Financial cycle and its policy implications

Since the Global Financial Crisis (GFC) in 2008, most central banks have put more emphasis on preserving financial stability (FS), perceiving that the economy cannot grow in a sustainable way, disregarding a stable financial system. A systematic assessment of financial stability risks within monetary policy deliberation processes, and the availability of indicators that can accurately signal those risks, have consequently become of great importance. This article aims to explain the construction of a financial cycle indicator, which will serve as a tool to measure Thailand’s overall FS risks together with other existing FS indicators and hence become part of appropriate monetary policy consideration.

1. The concept of a financial cycle indicator

Risks to financial stability can be assessed through a financial cycle (FC) indicator, which measures deviations of the level of credit and asset prices from their respective trends. FC, thus, shows phases of expansion and contraction of the financial sector in each period. A positive value of FC indicates the acceleration of credit and asset price growth that may be inconsistent with the economy’s growth potential. On the other hand, a negative value of FC reflects the expansion of credit and asset prices that is below its trend, which normally occurs after a financial crisis.

In fact, dynamics of credit and asset prices are reinforcing. During periods of eased monetary conditions, low interest rates will boost credit growth. Given that the credit expansion in part attributes to investment in money, capital, and real estate markets, it could lead to higher asset prices. The rise in asset prices then helps increase the collateral value, thereby contributing to further credit expansion.

2. The financial cycle indicator for Thailand

The FC indicator reflects deviations of financial variables\(^{14}\) from their trends. For Thailand, the financial cycle is a composite index, constructed by averaging the cycles of 8 financial indicators.\(^{15}\) These include 4 credit variables and 4 asset-price variables.\(^{16}\) Key observations are as follows:

(1) The peak of FC portends the occurrence of a financial crisis. Prior to the Asian Financial Crisis in 1997, the FC was positive and stood at a high level (Chart 2). Nevertheless, in gauging the extent of risks during financial crisis, the amplitude of a cycle should also be taken into consideration. For example, the current level of Thailand’s FC already reached its peak in 2016, the amplitude of which was lower than that before 1997. To assess the concerned level of FC, one

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\(^{14}\) FC is calculated by a one-sided band-pass filter, namely Christiano-Fitzgerald (CF) filter. The selection of frequencies corresponds to the financial-cycle length of around 8 to 30 years, which is suitable for measuring risks of financial crisis that usually take a while to accumulate and infrequently occur.

\(^{15}\) The criteria for choosing appropriate financial variables include: (1) such variables can reflect leverage and asset pricing in the financial system (2) their data cover periods of Thailand’s past financial crisis and (3) cycles of the chosen variables are overall consistent with one another.

\(^{16}\) Credit indicators, which can reflect leverage in the financial system, comprise (1) outstanding credit extended to non-financial corporations, (2) the ratio of total credit extended to non-financial corporations to GDP, (3) outstanding credit extended to households, and (4) the ratio of total household credit to GDP. Meanwhile, asset-price indicators, which serve to signal underpricing of risks, include (1) the single-detached house (including land) price index, (2) townhouse (including land) price index, (3) land price index, and (4) condominium price index. However, equity prices, i.e. the SET index, are not included in the construction of Thailand’s FC, since their cycles have exhibited relatively high volatility compared to the 8 variables aforementioned.
must consider linkages between FC and the probability of crisis, which will be discussed in the next section.

(2) **Assessing the components of FC, whose dynamics may differ in some periods, helps enhance our understanding about the contributing factors to systemic risks.** For example, (1) cycles of household credit (as a proportion of GDP) accelerated during 2011. This reflects the level of Thailand’s household debt that heightened after the great flood, as well as the launch of government measures to stimulate consumption, such as first-car and first-home buyer schemes, and a rice-pledging scheme, which induced financial institutions to extend more loans (Chart 1, left-hand panel). (2) Land and condominium price cycles increased markedly during 2009-2010, reflecting greater demand for condominiums than other forms of real estate. This prompted the Bank of Thailand to impose regulations on mortgage lending (LTV) in 2011 (Chart 1, right-hand panel).

3. The relationship between FC and the probability of financial crisis

The level of FC signals the probability of crisis, which could serve as an early warning indicator within the assessments of FS risks. This article applies the ratio of credit outstanding to GDP and real estate prices from both advanced and emerging economies to estimate such probability of crisis in future periods. The measure will allow policymakers sufficient time to implement macroprudential measures should FS risks materialize.

The estimation results suggest that the probability of crisis for Thailand, the U.S. and the United Kingdom synchronizes well with FC. The probability of crisis, in most cases, also surges to a very high level ahead of a financial crisis, whereas it appears low whenever FC stands at a low level or prevails within a negative territory. Furthermore, it can be observed that the probabilities of crisis for Thailand and the U.S. prior to a financial crisis are relatively similar, although their FC level markedly differs.

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17. The estimation is based upon a panel logistic regression model to assess the probability of crisis one to three years ahead. The samples are from both advanced economies (AEs), including the U.S., the United Kingdom, France, Italy, Netherlands, and Spain, and emerging market economies (EMs), i.e. Thailand and Malaysia. The identification of periods during which financial crises took place in each country is based on Laeven and Valencia (2013) “Systemic Banking Crises Database: An Update”. The cross-country regression should help improve accuracy of the estimates, since a financial crisis in Thailand occurred just once since 1993 and the estimation using only Thai data yields a statistically insignificant estimate.
4. Policy implications

Evaluating FC in conjunction with business cycles (output gap)\(^{18}\) enables more comprehensive assessments of risks to both economic growth and financial stability in monetary policy conduct. This is because either an increase or decrease in the policy rate simultaneously impacts the economy and financial stability. For instance, in periods when FC expands considerably or reaches a high level during a business cycle contraction, monetary policy easing aiming at stimulating the economy may lead to further accumulation of financial stability risks because lower borrowing costs encourage a more credit expansion and rising asset prices.

A comparison of Thailand’s FC and business cycles (Chart 2) suggests that (1) the duration and amplitude of FC are higher than those of business cycles. A financial crisis normally stems from the accumulation of risks for extended periods. Once a crisis occurs, the economy faces a severe impact and takes time to recover. Meanwhile, an economic slowdown during a business-cycle contraction will take a shorter recovery period, since the economy is usually supported by demand-stimulating measures. (2) Recessions that occur at the same time as a financial crisis tend to be more severe and protracted than ones without it, since most financial institutions restrict their loans extension, making it difficult to boost demand and support economic recovery.

The longer duration of FC than that of business cycles requires the conduct of monetary policy to be more forward-looking in order to strike the right balance between maintaining macroeconomic stability and financial stability, given the differences in their cycle durations.

To conclude, the assessments of a financial cycle indicator and the probability of crisis together with other financial stability indicators, such as property price index, components of household debt, stress test and scenario planning, will help enhance the efficiency of monetary policy conduct and its capability to preserve FS in a more systematic manner.

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18 Business cycles, measured as deviations of GDP from its trend, show developments of economic conditions during both expansion and contraction phases, which evolve in tandem with economic activities in each period. Whereas business cycles measure the level of an economic variable relative to its short-term trend, financial cycles show the level of financial variables relative to their corresponding medium-term trend.