Foreign Currency Liquidity Provision by Central Banks in the Recent Financial Crisis – Experience and Prospects

V Meeting of Open Market Operators
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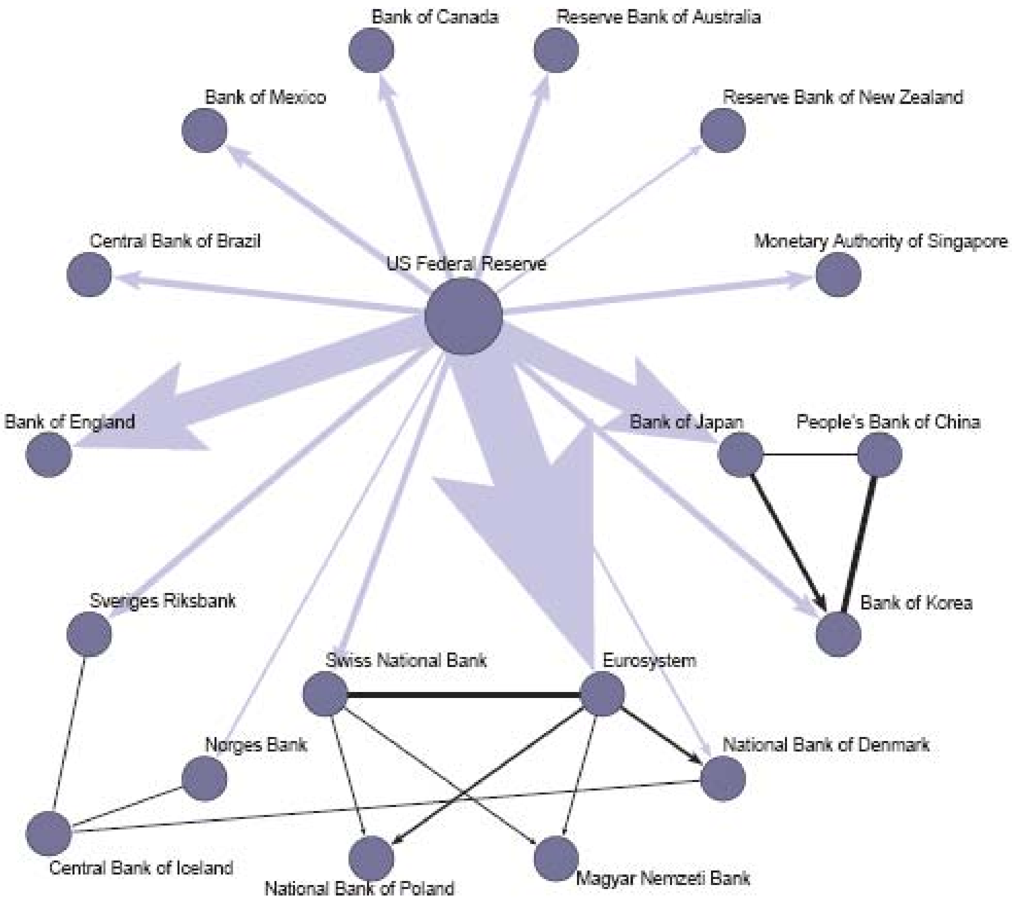
Overview



The arrows indicate the direction of the flows (where known); light shaded arrows represent US dollars provided to other central banks, dark arrows represent other currencies (evaluated at the average exchange rate during Q4 2008). The thickness of the arrows is proportional to the size of central bank swap lines, as announced; where swaplines are unlimited, the figure shows maximum usage instead, derived from auction allotments. The ASEAN swap network is not shown.

Source: McGuire/Peter, The US dollar shortage in global banking and the international policy response, BIS WP 291, Oct. 2009.

European banks‘ net balance sheet positions by currency

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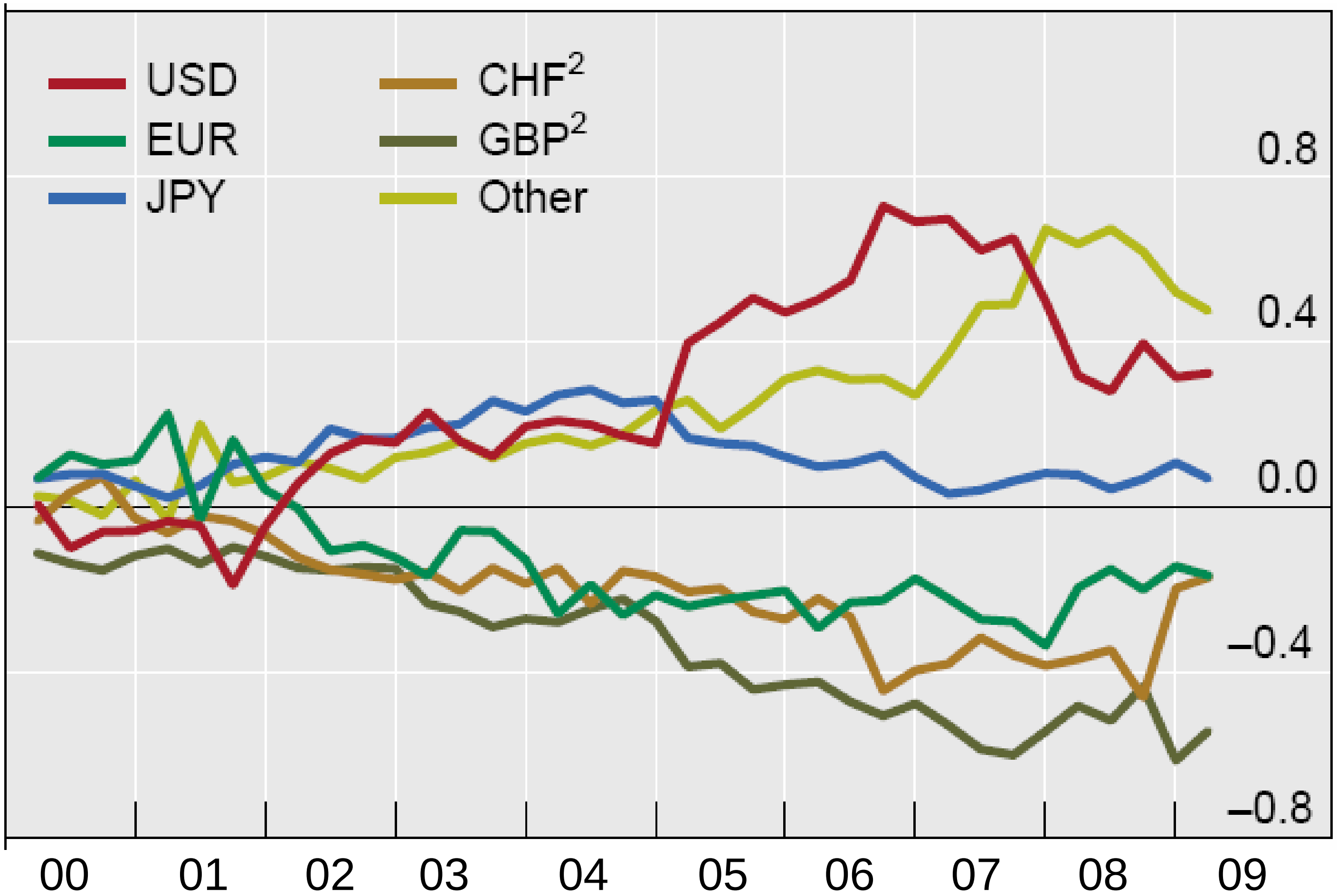
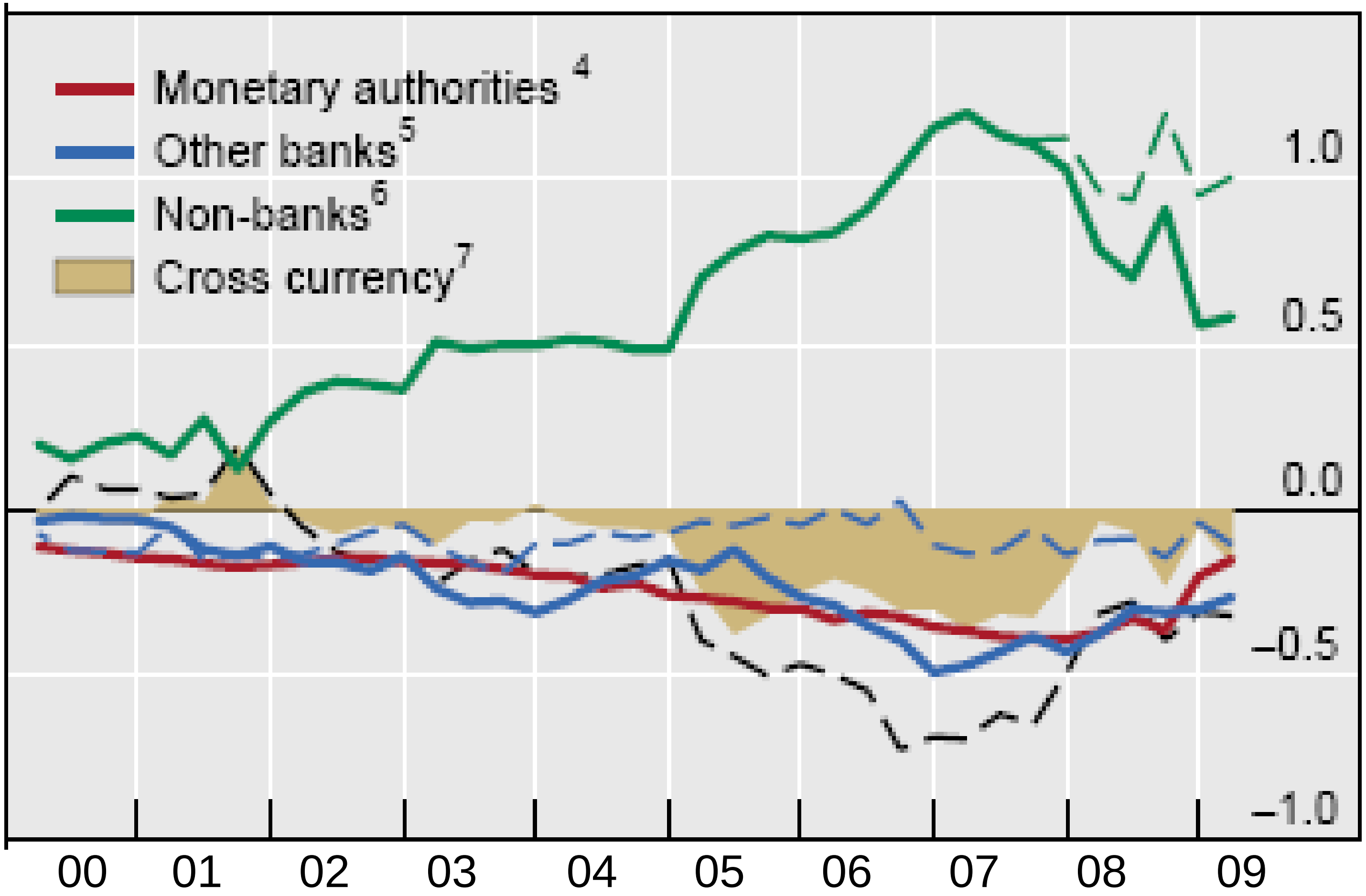


