The Swiss franc Libor in the course of the financial market turmoil

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Abstract

The three-month Swiss franc Libor serves as a reference rate for the Swiss National Bank (SNB). As a first step, the thesis aims to assess whether the reference rate was subject to risk premia during the financial market turmoil. The emergence of risk premia could have jeopardized the effectiveness of monetary policy which is evaluated as a second step. The results suggest that the reference rate was driven by credit and liquidity risk premia during the financial market turmoil. However, the SNB's monetary policy proved to be effective to counteract the disturbances on the Swiss franc interbank market.

Keywords:
Financial Crisis, Interest Rates, Monetary Policy, Risk Premia

JEL Classification:
E43, E52, E58, G01, G15

Executive Summary

The primary channel for monetary policy implementation for most central banks is the interbank money market. The Swiss National Bank (SNB) implements monetary policy by setting a target range for the Swiss franc three-month Libor rate and communicates which part of the target range it is aiming at by announcing a target rate. The reference rate of the SNB has a high economic relevance since many financial obligations are indexed to the Swiss franc three-month Libor rate. In contrast, other central banks aim to steer an overnight rate whereby monetary policy is only indirectly transmitted into the relevant benchmark for the pricing of financial obligations. Since the Libor is an indicative rate and reflects the average rate at which Libor contributor banks can obtain unsecured funds in the London interbank market, the rate can be subject to risk premia during periods of financial distress. During the financial market turmoil, the emergence of risk premia in unsecured interbank rates has been detected in several currencies, measured by the spread between the three-month Libor and the three-month Overnight Index Swap (OIS).

Firstly, the thesis investigates whether the divergence of the Swiss franc three-month Libor and the three-month OIS rate can be attributed to rising risk premia in unsecured interbank rates. A divergence of the Libor – OIS spread could spill over to the real economy and affect the cost of credit which will jeopardize the effectiveness of monetary policy. Secondly, the effectiveness of the SNB's monetary policy is addressed by analyzing the spread between the Swiss franc three-month Libor and the SNB's target rate. Expectation-driven deviations of the Libor – target rate spread do not necessarily have an adverse effect on the effectiveness of monetary policy but are in line with monetary policy intentions. Instead, the presence of risk premia may increase the level and the volatility of the spread between the Swiss franc three-month Libor and the expectations-adjusted target rate, in other words the policy intended interest rate level. In response to the disturbances on the interbank money market the SNB took several actions including target rate cuts and the introduction of unconventional monetary policy measures. Effective targeting efforts of the SNB would imply that monetary policy actions could help to alleviate the deviations of the Swiss franc three-month Libor form the policy intended interest rate level.

The Libor – OIS spread as well as the Libor – target rate spread are analyzed both, theoretically and empirically by a regression model. The regression model is estimated for a pre-crisis and a crisis period with a breakpoint on August 9th, 2007.

Firstly, it can be graphically shown that the spread between the Swiss franc three-month Libor and the OIS rate was generally lower than in other currencies which might be attributed to the SNB's monetary policy framework by steering a longer-term reference rate. However, the results of the regression analysis indicate that there is a joint impact stemming from credit and liquidity risk premia on the Swiss franc three-month Libor – OIS spread during the financial market turmoil.

Secondly, the graphical analysis shows that the level and the volatility of the spread between the Swiss franc three-month Libor and the expectations-adjusted target rate increased around monetary policy meetings during the crisis period, especially after the Lehman Brothers failure. The widening of the spread may be attributed to rising risk premia and uncertainty about monetary policy decisions. Nevertheless, the regression analysis of the spread between the Swiss franc three-month Libor and the target rate reveals that expectations about future target rates were adequately reflected in the Libor – target rate spread before and during the financial crisis. That is, the Libor rate generally moved in accordance with the monetary policy intentions. Although risk premia and unexpected target rate cuts at first put an upward pressure on the Libor – target rate spread during the financial market turmoil, the SNB's monetary policy proved to be effective to lower the tensions in money market spreads. The lagged effect of substantial target rate cuts at unscheduled monetary policy meetings and the introduction of swap operations were the most effective measures.

It is shown that the existence of risk premia in the unsecured interbank rate, the Swiss franc three-month Libor, cannot be rejected during the financial market turmoil. However, it can be concluded that the SNB's monetary policy was largely effective. The SNB had the right tools at its disposal to counteract the rising risk premia and prevent the economy from an undesired increase in the Swiss franc three-month Libor rate.