right vertical bar, the current social crisis. The numbers indicate the troughs recorded in the different episodes.

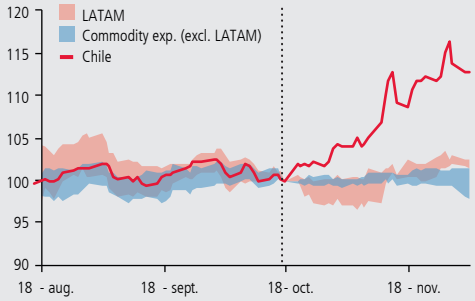
Source: Bloomberg.

Unlike past episodes, the recent movements are not related to an external crisis, but are instead explained by essentially domestic factors. Until mid-October, the fluctuations in the peso-dollar exchange rate were relatively aligned with other Latin American economies and commodity exporters (figure II.12, panel a). In contrast, since 18 October the path of the Chilean peso has diverged significantly from other currencies. The application of an empirical model that estimates the exchange rate level based on its usual fundamentals confirms this conclusion, showing a substantial decoupling since the start of the crisis (figure II.12, panel b)[2]/. This decoupling is not explained, in principle, by changes in the usual determinants—namely, copper and oil prices, the interest rate differential between Chile and the United States, etc.—but rather could reflect changes in the country risk perception or in future expectations that imply a depreciation of the real exchange rate (RER).

[2]/ For more details, see Cowan, Rappoport, and Selaive (2007).

FIGURE II.12
Nominal exchange rate and its determinants

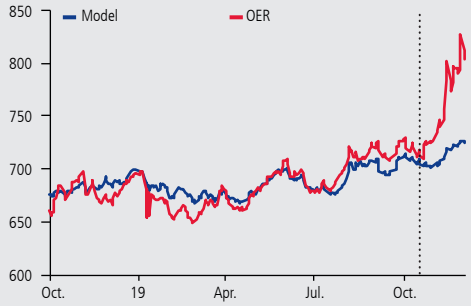
(a) Nominal exchange rate (1) (2) (3) (4)
(index: 18-Oct-19 = 100)



(1) Vertical dotted line marks 18 October 2019.
(2) Nominal exchange rate at the end of the day. Each strip shows the range of the normalized series for a group of countries.
(3) LATAM includes Brazil, Colombia, Mexico, and Peru.
(4) Commodity exp. (excl. LATAM) include Canada, Australia, New Zealand, and Norway.

Source: Bloomberg.

(b) NER versus an econometric model based on fundamental determinants (1) (2)
(Chilean pesos)



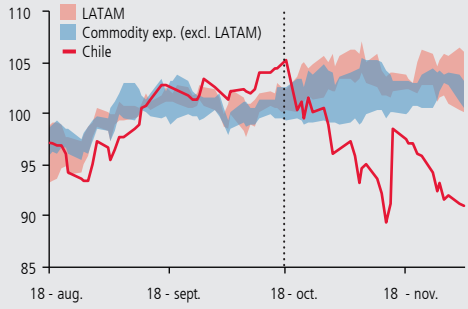
(1) OER: Observed exchange rate. The model uses a daily frequency and is estimated for the period between 15 July 2019 and 3 December 2019. The estimation considers the long-term equilibrium relation between the nominal exchange rate, the copper price, the oil price, the domestic price level, the U.S. price level, the CDS spread on Chilean sovereign bonds, and the one-year interest rate differential between Chile and the United States. For more details, see Cowan, Rappoport, and Selaive (2007).
(2) Vertical dotted line marks the start of the social crisis.

Source: Central Bank of Chile and Bloomberg.

The trends in other financial asset prices also reflect idiosyncratic factors. For example, starting on 18 October, the IPSA has diverged significantly from stock exchanges in other Latin American countries and other commodity exporters (figure II.13, panel a). As in the case of the exchange rate, a model that estimates IPSA returns as a function of long-term fundamentals—growth, commodity prices, interest rates, etc.—shows that since 18 October, the trend has deviated considerably from the predicted value based on these variables (figure II.13, panel b).

