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Excess liquidity and the money market in the euro area

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ABSTRACT

This paper assesses the impact of the fixed-rate full-allotment procedure implemented by the European Central Bank (ECB) in October 2008 on the functioning of the interbank money market. More specifically, our work examines whether the excess liquidity positions of financial institutions observed during the fixed-rate full-allotment period have altered the activity and the liquidity of the overnight segment of the euro area money market. In normal times, the limited amount of excess liquidity makes the dynamics of the money market insensitive to it. In contrast, the introduction of the fixed-rate full-allotment procedure – as one prominent unconventional measure of the ECB – has made the dynamics of the money market growingly dependent on the time-varying level of excess liquidity in the euro area.

1. Introduction

Following the contagion from the subprime crisis in the summer of 2007 and then from the collapse of large too-big-to-fail financial institutions in 2008 to the euro area financial markets, the European Central Bank (ECB) has taken unprecedented measures to heal the confidence crisis rapidly spreading across financial institutions. Among these measures, the ECB replaced on 13 October 2008 its weekly variable-rate tenders by a fixed-rate full-allotment procedure (FRFA) for the allocation of funds to financial institutions. Under the fixed-rate full-allotment regime banks do effectively receive all the requested funds (i.e., a full allotment) at a unique interest rate applicable to all financial institutions (i.e., the fixed rate part). This procedure has allowed financial institutions to acquire liquidity beyond liquidity needs at a very low (and decreasing) marginal cost. With the objective to preserve the continuation of payment flows amid market malfunctioning, the ECB eventually decided to deviate from the hands-off policy that it followed up to the start of the financial crisis in August 2007 in order to promote the self-organisation of the money market between its weekly auctions.

Against this background, this paper assesses whether and to what extent the excess liquidity situation triggered by the fixed-rate full-allotment procedure of the ECB has altered the functioning of the market for short-term funds in the euro area. More specifically, this paper examines how the activity (mainly the volume of transactions and the volatility of the market rate) and the liquidity (i.e., the ability for financial institutions to balance their central bank reserves in the interbank market when needed) of the money market react to excess liquidity. This contribution to the literature is, to the best of our knowledge, novel.

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Our findings can be summarised as follows. First, we show that, in normal times as observed over the period of the variable-rate tenders, the amount of excess liquidity held by financial institutions in the euro area is relatively low and does not alter the dynamics of the interbank money market. In contrast, the rise in excess liquidity that followed the introduction of the fixed-rate full-allotment procedure of the ECB directly influences the operation of this market for unsecured funds. Specifically, our empirical results support the theoretical developments of Hauck and Neyer (2014) and Heider et al. (2015) on the impact of liquidity hoarding on the interbank market of the euro area during the financial crisis. Moreover, we show that this unconventional measure of the ECB was successful in preserving the continuation of transactions and the resilience of liquidity in this market amid destabilising tensions in the aftermath of the Lehman collapse.

The remaining of this paper is organised as follows. The institutional background that led to a situation of excess liquidity in the euro area is presented in Section 2. Section 3 discusses the data and the indicators used in this paper. Our methodology and empirical results are reported in Section 4. Concluding remarks and policy implications are finally provided in Section 5.

2. Institutional framework

Under the rules of the Eurosystem's operational framework for the implementation of the monetary policy, weekly auctions were organised in the form of variable-rate tender procedures prior to the start of the financial crisis on 9 August 2007. At that time, a predefined amount of central bank reserves to be injected was decided by the ECB with a view to match – on average over a pre-defined period called the reserve maintenance period roughly equivalent to one calendar month – the liquidity needs of credit institutions in the euro area. Eligible credit institutions accordingly submitted their requests for liquidity against adequate collateral (meeting the eligibility criteria determined by the ECB) within the allotted benchmark with a corresponding interest rate in their request.[1] The main policy rate decided by the Governing Council of the ECB sets the floor for those variable-rate tenders. In practice, this main policy rate is equally distant from the interest rates applied to standing facilities (namely the rate applied to the deposit facility of the ECB and the rate on its marginal lending facility). The conditions of the main refinancing operations (MROs) are announced every Monday and bids are allotted on Tuesdays (settlement occurs on Wednesdays). Bids are allotted as a decreasing function of the interest rate specified by the bidding financial institutions, so that higher interest rate bids have a greater probability of being allotted in full. This procedure therefore creates an incentive for bidders to adequately assess their liquidity needs and to decide on the attached interest rate, which, if the request for funds is executed, will jointly define the penalty paid by the bidder to the central bank for receiving the funds. Outside of the weekly main refinancing operations, the operational framework of the European Central Bank promotes a hands-off policy from the perspective of the central bank which forces banks to turn to the money market to balance their required reserves (see ECB, 2012 for more details on the operational framework).

Until recently (and certainly prior to August 2007), the bulk of short-term funding for banks in the money market relied on uncollateralised transactions between market participants (hence on the unsecured segment of the money market).[2] During that period, confidence between market participants was of paramount importance in this type of market (see, e.g., Raddant, 2014 or Hatzopoulos et al., 2015). In particular, market participants attached specific attention to the 'quality' of their counterparties in their transactions to limit the risk of default (i.e., credit risk). And because market participants were overwhelmingly confident about the solvency of such counterparties and about the efficiency of the money market, no one really considered the risk of a reduced access to market liquidity (i.e., liquidity risk) as likely.

By altering the confidence between market participants, the first stage of the financial crisis (i.e., the period from 9 August 2007 to 12 September 2008) shed doubt on the certainty to have access to market liquidity at any time. Then concerns about the quality of the balance sheet of counterparties gradually emerged. The consequent market stress then exacerbated in the aftermath of the collapse of the company Lehman Brothers, Ltd. on 15 September 2008. This collapse cast doubt on the 'too big to fail' market beliefs. The then-prevailing multi-dimensional concerns significantly intensified market distortions in the various segments to lead eventually to a sudden freeze of transactions in both the unsecured (deposit) and secured (repo) segments in the money market in early October 2008. To address this issue, the ECB decided on 8 October 2008 to adopt a full-allotment procedure at a fixed price for its refinancing operations, the so-called fixed-rate full-allotment procedure (FRFA).[3] This decision took place in parallel to a significant cut in its key policy rates coordinated with other major central banks. Over time the ECB introduced other adjustments to its operational framework to implement its monetary policy decisions but so far the FRFA remains the cornerstone of the unconventional measures adopted since August 2007.[4]

Through the FRFA, the ECB aimed to reassure market participants about their access to market liquidity, particularly important at a time when they were inclined to liquidity hoarding. Such liquidity hoarding was motivated essentially by three main

[1] The so-called benchmark was estimated by the ECB on the basis of the autonomous factors (namely the required reserves, the banknotes and the government deposits) and excess reserves expected over the whole maintenance period. For further details, see Durré and Nardelli (2008) or ECB (2012).

[2] Specifically, this paper focuses on the interbank (deposit) market. Subsequent references to the money market in the remaining of this article should be understood from this particular perspective.

[3] As recalled in Durré and Smets (2014), the ECB was already much less restrictive in providing short-term liquidity already before October 2008. However, as the variable-rate tender procedure was formally still in place, some uncertainty about the effective amount of liquidity ultimately injected by the ECB still prevailed. In contrast, the decision made on 8 October 2008 (and implemented on 13 October 2008) officially institutionalised the full-allotment procedure.

[4] For a detailed review of the ECB unconventional measures (and their rationale) across the various phases of the financial crisis, see Drudi et al. (2012) or Durré et al. (2014).