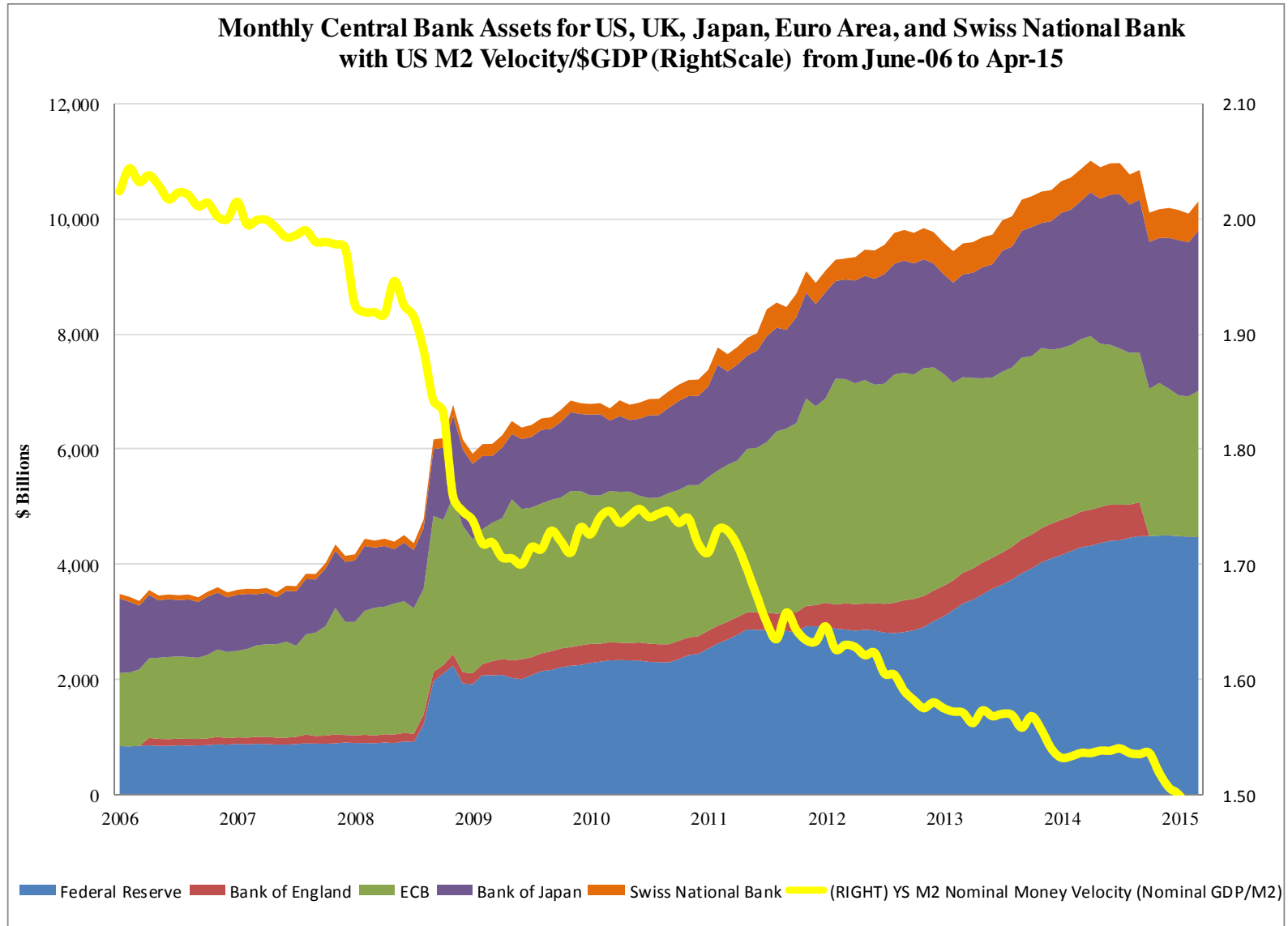


Assets and Liabilities of Major Central Banks

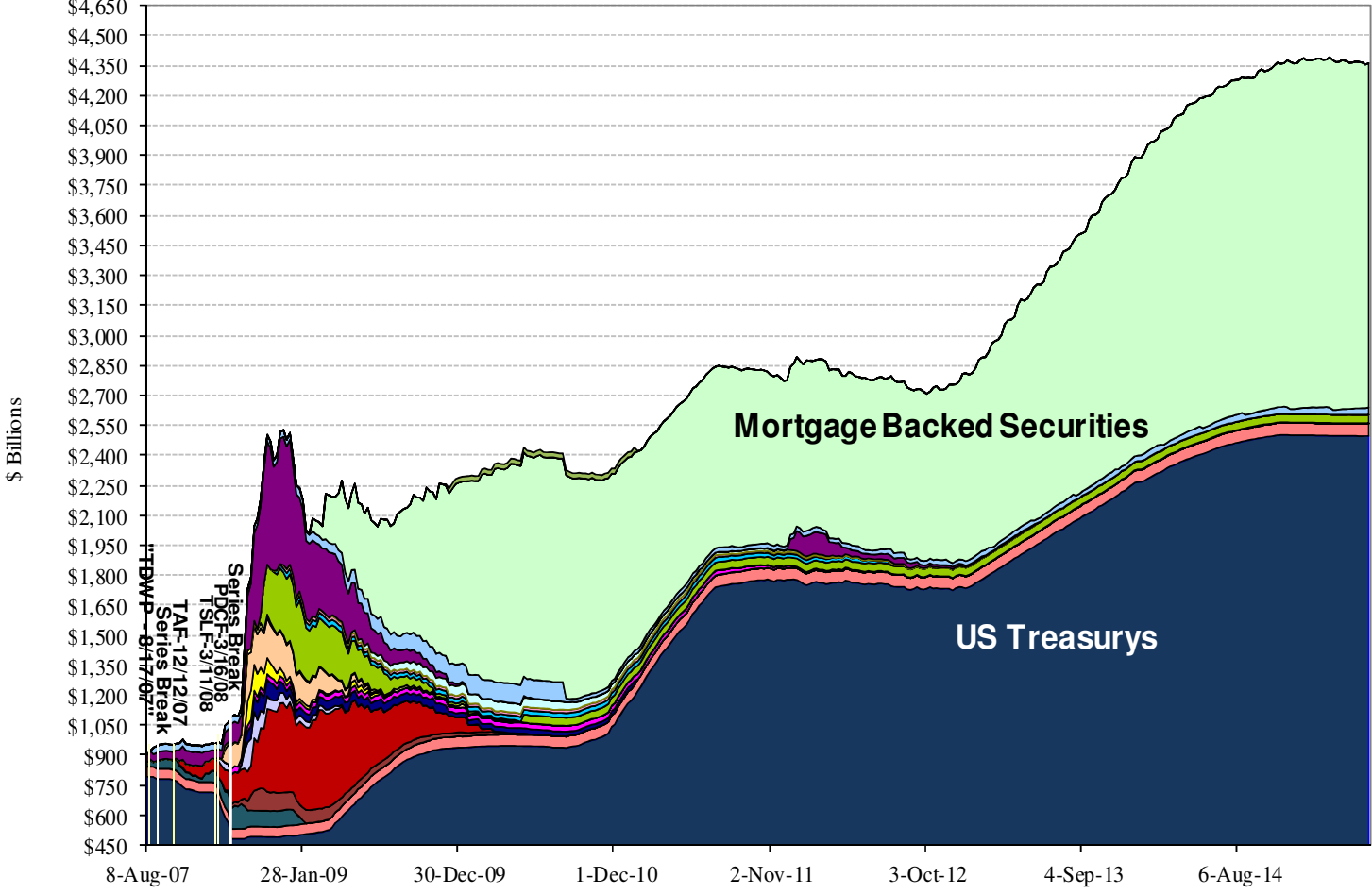
Total Assets of Major Central Banks



Source: Haver Analytics

Factors Adding to Reserves

