Financial markets without a risk-free sovereign

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Today, I want to talk about the question of "can financial markets work well both in normal times and under stress without a risk-free sovereign?" from the perspective of reference interest rates. In various initiatives including work by IOSCO and the Wheatley Review in the UK, the issues related to reference rates with a particular focus on Libor have been dealt with mostly from a regulatory and governance point of view. But reference rates have far-reaching implications for monetary policy transmission and financial stability, and for market functioning, more broadly. So I thought this issue would be relevant for this seminar.

A key feature for Libor-type reference interest rates is that they comprise a risk-free rate and a credit risk premium that reflects the perceived common credit risk of the sample of banks contributing to the reference rate; this component may be called the *"common bank risk",* which can be described as a common bank funding cost. The fact that Libor-type reference rates contain a credit risk component has implications for monetary policy and financial stability.

In terms of monetary policy, the transmission mechanism through the interest rate channel will be ensured to the extent that Libor-type rates and the policy rate move in tandem. However, in crisis periods, the credit risk component embedded in the reference rate tends to rise and become increasingly volatile. This implies that changes in policy rates do not necessarily influence interest rates such as the loan rate in the same way that they would in normal times. In an extreme case, a reduction in the policy rate may be more than offset by the increase in the credit risk premium, thus undermining the intended monetary policy stimulus. Indeed, we saw how key reference rates with a *common bank risk* component drifted away from policy interest rates during the 2007–08 crisis period.

In terms of financial stability, Libor-type reference rates transfer lender banks' funding cost risks to borrowers. This enhances risk reallocation and, to the extent that end-borrowers can bear and manage these risks, it contributes to financial stability. If, however, the reference rate does not correctly reflect the *common bank risk,* the use of the reference rate can spread mispricing to other parts of the financial system, facilitating the build-up of financial risks. This could threaten financial stability.

The potential limitations to Libor-type reference rates with a credit risk component did, in fact, materialise during the 2007–09 crisis period. There may be three reasons why such limitations became apparent. First, the increased dispersion of the credit risks on individual banks, when the credit standing of individual banks became extremely disparate. As a result, the reference rate became less and less capable of capturing the *common bank risk*. From an individual bank's point of view, it became irrelevant to price a loan with a reference rate that no longer correlated with the bank's real cost of funding. Second, unsecured interbank market activity declined noticeably. This raised the question about the representativeness of such reference rates, given that Libor rates are based on the unsecured interbank market.

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Third, there is a trend in the market to ever larger interest rate derivatives transactions, although this is not directly linked to the crisis. Interest rate derivatives contracts, such as swaps, entail interest rate risk and *not* bank funding cost risk. Thus, reference rates that do not contain a credit risk component would probably be more appropriate for use in transactions designed to manage exposure to interest rate risk. Additional demand for reference rates without a credit risk component is likely to be generated by structural changes in derivatives markets, such as the wider use of collateral and the move to clear through central counterparties (CCPs). The collateralisation of derivatives portfolios is a clear response to the crisis. Indeed, we know that the portion of collateralised contracts in the OTC derivatives market rose from 30% in 2003 to more than 70% in 2011, after the crisis. Some academic papers have suggested that a discount factor with a credit risk component is unsuitable for the NPV calibration of a derivatives portfolio. And we hear from contacts in the marketplace that more and more derivatives market participants are now using risk-free or near risk-free rates as a discount factor when calibrating the NPVs of their derivatives portfolios.

Reference rates based on unsecured interbank markets were for many years seen as a good proxy for bank funding costs. And given a small and stable common bank risk premium, they were also seen as representative for instruments with a very limited credit risk. That is probably why Libor-type rates have also been used for evaluating interest rate derivatives. It is only since the 2007–09 crisis that the robustness and representativeness of the Libor-type rates have been challenged.

In view of the three reasons for the limitations of Libor-type reference rates, a simple answer would seem to be to do away with the Libor-type reference rates and shift to an alternative risk-free reference rate, which might have to be invented. But this won't be easy, for a variety of reasons. First, a reference rate is a kind of public good and therefore the private sector has only a limited incentive to develop a new one. Second, there is the long history of using the Libor-type reference rates – adding up to *inertia* – and there are also the *positive externalities* arising from the fact that everyone has hitherto used the same kind of reference rate as a "common language". The inertia and positive externalities make the existing Libor-type rates hard to displace. Third, inventing a new way to represent *common bank risk* is not altogether easy. One way might be for lender banks to shift to using a risk-free rate plus a fixed spread that would be agreed at the start of the loan, but this would leave the risk of changes in the funding cost with the lender bank, because the spread remains fixed throughout the life of the loan.

So what should we do? The developments I have mentioned may argue in favour of a co-existence of multiple reference rates; some with a credit risk component and some without. Market participants could then choose the reference rate that best serves their purpose, whether that is to price loans or manage exposure to interest rate risks. Then, there is, of course, the question of what kind of risk-free reference rates we should have. I don't have a clear answer, except to say that a range of candidates may exist. Risk-free sovereign rates include yields on actively traded government securities or government collateral (GC) repo rates. Unsecured overnight rates can be seen as almost risk-free because of their short maturity as well as the fact that this is the policy rate for many central banks. The overnight interest rate swap (OIS) rate is a derivative of the overnight rate that could be used for the pricing of loans and derivatives contracts with fixed maturities. However, many jurisdictions currently lack OIS reference rates. I personally believe in the potential for the OIS to be developed into a useful reference rate in the future. OIS contracts are a form of interest rate swap. If standardised, they could be

cleared through CCPs in the future. In that case, CCPs would be excellently positioned for the collection of data and the formulation of reference OIS rates. In any case, there is currently no Libor equivalent for the risk-free or near risk-free reference interest rate. The pros and cons of each candidate may have to be further explored.

Going back to the question raised at the outset; "can financial markets work well both in normal times and under stress without a risk free sovereign?" As far as reference rates are concerned, my answer to the question would be "No, not over the medium term." To reiterate, Libor-type reference rates that have credit components will continue to play a key function, given the legitimacy they have in representing common bank risk, the positive network externalities, and the large stock of legacy contracts using these reference rates. Still, the changes in the behaviour of existing key reference rates and the need for new risk-free or near risk-free reference rates, particularly after the financial crisis, would seem to argue for greater diversity in the choice of reference rates, so that the individual needs of market participants could be better met. This would, in turn, contribute to the improved functioning of the market.