

ECONOMIC COMMENTARIES

NIBOR – a Norwegian interest rate?

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1 Introduction

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Norges Bank has in various contexts pointed out that today's NIBOR construction has clear weaknesses. The reasons for this view are presented in a letter to Finanstilsynet (Financial Supervisory Authority of Norway) of 26 May 2014, *Norges Bank Paper 2/2014* ("Weaknesses in NIBOR") and in Bernhardsen et al. (2012).¹ Bernhardsen et al. point out, among other things, the difference in risk premiums expressed in NIBOR compared with the Swedish reference rate STIBOR. This comparison is particularly relevant, since a majority of the NIBOR panel banks also quote STIBOR. In the memo "NIBOR – intet mysterium" [NIBOR – no mystery], Aamdal (2014) argues, for his part, that Swedish money market rates "...ikke gjenspeilet reell pris på usikret likviditet..." [did not reflect the real price of unsecured liquidity].² He points out that a money market rate must reflect the alternative return that banks can obtain by investing in other currencies. This is illustrated by converting NIBOR and STIBOR into equivalent EUR loans and comparing them with the EURIBOR interest rate in the period October 2011 to March 2012. In this commentary, we show that NIBOR reflected a risk premium that was specific to EUR and EURIBOR panel banks. In our view, this risk premium is difficult to justify for NOK and Norwegian banks.³

2 NIBOR and other countries' reference rates – risk and investment alternatives

Aamdal illustrates one alternative investment opportunity by converting the three-month NIBOR and STIBOR to EUR with the aid of forward exchange contracts and compares these rates with the three-month EURIBOR. At first glance, it may seem that these three rates, i.e. the three-month NIBOR and three-month STIBOR converted to EUR and the three-month EURIBOR, should be identical, because otherwise a risk-free gain can be obtained. This is referred to as covered interest parity. However, economic theory makes it clear that covered interest parity only holds between interest rates with **equal risk**. This means that all investment alternatives to be compared must be **risk-adjusted**. An unsecured financial investment in a solid Norwegian bank yields a lower expected return than lending to a peripheral European bank in financial trouble. Lower risk engenders lower expected returns. Covered interest parity does not – and is not supposed to – apply between these two alternatives.

Chart 1 is one of Aamdal's charts. The chart shows that the three-month STIBOR converted to EUR was considerably lower than the three-month EURIBOR in the relevant period. On the other hand, the three-month NIBOR converted to EUR was very close to the three-month EURIBOR. The reason for this is that NIBOR was quoted so high that, converted to EUR, it was approximately as high as EURIBOR. Aamdal's view is that this shows that NIBOR reflected the real price of unsecured liquidity and incorporated the alternative investment opportunity in EUR (illustrated by EURIBOR).

¹ The letter can be downloaded here: <http://www.norges-bank.no/en/Published/Submissions/2014/Letter-2-June-2014/Reference-rate-options-in-Norway/>