USD Trillion

European banks:
Belgium, Netherlands, France, Germany, Italy, Spain, Switzerland, UK.

Source: McGuire/von Peter, The US dollar shortage in global banking and the international policy response, BIS WP 291, Oct. 2009.

European banks‘ net USD positions by counterparty



USD Trillion

European banks: Belgium, Netherlands, France, Germany, Italy, Spain, Switzerland, UK.

Source: McGuire/von Peter, The US dollar shortage in global banking and the international policy response, BIS WP 291, Oct. 2009.

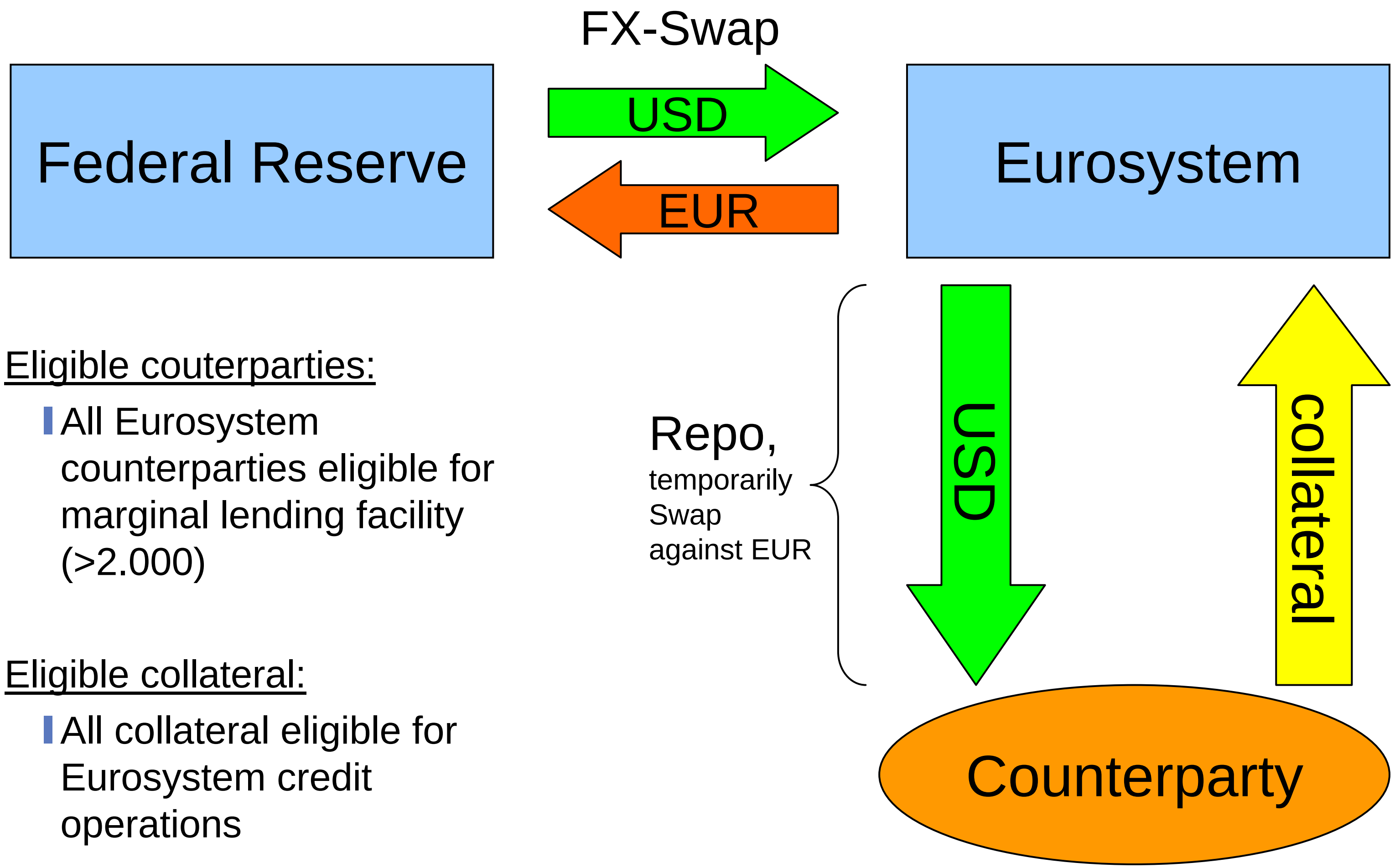
USD needs of European banks: stylised facts

