

INDEX OF MONETARY AND FINANCIAL CONDITIONS ALBANIA

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1. INDEX OF MONETARY AND FINANCIAL CONDITIONS

The Monetary Conditions Index was first introduced by the Bank of Canada and has been used from many international banks and institutions. This index serves as a mechanism to interpret the direction of monetary policy and the related effects on the economy.

The Monetary Condition Index (MCI) assesses the combined effect of indicators, which represent the main channels of monetary policy transmission to an open economy: the real interest rates and the real exchange rate, where their coefficients represent the respective effects on aggregate demand. The main purpose of MCI is to provide additional information on the monetary conditions in a given economy. It considers the performance of both interest and exchange rates in real terms. We may say this index is a weighted average of both indicators stated above and determines if monetary conditions in a given economy are “loosed” or “tightened.” The result is displayed by a specific number that shows the grade of pressure that monetary policy exercises on economy and consequently on inflation. Given a situation characterised by “loosed” monetary conditions, it is expected that monetary policy supports economic growth. On the other hand, given neutral monetary conditions in the economy, the monetary policy is expected to have neutral effects.

It should be highlighted that the monetary conditions’ components do not necessarily affect the economy on the same direction. For example, exchange rate may be assessed as “loosed” and the interest rates as “tightened,” and vice-versa. The interest rate plays the main role in determining the monetary conditions, while the exchange rate adapts to the interest rates: lower interest rates, in a certain period of time, stimulate the depreciation of the domestic currency exchange, and vice versa. The monetary policy impacts inflation through two directions: interest rates and exchange rate. An increase in either of these rates is likely to slow down economic growth and decrease inflationary pressures. Likely, a cut of either interest or exchange rates stimulates economic activity, and therefore it may lead to higher inflationary pressures. Consequently, both channels should be taken into account when constructing MCI.

The Monetary Conditions Index for the period t is determined as the weighted sum of interest rate changes (i) and the exchange rate (e) from their level in the base year ($t=0$), and may be introduced as following:

$$MCI = \theta_i (i - i_b) + \theta_e (e - e_b)$$

where, θ_i and θ_e represent the weights of real interest rates and of the real exchange rate, respectively.

Based on the research conducted by Manjola Tase (August, 2006), in the case of Albania, the Monetary Conditions Index is the weighted average of key interest rate changes (REPO) and the nominal effective exchange rate of ALL (NEER) against a base period. This index points to a ratio of 1.82:1, implying that the effect of exchange rate depreciation by 1.82 percentage points is compensated by a 1 percentage point shift in interest rates. The base period of the MCI assessment was September 2000.

This assessment of Monetary Conditions Index ratio for the case of Albania was accomplished through a calibration method based on IMF (2004). The assessment done using this method might be somewhat indirect and imprecise. Given the need for a new way of assessment and the available data for a period of about 10 years, I have calculated the average weights of real interest rates and the real exchange rate for Albania. The methodology is based on an OLS assessment and considers quarterly data for 1998Q1–2008Q4. The new ratio calculated by this method points to 3.8, implying that the effect of a real effective exchange rate (REER) by 3.8 percentage points might be neutralised by a shift of 1 percentage point in real interest rates.

Data used for the assessment of MCI ratio are the following:

- REER, real effective exchange rate of domestic currency, based on the domestic and international Consumer Price Index;
- 3-month T-bills real rates;
- 6-month T-bills real rates;
- 12-month T-bills real rates;
- Inflation;
- Gross Domestic Product;
- Output Gap, as a percentage of Real GDP deviation from potential GDP.

Three separate equations are built in this study, where 3-, 6- and 12-month T-bills are used respectively for each, and where the output gap is the dependent variable. In these equations Adjusted R-squared is high and this shows that a high percentage of the model is explained by the variables considered, also F-statistic has a high value that certifies the model's significance; the latter shows the model is statistically significant. Then, diagnostic tests of coefficients and residuals are conducted. Once it is certified that the models used do not show any problems, the coefficient ratio of each equation is calculated next. Later, the calculated values are simply averaged, pointing to -3.8. Given that, a numeric increase of REER shows a depreciation of ALL, then this value shall be multiplied by (-1) concluding that the new Monetary Conditions Index ratio points to 3.8.

Moving on to the Financial Conditions Index, this indicator assesses the financial conditions of a country. In this case the performance of real interest

rate for credit is considered when analyzing the financial activity. The same ratio used with the Monetary Conditions Index is used for FCI as well.