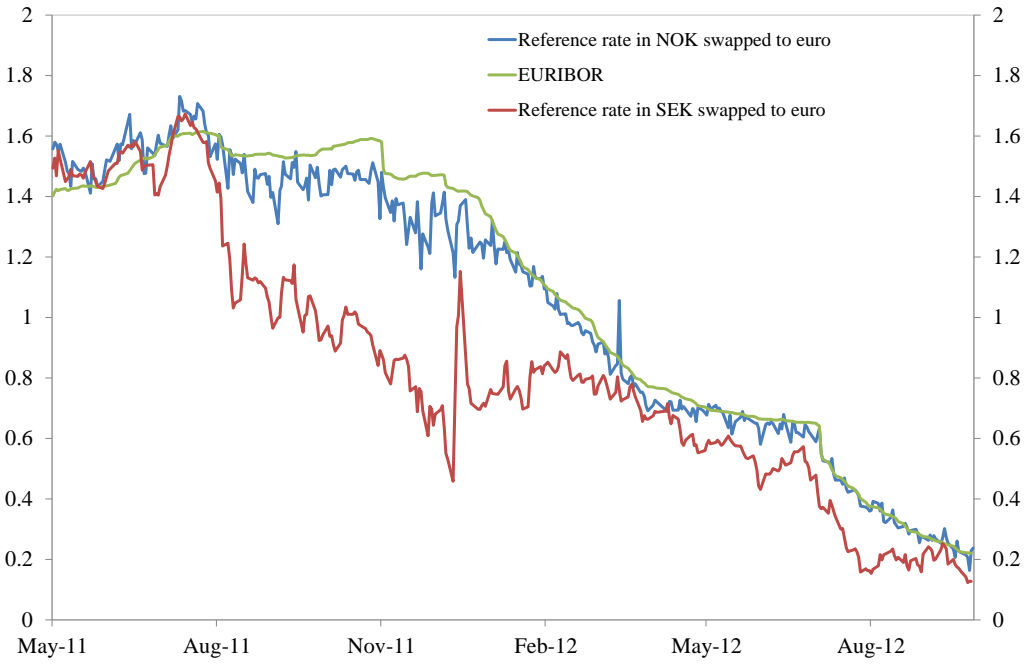
Norges Bank Papers 2/2014 includes the appendix to this letter and is found here: http://www.norges-bank.no/pages/100014/Appendix_Nibor_26_05_2014.pdf.

See also Bernhardsen, T., A. Kloster and O. Syrstad (2012) "Risk premiums in NIBOR and other countries' interbank lending rates", *Staff Memo 21/2012* Norges Bank.

² See Working Paper 6/2014, Centre for Monetary Economics, BI Norwegian Business School, www.cme.no.

³ Aamdal also cites his comparison with STIBOR in support of the view that owing to its swap construction, NIBOR is more closely aligned with the market than other countries' reference rates. However, Norges Bank's earlier criticism of this view is based on completely different arguments regarding the way NIBOR banks in practice choose their USD rates and calculate their forward premiums. See the letter cited above and *Norges Bank Papers 2/2014* for further details.

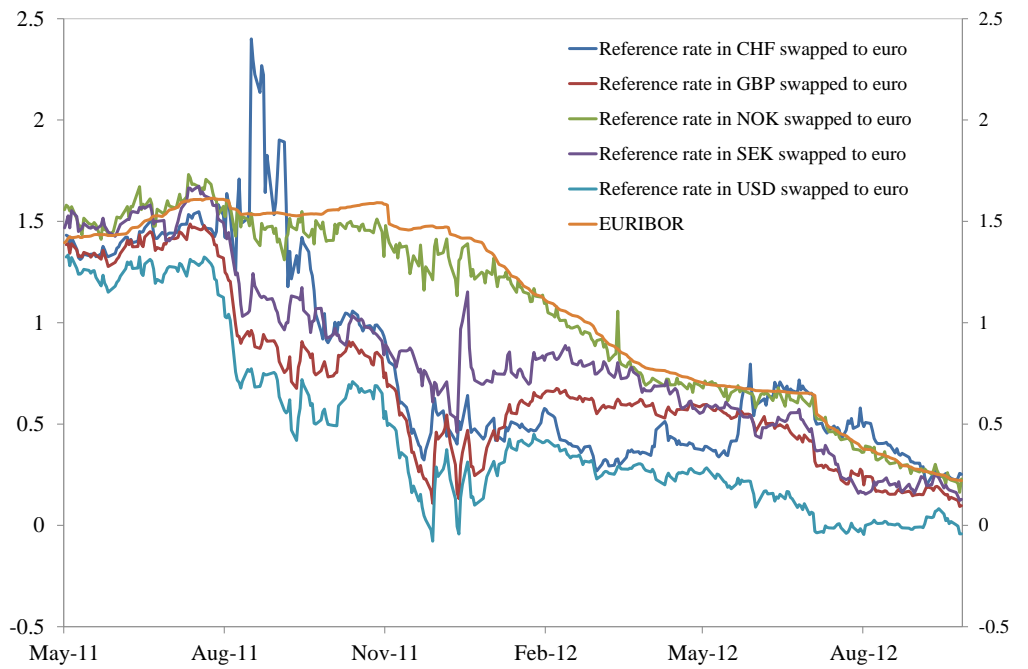
Chart 1. Three-month reference rates in NOK and SEK converted to EUR and the three-month EURIBOR. Percent