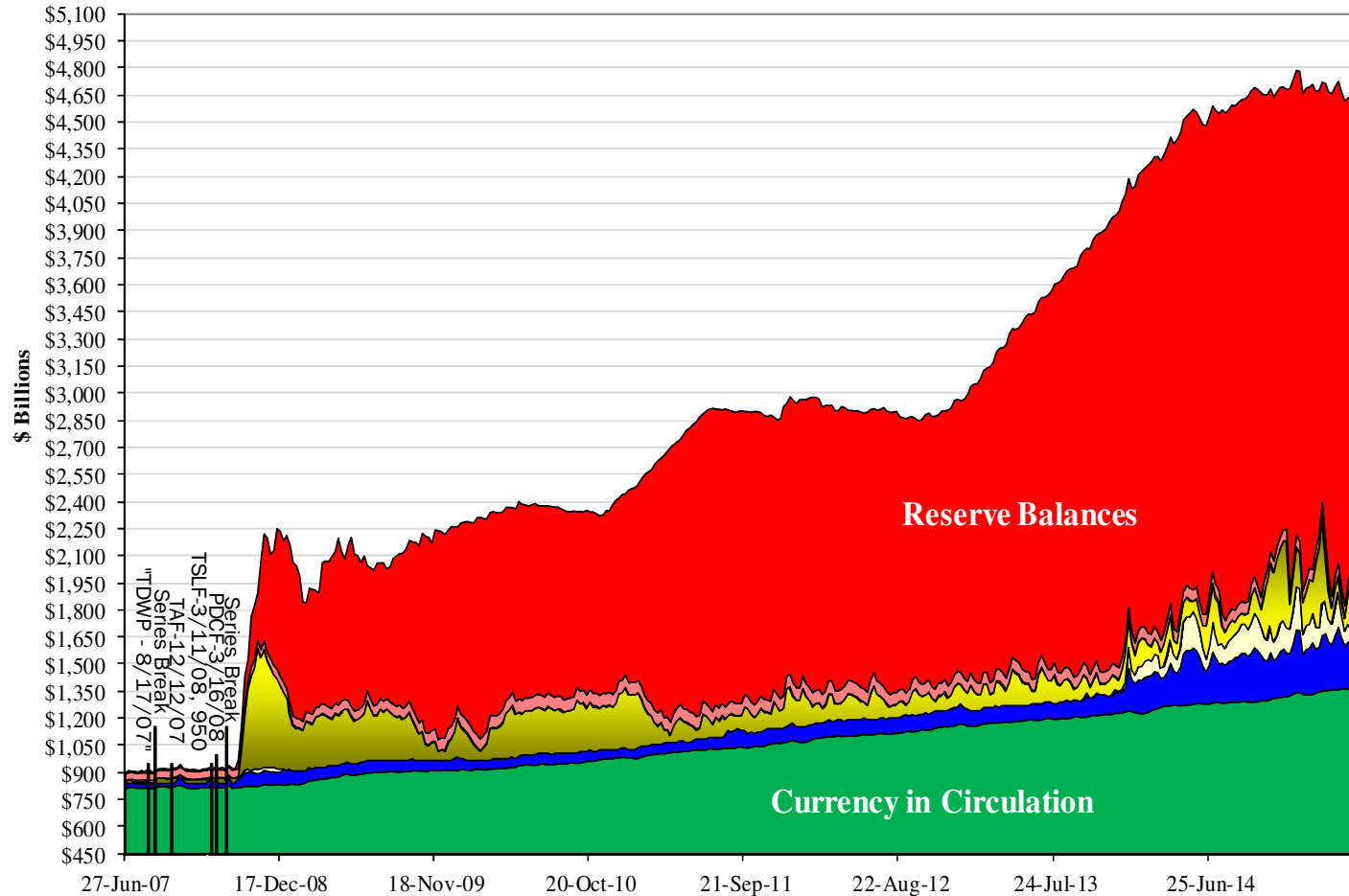
Factors Adding to Reserves on Federal Reserve's Balance Sheet (Assets) Plus Off-Balance TSLF from 6/27/07 to 5/13/15



Source: Federal Reserve Board of Governors Statistical Release H.4.1.