FIGURE II.13
Recent stock market movements (IPSA)

(a) Stock indexes (1) (2) (3) (4)
(index: 19-Aug-19 – 18-Oct-19 = 100)



(1) Vertical dotted line marks 18 October 2019.
(2) Stock index value at the end of the day. Each strip shows the range of the normalized series for a group of countries.
(3) LATAM includes Brazil, Colombia, Mexico, and Peru.
(4) Commodity exp. (excl. LATAM) include Canada, Australia, New Zealand, and Norway.

Source: Bloomberg.

(b) Surprises in IPSA returns since 1 Oct. 2019 (1) (2)
(percent)

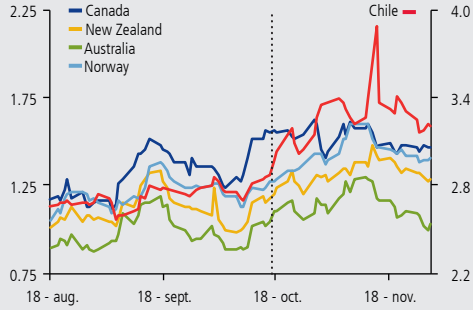
(1) Calculations based on a daily-frequency model of IPSA returns in the period between 2-Jan-2011 and 3-Dec-2019. The estimation considers the long-term equilibrium relation between the IPSA, the future financial situation component of the IMACEC, the UF, the copper price, the oil price, and the interest rate on 10-year UF bonds issued by the Central Bank. Explanatory variables also include the change in the copper price and the aforementioned interest rate, as well as moving average components. The surprises are defined as the model residuals.
(2) Vertical dotted line marks the start of the social crisis.

Source: Central Bank of Chile.

With regard to long-term interest rates, there has been a global increase since the end of September. However, the hike recorded in Chile again diverges significantly from the rest of the world (figure II.14, panel a). A decomposition of the Chilean ten-year rate into its risk-free component (future monetary policy expectations) and the term spread shows that the rise is fundamentally due to a significant increase in the spread, while the rate expectations underlying this calculation have actually declined slightly (figure II.14, panel b).

FIGURE II.14
Recent interest rate movements

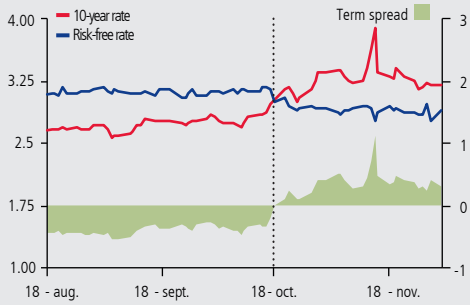
(a) Interest rates on 10-year sovereign bonds in local currency (*)
(percent)



(*) Vertical dotted line marks 18 October del 2019.

Source: Central Bank of Chile and Bloomberg.

(b) Decomposition of 10-year rate (1) (2)
(percent)



(1) The risk-free rate is calculated based on 10-year nominal zero-coupon bond yields. Spreads are calculated following Beyzaga and Ceballos (2017).
(2) Vertical dotted line marks the start of the social crisis.

Source: Central Bank of Chile and Bloomberg.

Rationale and impacts of the measures implemented by Central Bank of Chile

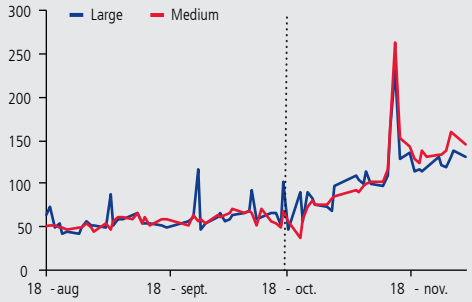
The movements in various asset prices in recent weeks, in excess of their traditional fundamentals, suggest a more negative risk perception of the Chilean economy. However, it is possible that the changes in level and, especially, the increased volatility of asset prices have also been influenced by major portfolio movements—in part in response to recommendations from unregulated agents—in a context of lower-than-usual liquidity due to the heightened uncertainty and the speed with which the perception of the economic scenario has changed.

In the last few weeks, the Central Bank has adopted several measures to provide an adequate degree of liquidity to the markets and to mitigate volatility in key financial markets. These measures do not aim to set prices at certain "levels," as could be the case with the exchange rate, but rather aim to avoid excessive volatility or sudden movements that could affect the healthy adjustment of the economy and cause market turmoil and personal anxiety.