Sources: Bloomberg and authors' own calculations

Chart 2 shows the same calculation for three-month reference rates in a number of other countries. When these countries' reference rates are converted into EUR, they follow the same pattern as STIBOR and they are all clearly lower than EURIBOR. The reason for this is that the risk premium (reference rate less the expected policy rate) in all these other countries' reference rates was substantially lower than the risk premium in EURIBOR. The only exception was NIBOR, which had just as high a risk premium as, and at times higher than, EURIBOR.

Chart 2. Three-month reference rates in CHF, GBP, NOK, SEK and USD converted into EUR and three-month EURIBOR. Percent



Sources: Bloomberg and author's own calculations

What is the reason that all the other reference rates were quoted so low that after conversion into EUR they were considerably lower than EURIBOR? Put another way: why did the banks in these currencies not incorporate the alternative investment opportunity in EUR?

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If we follow Aamdal's reasoning, this would indicate that no reference rate other than NIBOR reflected the real price of unsecured liquidity, which is a rather unlikely case. A closer look at the time period referred to provides a basis for other explanations we find more likely:

- 1) The euro area economy was under considerable pressure in 2011-2012. Several of the periphery countries, especially Italy and Spain, were facing substantial budget deficits, high public debt levels and elevated borrowing costs. The banking sector in these and many other euro area countries was in difficulty, and there was considerable uncertainty regarding the creditworthiness of the European banking sector as a whole. This was clearly reflected in a sharp increase in the price of insuring against failures of European banks (CDS prices).
- 2) Market participants feared that one or more of the euro area's major member countries would default on debt. This gave rise to speculation that the euro area might break up as a monetary union. For example, in *Økonomiske utsikter* [Economic outlook] from August 2011, DNB writes that "...sannsynligheten for et krisepreget utfall har økt betraktelig..." [...the probability of a crisis outcome has increased considerably...]. Furthermore, in December 2011, DNB estimated a "det-går-ikke-scenario" [it won't work scenario] at 20-30 percent.⁴ There is reason to believe that other participants in the global financial market had more or less the same perception of the state of the euro area at that time.

The economic situation in the euro area in 2011-2012 gave rise to a substantial risk premium on financial investments in EUR in general and in EURIBOR in particular.⁵ The risk premium associated with a probability of a break-up of the euro area should be particularly high, if the investment in EUR is financed by borrowing in another currency. The reason for this is that there is considerable uncertainty regarding the value of the asset (investment) in the event of a break-up of the euro area, while the liability (amount borrowed) remains intact.⁶

This means that an investment in EURIBOR panel banks was substantially riskier than an investment in a NIBOR bank in NOK. In his reasoning, Aamdal does not adjust the investment alternatives for risk when he argues that NIBOR converted into EUR must be approximately equal to EURIBOR. With regard to the other reference rates, this risk assessment seems to be more adequately reflected.

Chart 3 is identical to Chart 2, but now with a variable that may express how market participants assessed the risk of a euro area break-up. This variable is the number of Google searches with the text "EMU break up" and clearly shows how EURIBOR

⁴ See links below for these analyses:

<https://www.dnb.no/portalfont/nedlast/no/markets/analyser-rapporter/norske/okonomiske-utsikter/HR1102.pdf>