Factors Using Reserves

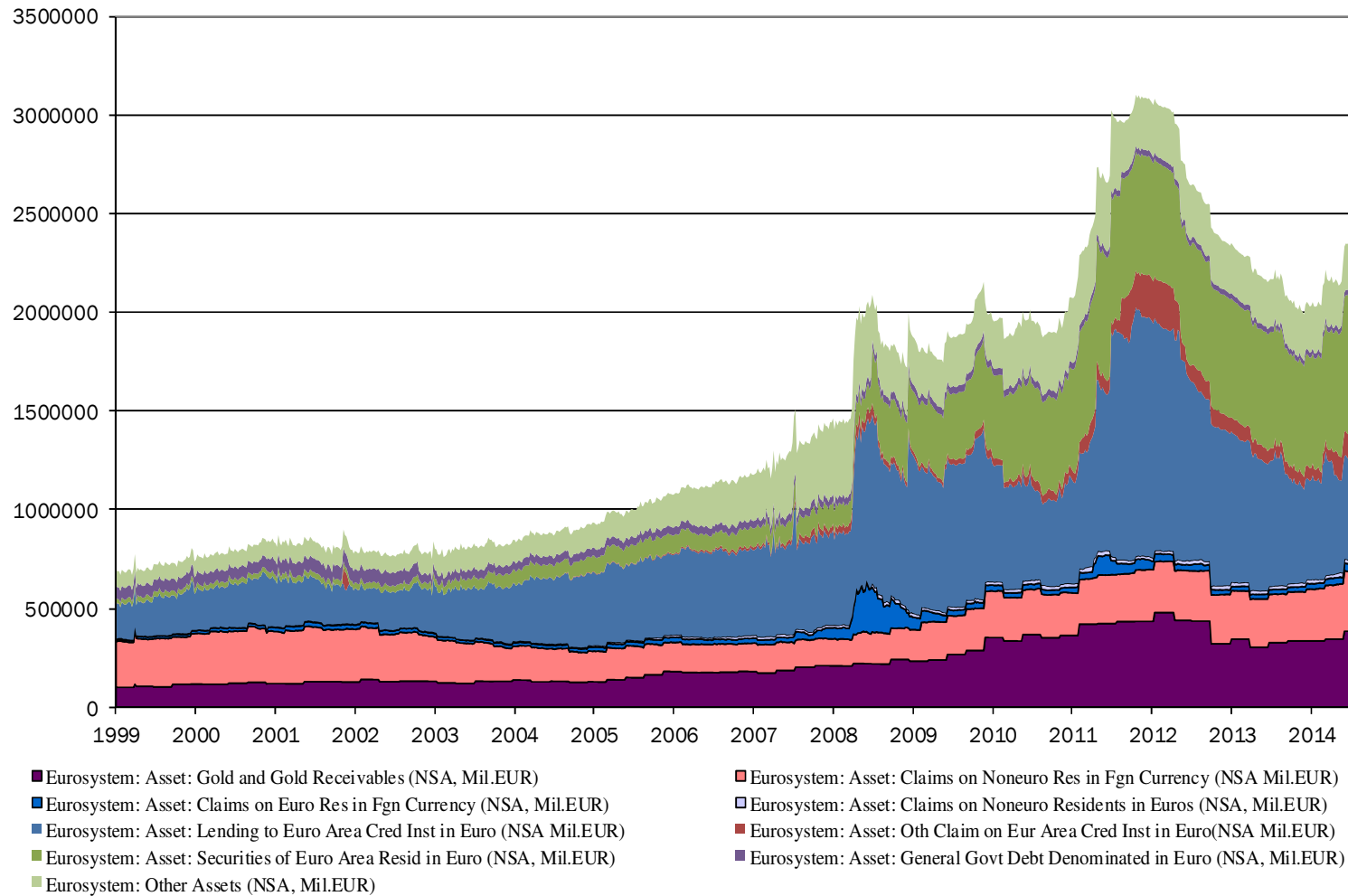
Factors Using Reserves on Federal Reserve's Balance Sheet (Liabilities)
from 6/27/2007 to 5/13/2015