2. PERFORMANCE OF MCI AND FCI

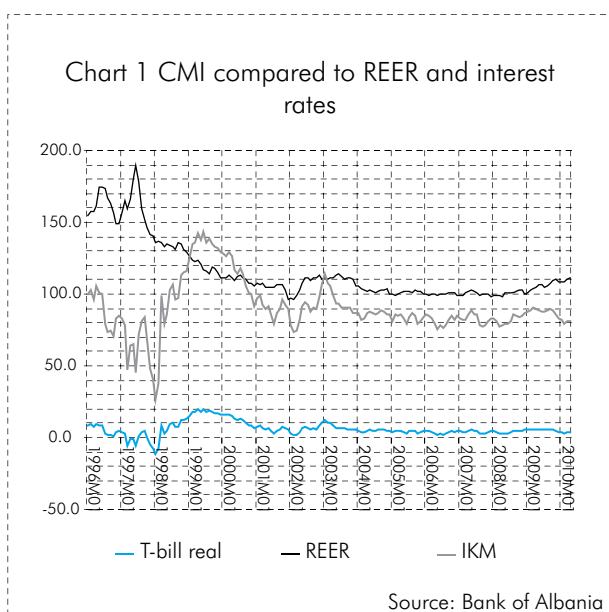
MONETARY CONDITIONS INDEX

Monthly data from January 1996 to April 2010 were used subordinated indicator to build the Monetary Conditions Index for Albania. The base period of assessment for MCI is January 1996, and is expressed as follows:

$$MCI = (\text{Real_TB} - \text{Real_TB}_{(\text{base})}) * 3.8 + (\log(\text{REER}) - \log(\text{REER})_{(\text{base})}) + 100$$

where:

- Real_TB stands for the average real rate of T-bills;
- Real_TB_(base) is the real rate of T-bills in the base year;
- REER is the real effective exchange rate;
- (REER)_(base) is the real effective exchange rate in base year;



An increase in the Monetary Conditions Index shows a deterioration of monetary conditions; conversely, a fall in this index suggests that monetary conditions in the economy are improved compared to the base year. In the following chart we can see the MCI performance from January 2006 to April 2010, compared to the performance of REER and the real interest rates for T-bills.

In this chart we see that monetary activity from 2007 up to the third quarter of 2008 has seen considerable improvements, which was not customary for the preceding 15 years. These improvements arose due to the depreciation of the real exchange rate, which is interpreted into eased economic conditions and owes to the slight reduction of real interest rates. The beginning of the financial crisis is characterised by tight monetary

conditions, mainly owing to the rise of T-bills' interest rates. During the first months of 2010 we see that after a period of improved monetary conditions, starting from March, this index shows tightening of monetary conditions; this deterioration owes to the effect of the further raise of T-bills' interest rates in real terms; meanwhile, the domestic currency continues to be characterised by an ongoing depreciation.

FINANCIAL CONDITIONS INDEX

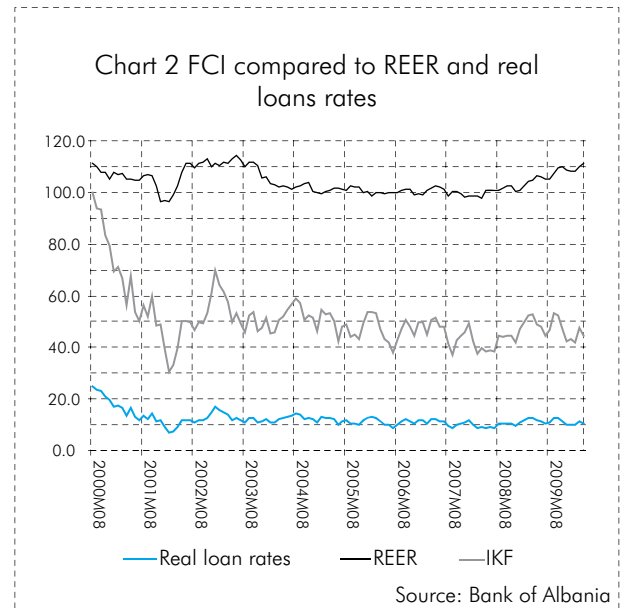
Monthly data from August 2000 to April 2010 are used to build the Financial Conditions Index for Albania. The base period for the MCI assessment is August 2000, and it is expressed as follows:

$$ICF = (\text{Real_LR} - \text{Reale_LR}_{(base)}) * 3.8 + (\log(\text{REER}) - \log(\text{REER})_{(base)}) + 100$$

where:

- Real_LR is the real average rate of loans;
- Real_LR_(base) is the real rate of loans in base year;
- REER is the real effective exchange rate;
- (REER)_(base) is the real effective exchange rate at base year;

This chart shows that, unlike the average rates of the last 15 years, the financial activity is characterised by important improvements in the period between 2007 and the third quarter of 2008. But at the beginning of the financial crisis, the financial activity is characterised by tight conditions owing to the increase of loans' real interest rates. The financial conditions start to improve only after 2009 due to ALL depreciation and to the drop of interest rates.



* The views expressed in this paper are those of the author and do not necessarily represent those of the Bank of Albania.

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