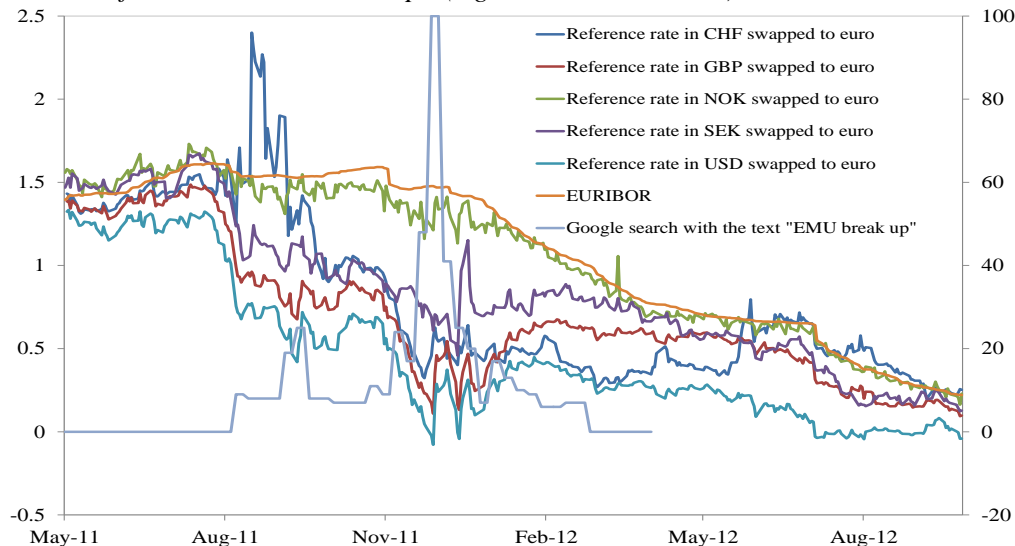
<https://www.dnb.no/portalfont/nedlast/no/markets/analyser-rapporter/norske/okonomiske-utsikter/111215-reviderte-prognoser.pdf> (Norwegian only)

⁵ Investing at EURIBOR entails a financial investment in an average of the 44 banks that at that time comprised the EURIBOR panel.

⁶ In the forward exchange market, this translated into a lower relative liquidity premium in EUR (EUR becomes less expensive) than other currencies, since it is not especially attractive to hold EUR. The effect was further amplified by the unlimited liquidity supplied by the ECB in its operations. All else being equal, this means that IBOR rates swapped to EUR will as a consequence be lower than EURIBOR if EURIBOR has risen owing to high credit risk in the EURIBOR panel.

rose in pace with increased focus on a possible euro collapse. EURIBOR rose compared with all reference rates other than NIBOR. If this risk premium is baked into NIBOR, the question that arises is what NIBOR is actually supposed to express. Is NIBOR supposed to be a Norwegian interbank rate, or a EUR rate converted into NOK? Developments in 2011-2012 indicate that NIBOR banks are applying the latter interpretation.

Chart 3. Three-month reference rates in CHF, GBP, NOK, SEK and USD converted into EUR, three-month EURIBOR (left-hand scale, percent) and number of Google searches of the text “EMU break up” (right-hand scale, index)



Sources: Bloomberg, Google and authors' own calculations

3 Conclusion

One of the problems with regard to the current NIBOR construction – and which Norges Bank has pointed out on numerous occasions – is that NIBOR is defined as a currency swap rate. Banking in large part involves assessing risk. It is remarkable that banks that otherwise assess risk along a number of dimensions fail to do so when setting NIBOR. NIBOR should reflect the risk inherent in NOK and the risk associated with NIBOR panel banks.

When comparing investment alternatives, the first step should be to risk-adjust the various alternatives. Aamdal does not do this, in our view. The time period concerned was marked by considerable uncertainty, regarding both European banks and the future of the euro itself. This resulted in an additional risk premium in EURIBOR. That STIBOR (and other countries' reference rates) did not contain the same risk premium is interpreted to mean that these rates were artificially low. To the contrary, we are of the opinion that it reflected the difference in risk between lending to banks in EUR and lending to banks in other currencies. On the other hand, the NIBOR panel banks allowed the euro-specific risk to feed right into NIBOR. The question may then be raised as to what NIBOR actually expresses.