Source: Federal Reserve Board of Governors Statistical Release H.4.1.

European System - Assets

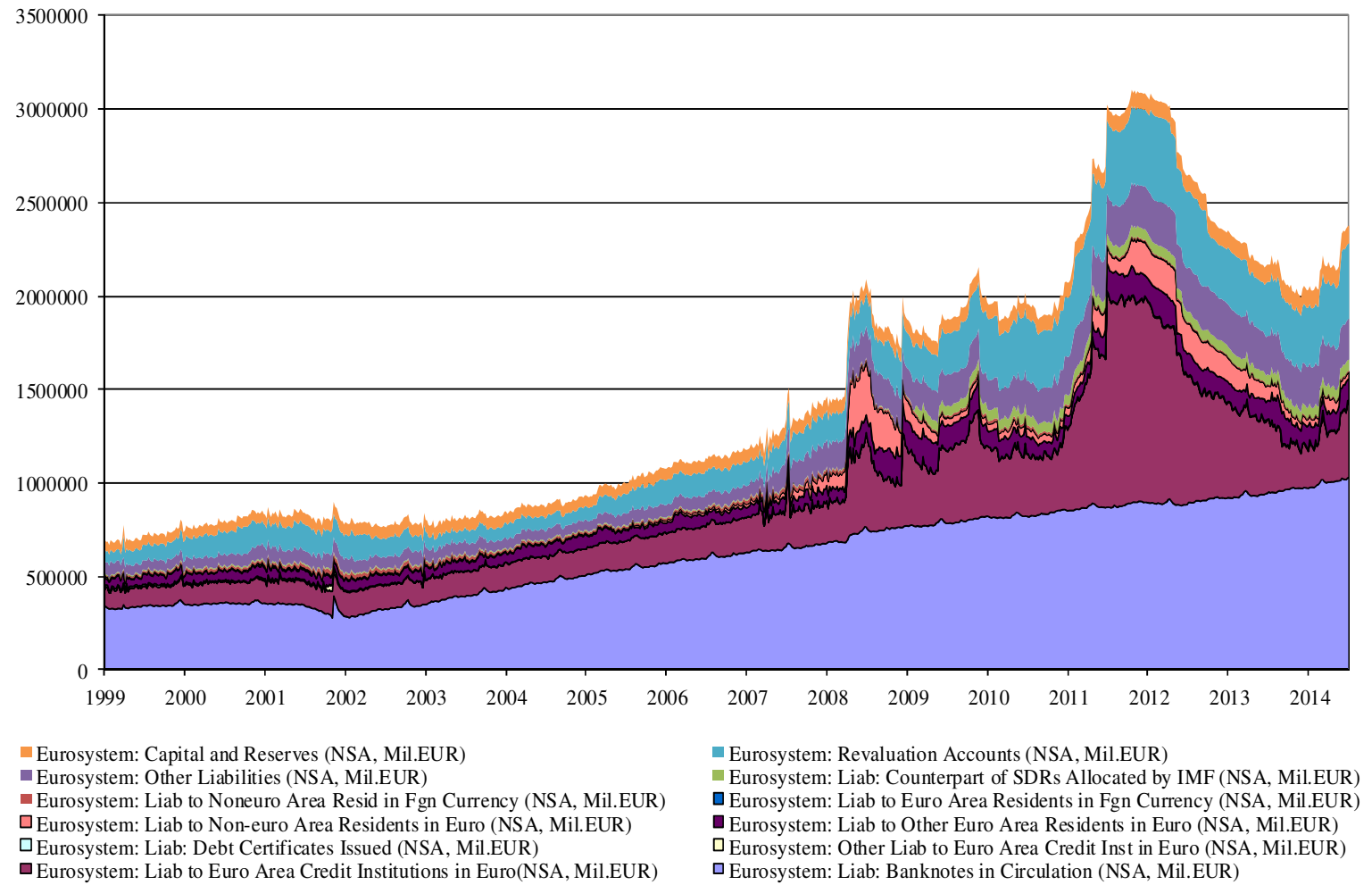
European System of Central Banks Assets in Euros from 01/05/07 to 05/08/15