- **Business model of European banks in US**
  - Risk transformation
  - Maturity transformation
  - Currency transformation
  - Substantial off-balance sheet activities

- **Funding sources**
  - USD interbank market
  - US money market funds
  - Foreign central banks
  - FX swap market

- **Access to funding from the Federal Reserve proved to be insufficient**

USD operations of the Eurosystem - setup



- <u>Eligible couterparties:</u>
  - All Eurosystem counterparties eligible for marginal lending facility (>2.000)
- <u>Eligible collateral:</u>
  - All collateral eligible for Eurosystem credit operations

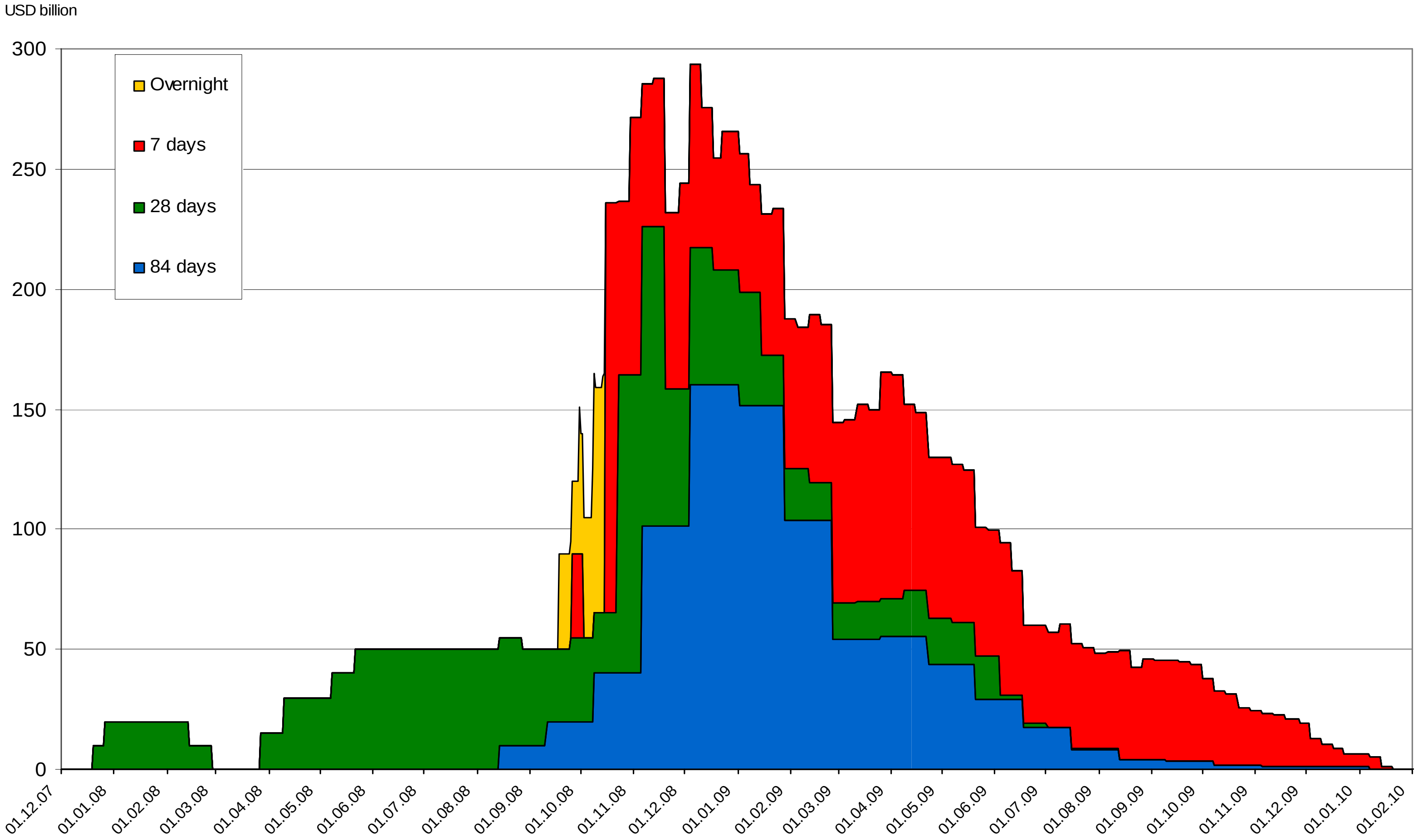
Timeline

12.12.07	Announcement of BoC, BoE, ECB, Fed, SNB: “measures designed to address elevated pressures in short-term funding markets”; ECB: “Joint action with the Fed by offering USD funding to Eurosystem counterparties” (**28-day-operations**; 2x10 bn $); SNB offers 28-day-operation (4 bn $); TAF of the Fed: 2x20 bn $)
11.03.08	Announcement of BoC, BoE, ECB, Fed, SNB; ECB: US dollar funding resumed (no operations in February) as long as needed
02.05.08	ECB, Fed, SNB announce expansion of liquidity measures
30.07.08	ECB, Fed, SNB announce **84-day-operations**
18.09.08	BoC, BoE, ECB, Fed, BoJ, SNB: “Co-ordinated measures in short-term USD funding markets”; ECB: O/N operations, increase total volume from 50 bn $ to 110 bn $
26.09.08	ECB, SNB and BoE: **7-day-operations** (quarter end) using swap lines with Fed
29.09.08	“Central banks are announcing further coordinated actions to expand significantly the capacity to provide USD liquidity”. FOMC and ECB GovC double swap line to 240 bn $ until 30.04.09. Involvement of BoC, BoE, BoJ, Danmarks Nationalbank, Fed, Norges Bank, RBoA, Riksbank, SNB
13.10.08	ECB, BoE, SNB: 7-, 28-, 84-day-operations with **fixed rate full allotment**. Swap lines with Fed increased to accommodate whatever quantity of USD funding is demanded. BoJ is considering similar measures. ECB: O/N only if necessary, operations as long as needed, at least until January 2009
15.10.08	ECB operations also as **FX- Swaps,** discontinued end-January due to low demand

Timeline

19.12.08	Fed, BoE, BoJ, ECB, SNB announce schedules for term auctions for USD liquidity in 09Q1 (28-, 84-day-operations). ECB: also 7-day-operations
03.02.09	Swapline ECB-Fed extended to 30.10.09
19.03.09	ECB: Prolongation of unchanged operations in 09Q2
06.04.09	BoE, ECB, BoJ, SNB announce swaplines for provision of EUR to the Fed. ECB: 80 bn € until 30.10.09
25.06.09	ECB GovC and FOMC extend reciprocal swaplines until 01.02.10. ECB, BoE, SNB extend 7-day- and 84-day- operations until end of 09Q3. **ECB announces termination of 28-day-operations at end-July** due to limited demand and improved funding conditions
24.09.09	BoE, ECB, SNB extend 7-day-operations until end-January 10. **84-day-operations discontinued** after operation on 06.10.09
27.01.10	ECB confirms **expiration of reciprocal swapline with the Fed**: “Lines are no longer needed given the improvements seen in the functioning of financial markets over the past year. Central banks continue to cooperate as needed.” ECB decides in agreement with Fed, BoE, BoJ, SNB to **stop USD operations after 31.01.10**