On 13 and 14 November, the Bank announced measures to provide liquidity in dollars and pesos to the financial system. These measures included a 30- and 90-day currency swap program with a minimum rate equivalent to the LIBOR plus 200 bp (in order to limit the increase in the spread in dollars); a repo program in pesos, through a collateralized window with a rate defined as a floating MPR (traditionally the MPR plus 25 bp) and with fairly long maturities; the authorization of repo operations backed by securities that have not traditionally been accepted; the suspension of the issue of discount promissory notes (PDBC); and the initiation of a buyback program for UF-denominated Central Bank securities. These measures had a significant effect on long-term rates and bank and corporate bond spreads (figure II.15, panel a). In the case of the onshore spread, the program managed to reduce the spread from the recorded peaks to around 200 bp (figure II.15, panel b).

FIGURE II.15
Spreads

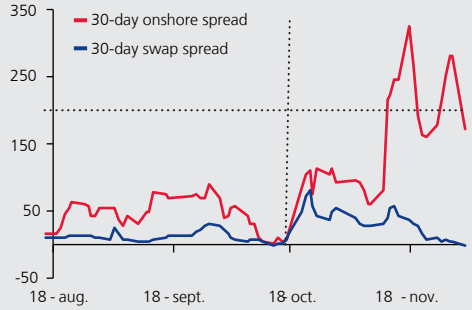
(a) Bank spreads by size (1) (2)
(basis points)



(1) Spread of total UF-denominated senior bank bonds over BCUs.
(2) Vertical dotted line marks the start of the social crisis.

Source: Bolsa de Comercio de Santiago and Central Bank of Chile.

(b) Onshore spread on shore and time deposit-swap spread (1)(2)
(basis points)

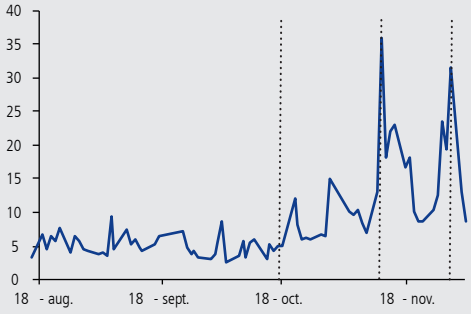


(1) Horizontal dotted line indicates the minimum swap auction rate.
(2) Vertical dotted line marks the start of the social crisis.

Source: Central Bank of Chile.

On Thursday, 28 November, the Bank announced an intervention program for the foreign exchange market to reduce the volatility of the exchange rate (figure II.16). This program considers spot dollar sales (via auctions) and forwards (currency hedging), each for up to US$10.0 billion between December 2019 and May 2020. As in 2008 and 2011, the monetary effects of these measures will be sterilized, to keep the liquidity provision in pesos consistent with the monetary policy rate. Since the intervention has only recently been implemented, it is too soon to evaluate the definitive results. However, exchange rate volatility has fallen significantly since the start of the program in the first days of December.

FIGURE II.16
Daily volatility of the NER (1) (2)
(Chilean pesos)



(1) Calculated as the difference between the maximum and minimum daily rate.
(2) Left vertical dotted line marks the start of the social crisis; central vertical dotted line, the first announcement of liquidity measures by the Central Bank (13 November); right vertical dotted line, the start of foreign exchange intervention by the Central Bank (02 December).

Source: Bloomberg.

Conclusions

In recent weeks, several financial prices have changed significantly in response to the uncertainty deriving from the social crisis. This has not only triggered changes in price levels, but also implied a significant increase in volatility, which is considered detrimental to the normal functioning of the markets. Consequently, the Board has adopted several measures to facilitate liquidity management in the financial system and to mitigate volatility. The liquidity injection, in both pesos and dollars, was particularly important when asset prices pointed to liquidity problems. However, over and above the tension in the financial markets, the persistence of higher rates and spreads suggests a more permanent change in economic expectations. The Board reiterates that it will continue to use all the tools at its disposal to achieve its legally mandated objectives, in particular the maintenance of the normal functioning of the internal and external payments systems, and to bring inflation to the 3% target within the two-year policy horizon.