Source: Oesterreichische Nationalbank

European System - Liabilities

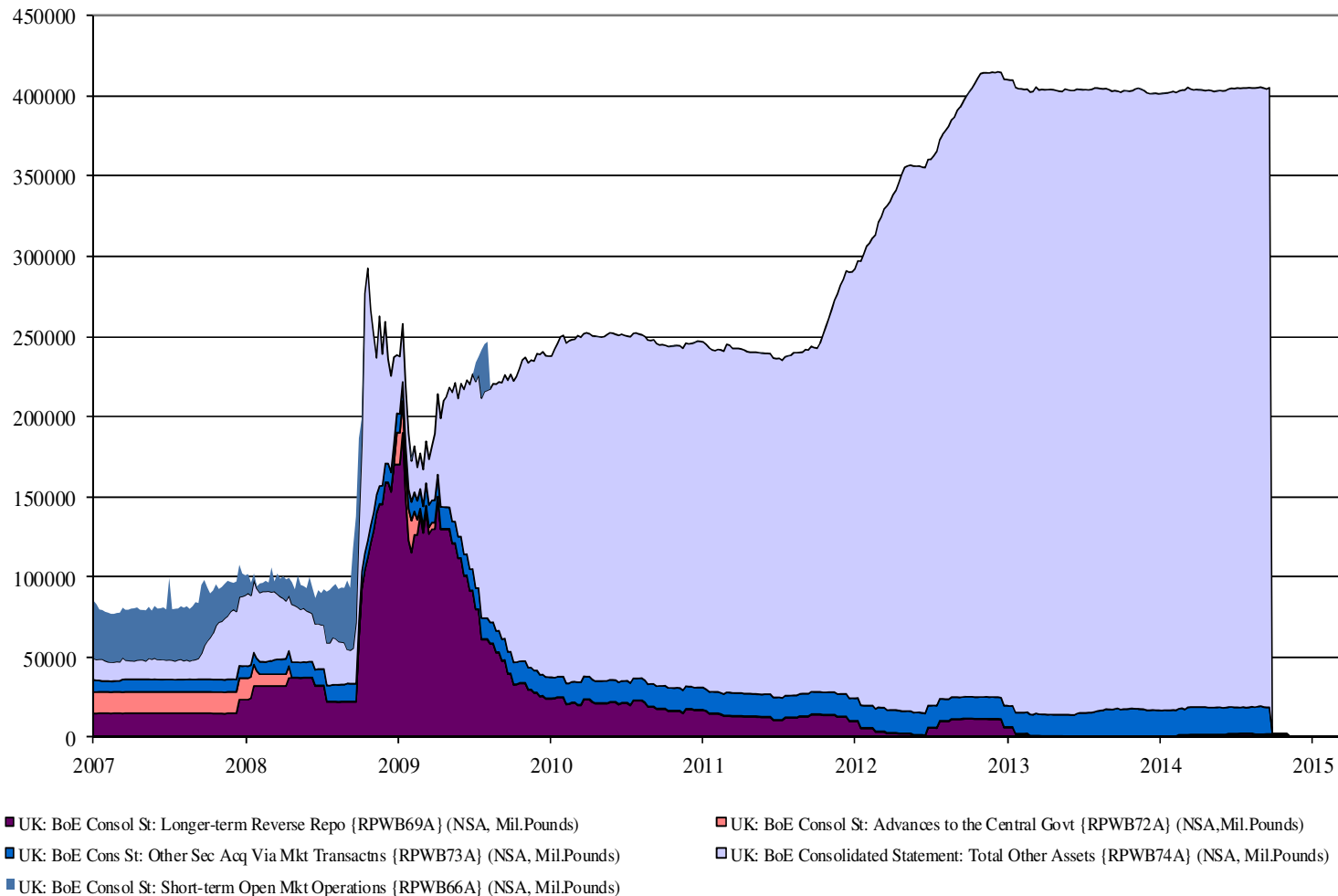
European System of Central Banks Liabilities in Euros from 01/05/07 to 05/08/15