Eurosystem USD operations: Outstanding amounts



Pricing of Eurosystem USD operations

Overnight operations

- 18.09.-07.10.08: variable rate tender, allotment at marginal rate (Dutch auction)
- from 08.10.08: variable rate tender, allotment at individual bid rate (American auction)

- **7-day-operations**
  - 26.09.08: variable rate tender, allotment at fixed rate
  - from 15.10.08: fixed rate tender at fixed rate USD OIS rate +100 BP, full allotment
- **28-day-, 84-day-operations**
  - Until 14.10.08: fixed rate tender at marginal rate of the parallel TAF auction
  - Since 15.10.08: fixed rate tender at OIS-Rate (TAF minimum bid rate of the Fed) +100 BP, full allotment
- **Collateral**
  - Normal haircuts
  - Initial margin for foreign currency risk: 10%/12%/17%/20% for O/N/7-day/28-day/84-day-operations
- **FX Swaps**
  - Fixed rate tender at fixed swap rate, full allotment
  - Swap rate calculated with USD rate = OIS + 100 BP, EUR rate = OIS – 25 BP
  - Initial Margin: 5%/10%/17% for 7 days/28 days/84 days operations

Pricing in 28-day-repos

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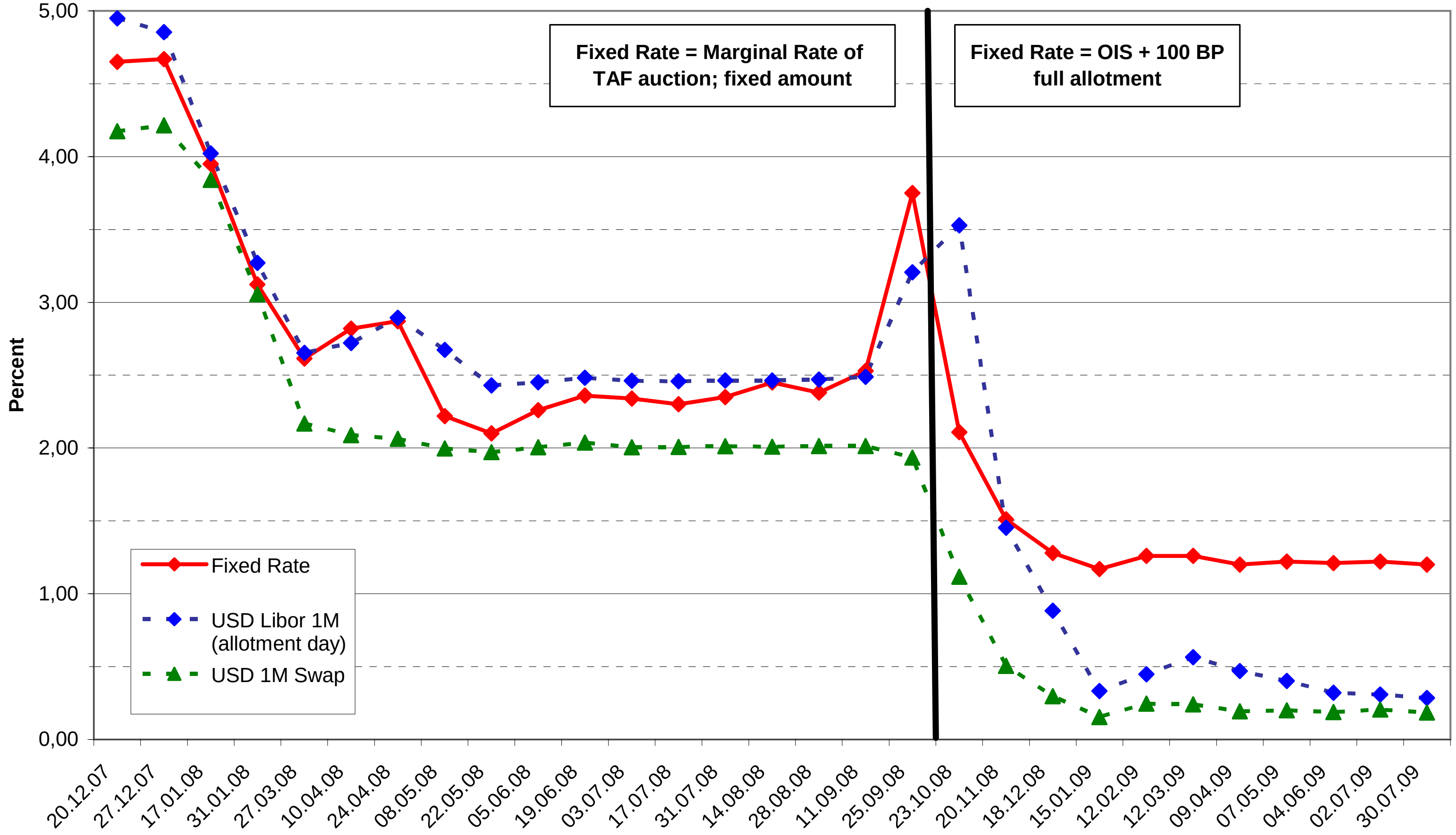
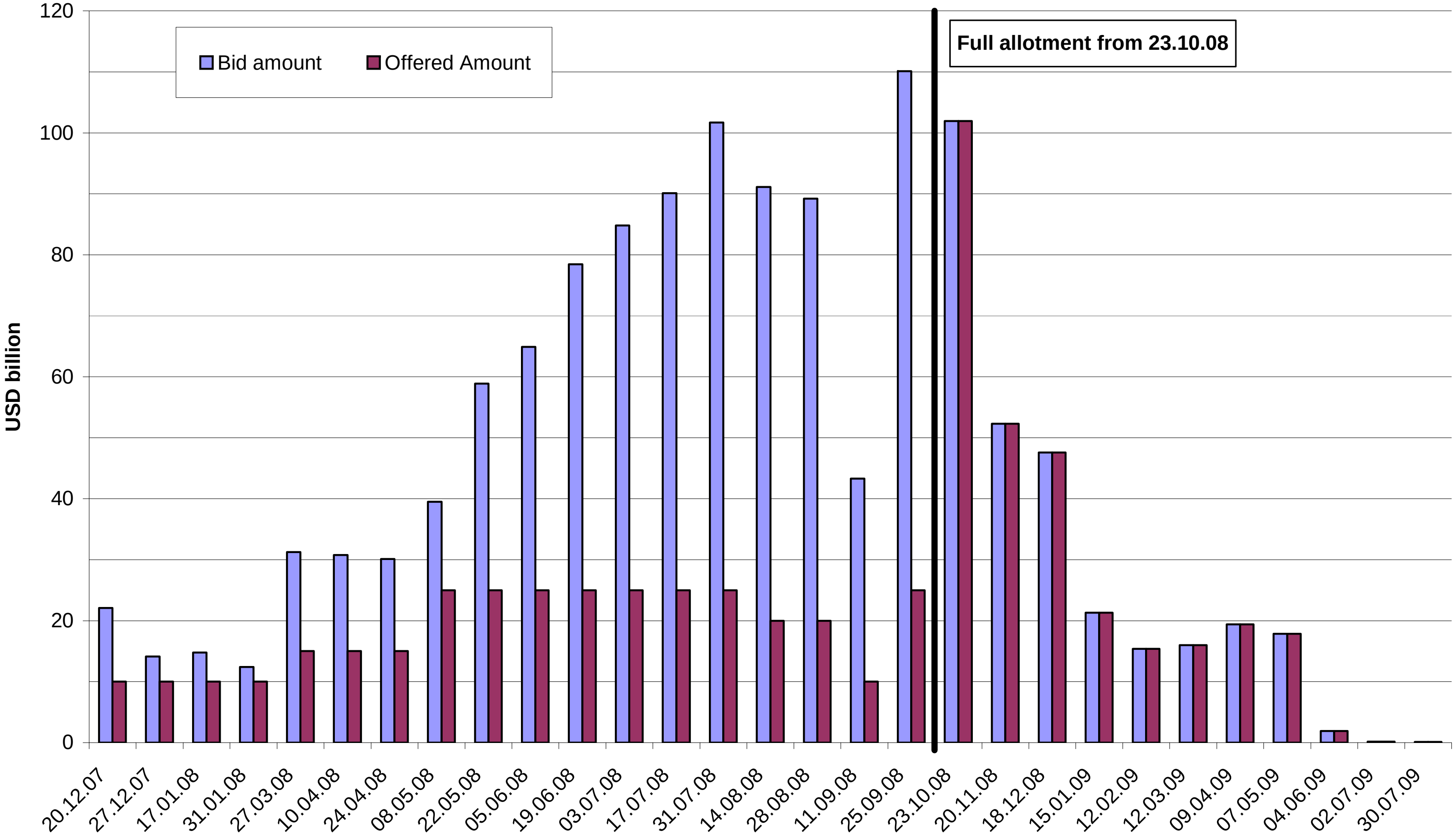
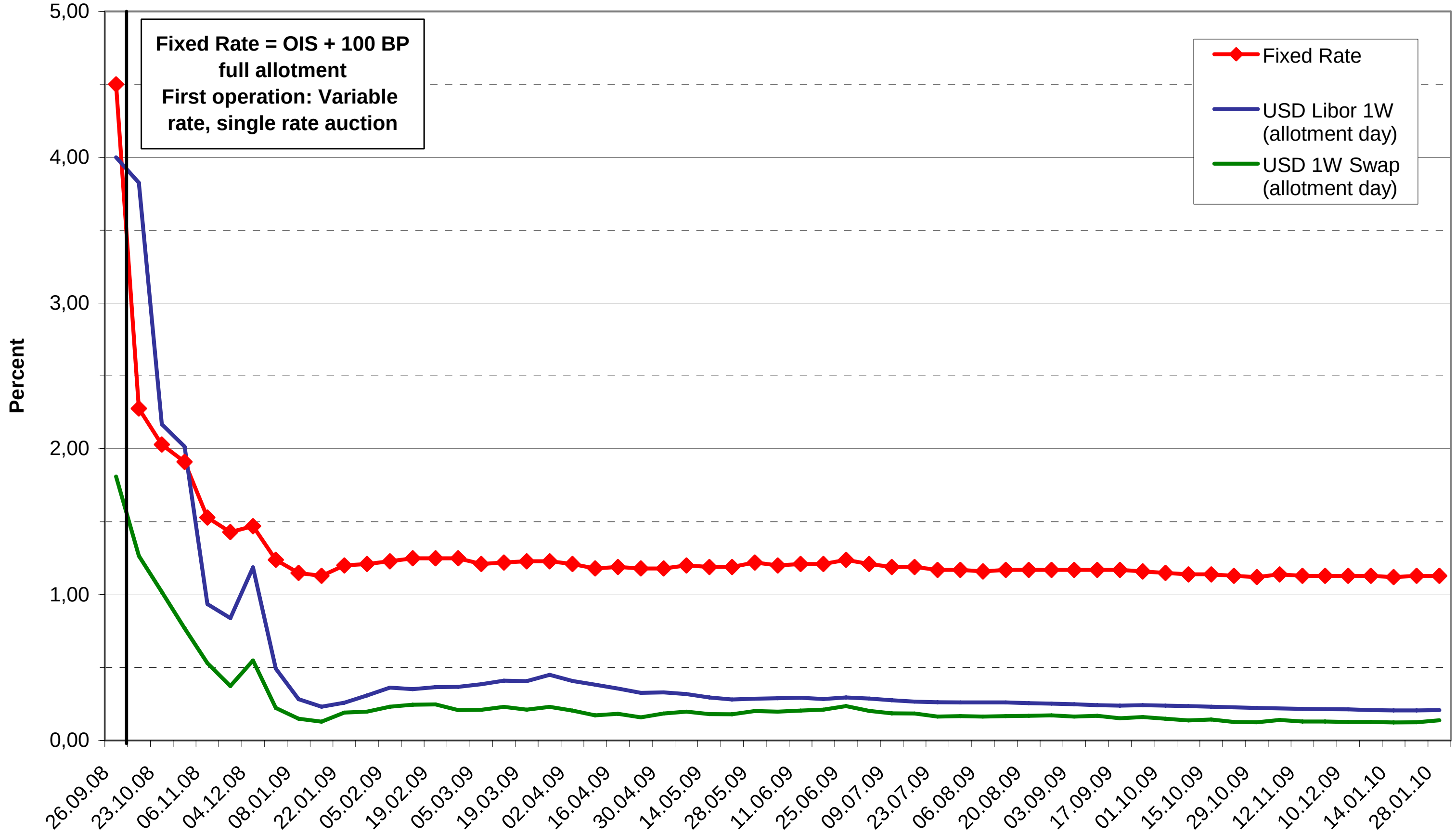