Source: Oesterreichische Nationalbank

Bank of England - Assets

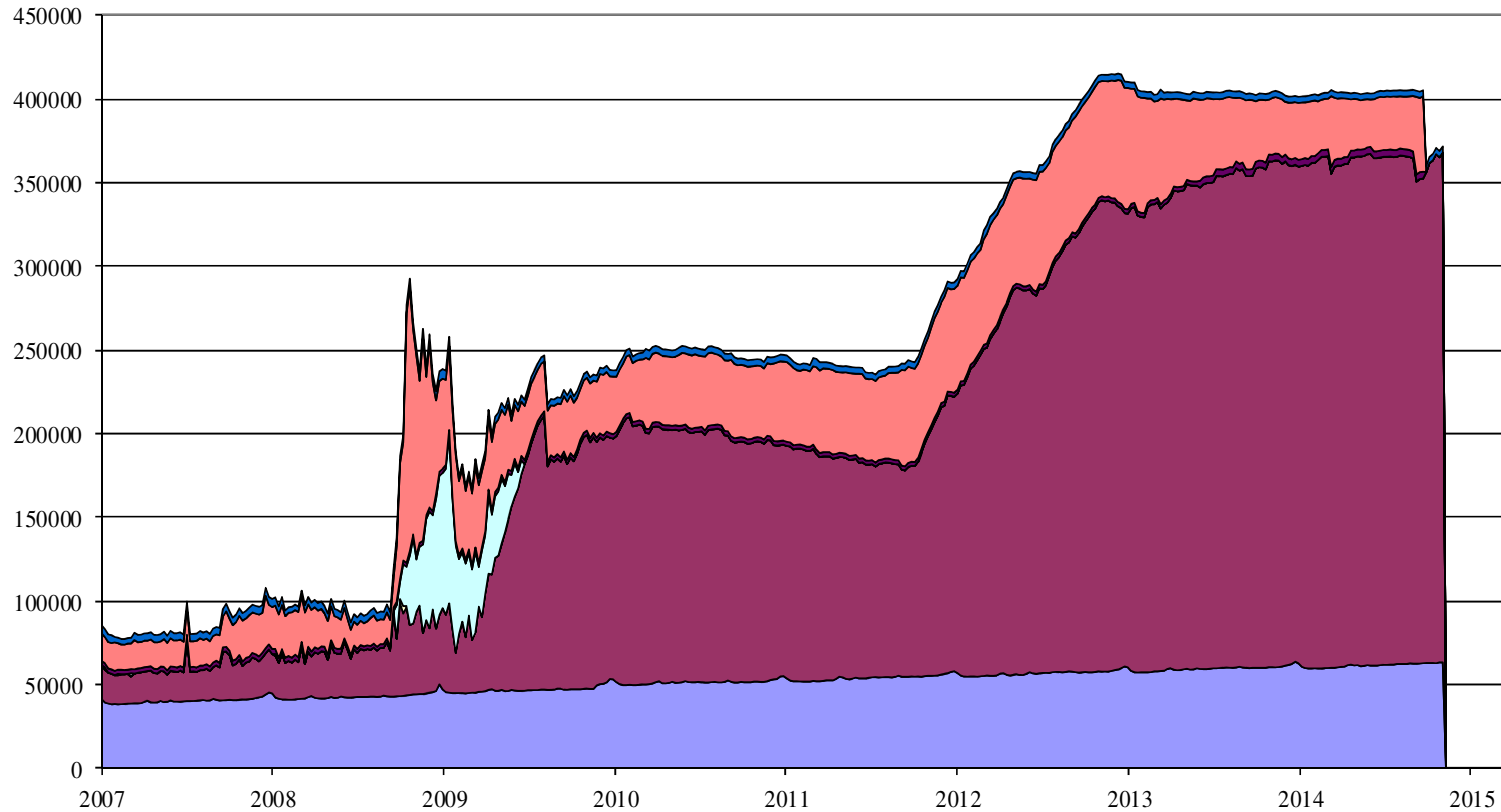
Bank of England Assets in Pounds Sterling from 01/03/07 to 03/18/15



Source: Bank of England

Bank of England - Liabilities

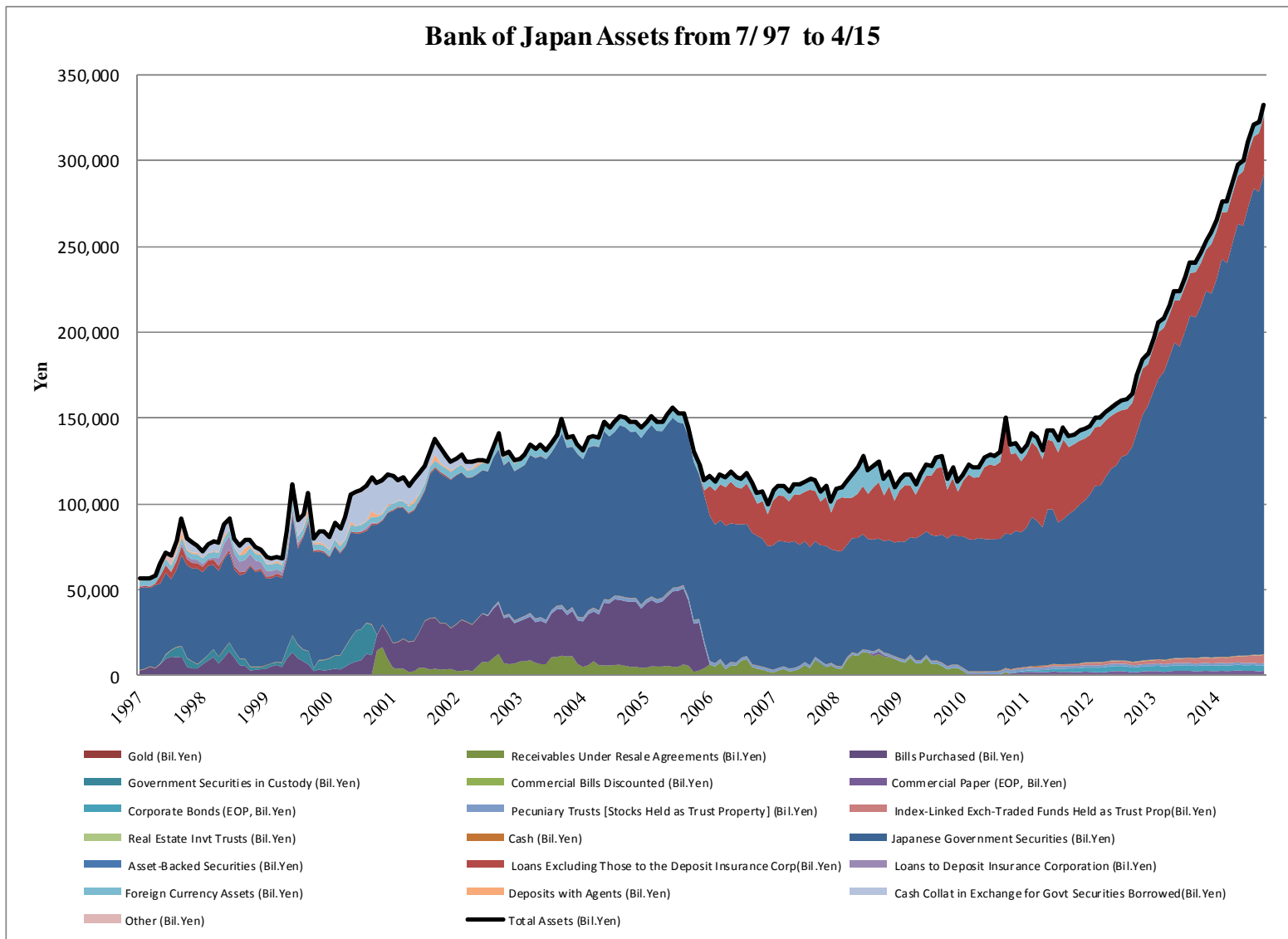
Bank of England Liabilities in Pounds Sterling from 01/03/07 to 03/18/15