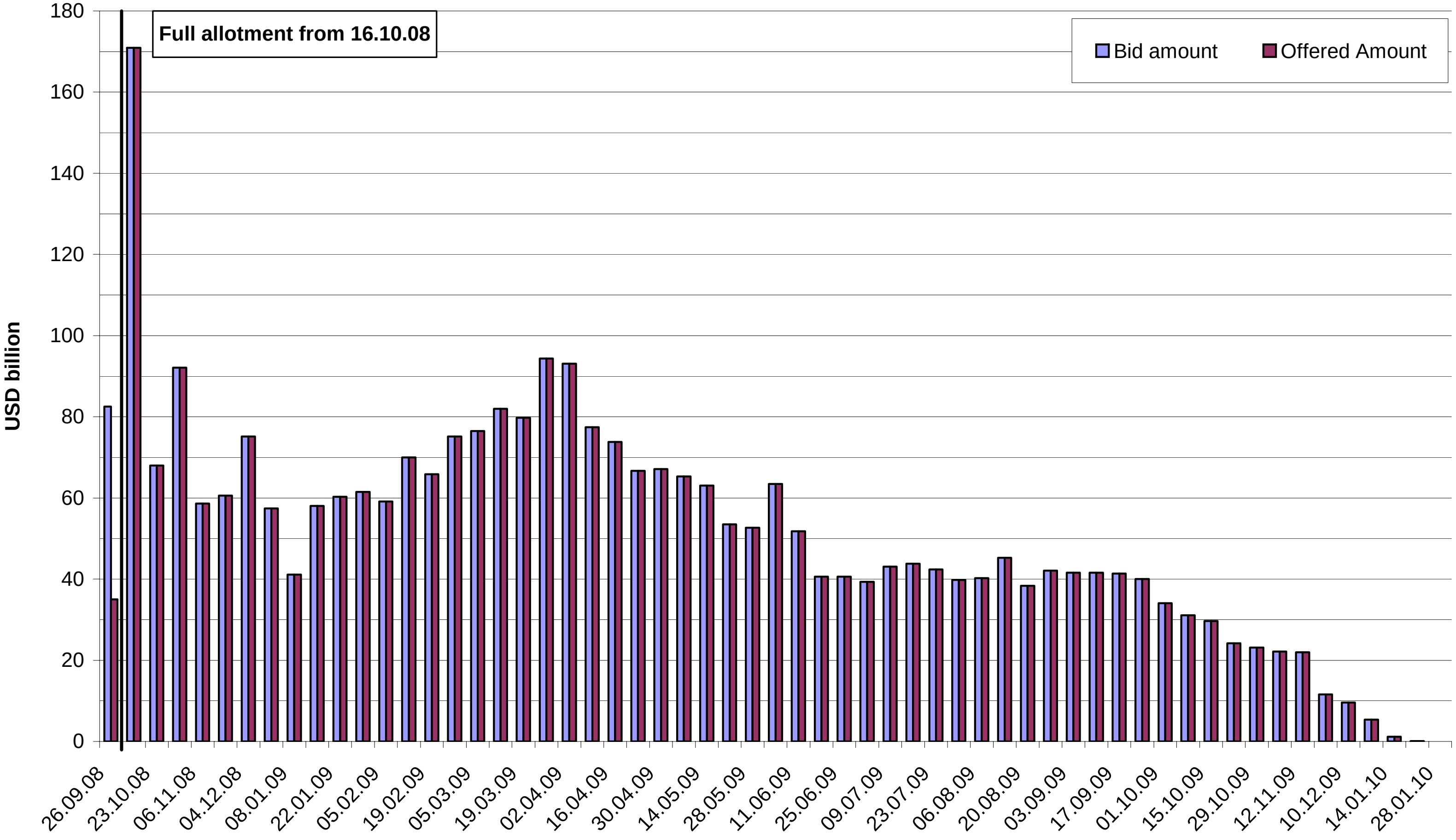
Bidding in 28-day-repos



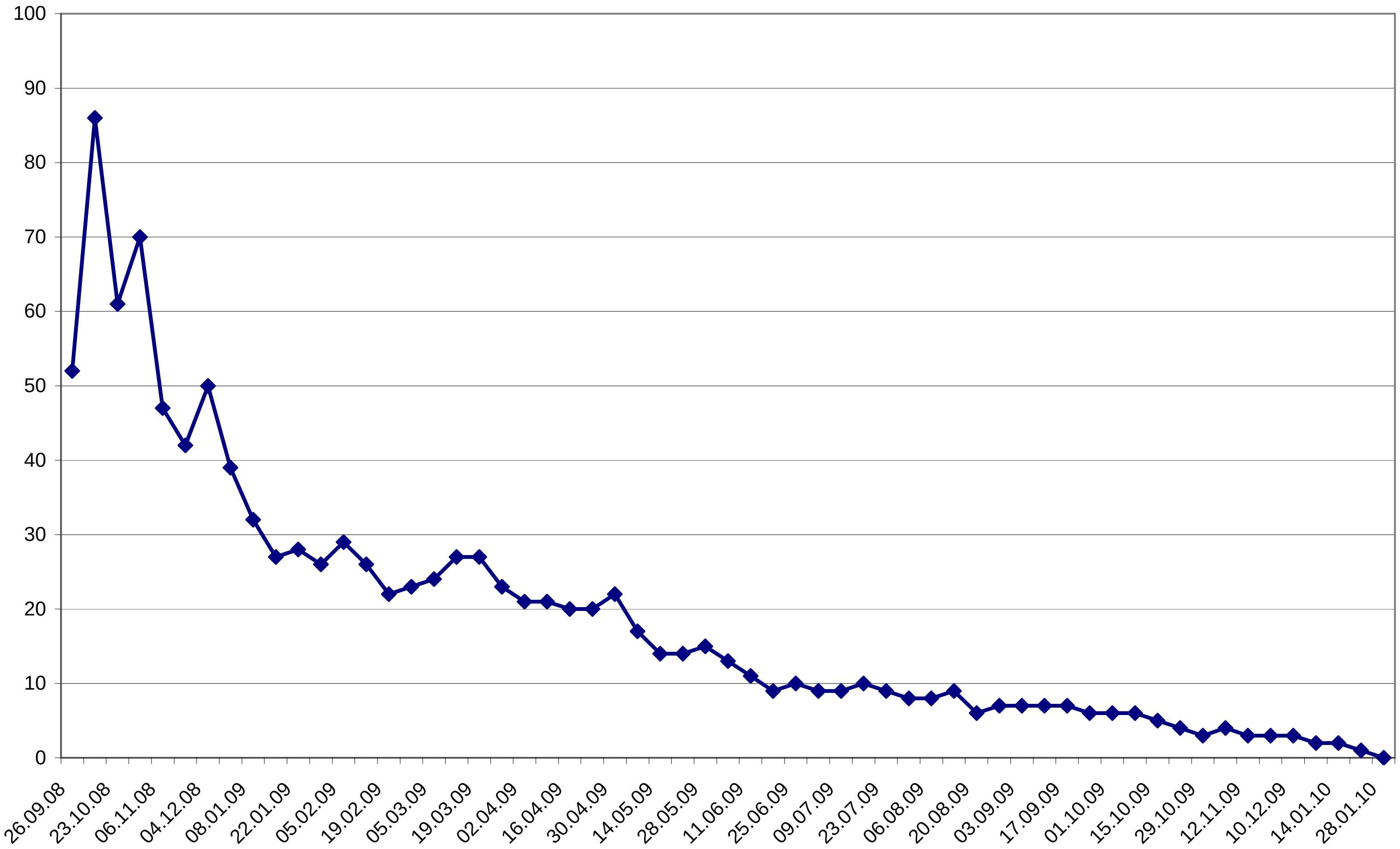
Pricing in 7-day-repos



Bidding in 7-day-repos



Number of bidders in 7-day-repos



Prospects

- **Success of USD operations**
  - Contributed to the goal “to address elevated pressures in short-term funding markets”
  - Market indicators (Libor/Euribor-OIS etc.), but many different measures in parallel
  - Huge demand in spite of rather high price
- **Do we need a system of permanent swap lines?**
  - Bilateral?
  - Multilateral (with IMF involvement)?
  - With possibility to draw funds automatically?

Prospects

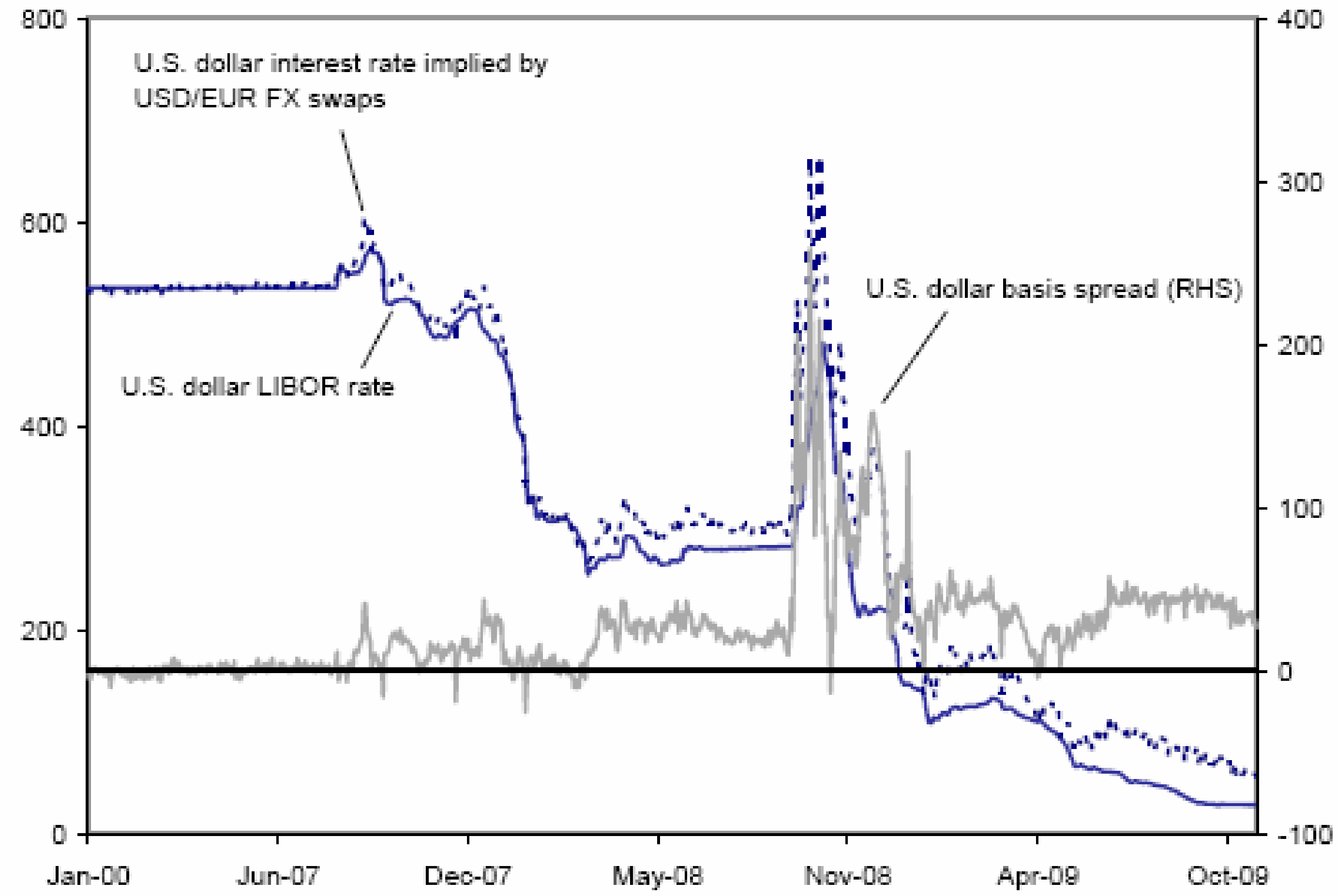
- **Imprudent risk management of banks underlying reason for large short-term USD funding needs in the crisis**
  - Have swap lines created moral hazard?
  - To be addressed by supervisory measures
  - Macro-prudential supervision

- **Granting and using swap lines is a monetary policy, not only a financial stability issue**
  - USD provision one pillar of the “Enhanced Credit Support Policy” of the Eurosystem
  - Unconventional monetary policy tool of the FOMC
  - Liquidity impact/creation of central bank money: Home central bank has to re-absorb or allow excess reserves to build up, exerting downward pressure on interest rates
  - Can only be decided in cooperation of the central banks concerned

Prospects

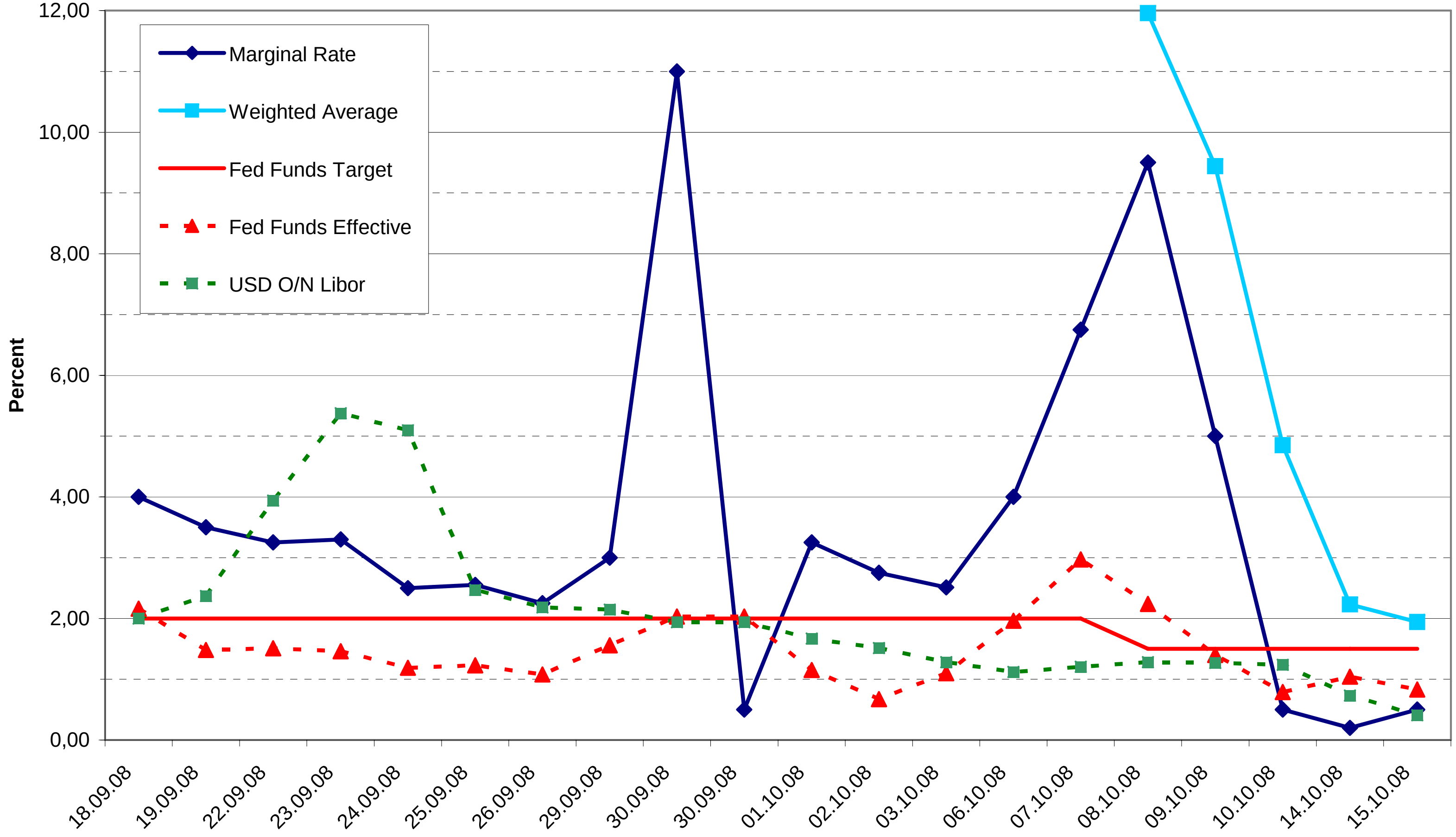
- **Purpose of swap lines**
  - Money market operations: Coordination of terms of operations with counterparties?
  - Also for exchange rate intervention?
  - Replacement of foreign exchange reserves by swap lines?
- **Risk management issues**
- **Swap lines not difficult to set up from an operational point of view**
- **Alternatives to swap lines?**
  - Access to monetary policy operations of home central bank
  - Foreign collateral
- **Preliminary conclusion**
  - Not clear why swap lines are needed on a permanent basis
  - Bilateral swap lines preferable
  - Unlimited amounts only in extreme circumstances

Additional slides:
FX swap market: USD Basis Spread (3M) on the EUR

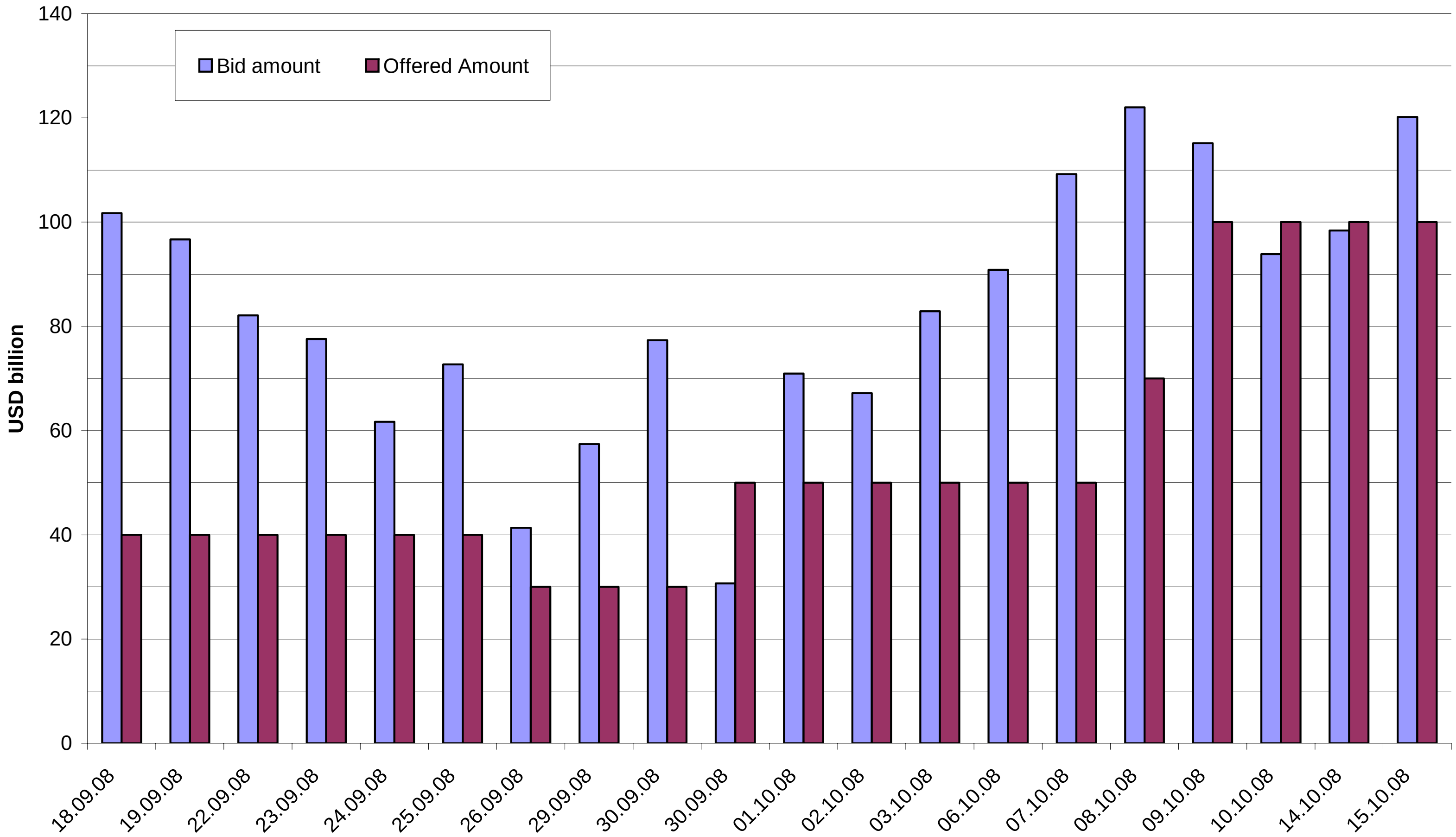


Source:
Barkbu/Ong, FX Swaps: Implications for financial and economic stability, IMF working paper 10/55.

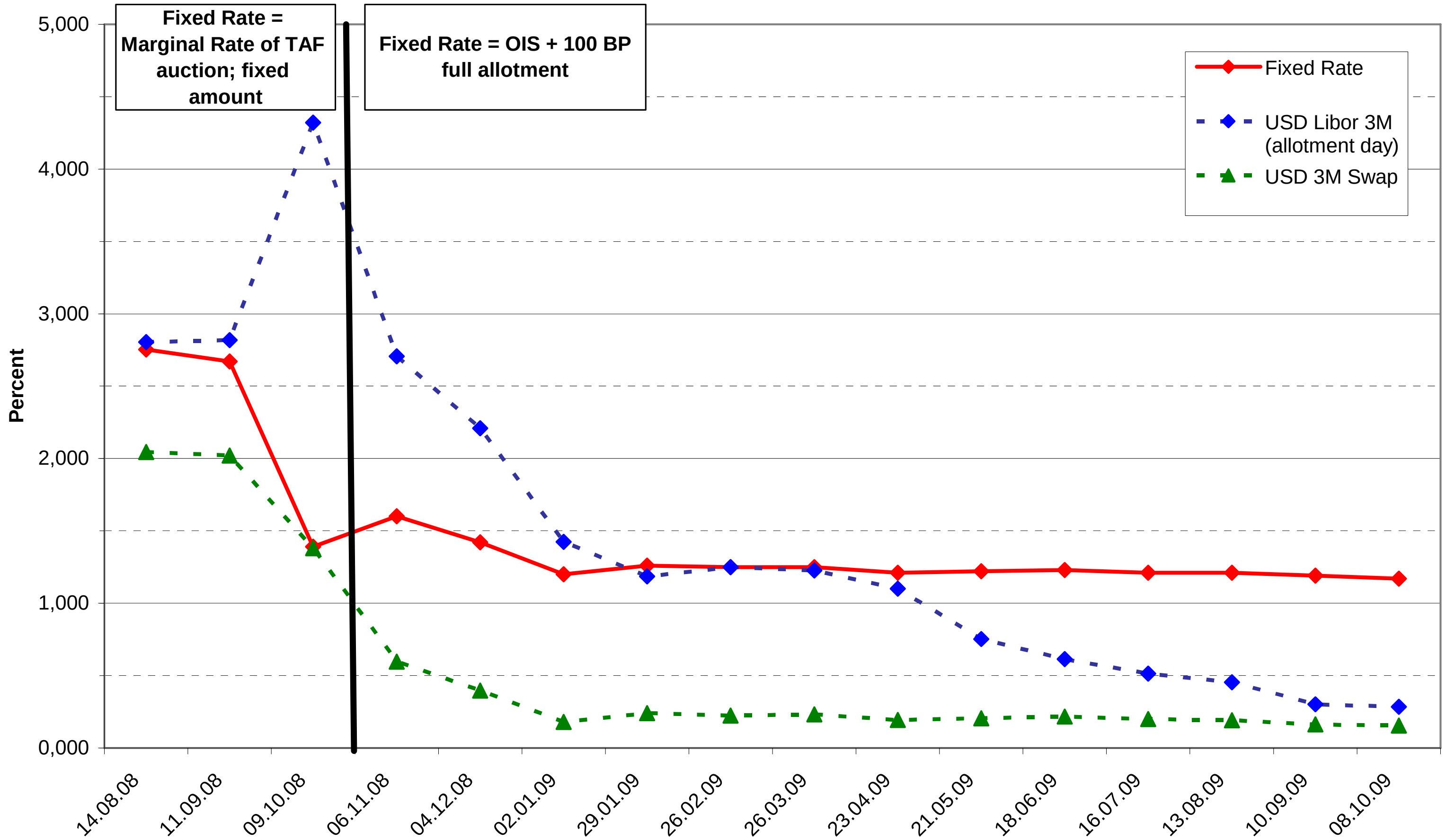
Pricing in overnight repos



Bidding in overnight repos



Pricing in 84-day-repos



Bidding in 84-day-repos