- UK: BoE Consolidated St: Foreign Currency Securities {RPWB59A} (NSA, Mil.Pounds)
- UK: BoE Consolidated Statement: Cash Ratio Deposits {RPWB62A} (NSA, Mil.Pounds)
- UK: BoE Consol St: Standing Facility Deposits {RPWB57A} --DISC (NSA, Mil.Pounds)
- UK: BoE Consolidated St: Notes in Circulation {RPWB55A} (NSA, Mil.Pounds)
- UK: BoE Consolidated Statement: Other Liabilities {RPWB63A} (NSA, Mil.Pounds)
- UK: BoE Cons St: Open Mkt Operatns: Fine-tuning Repo {RPWB58A} (NSA, Mil.Pounds)
- UK: BoE Consol St: Reserve Balance Liabilities {RPWB56A} (NSA, Mil.Pounds)

Source: Bank of England

Bank of Japan - Assets

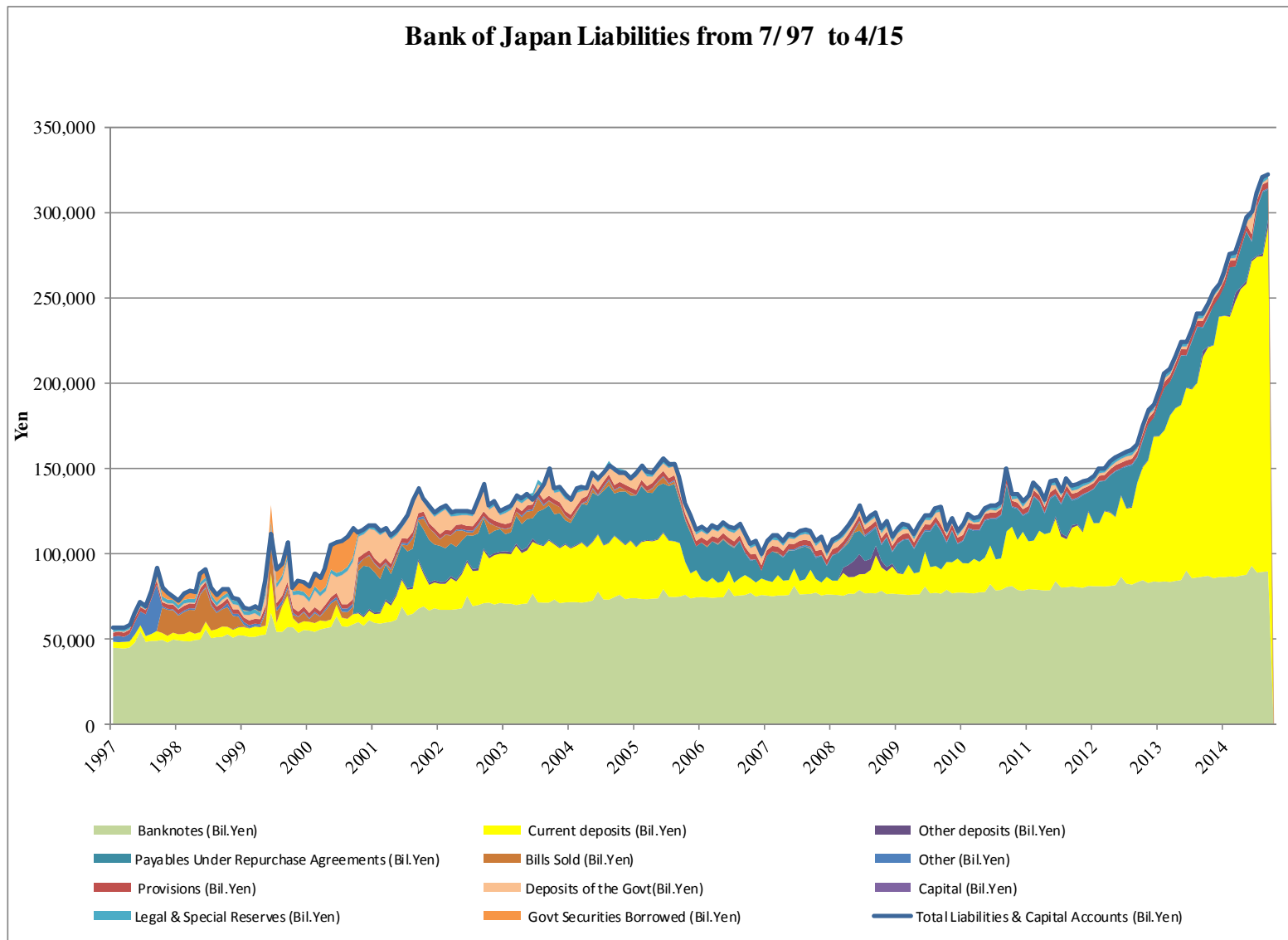


Source: Bank of Japan

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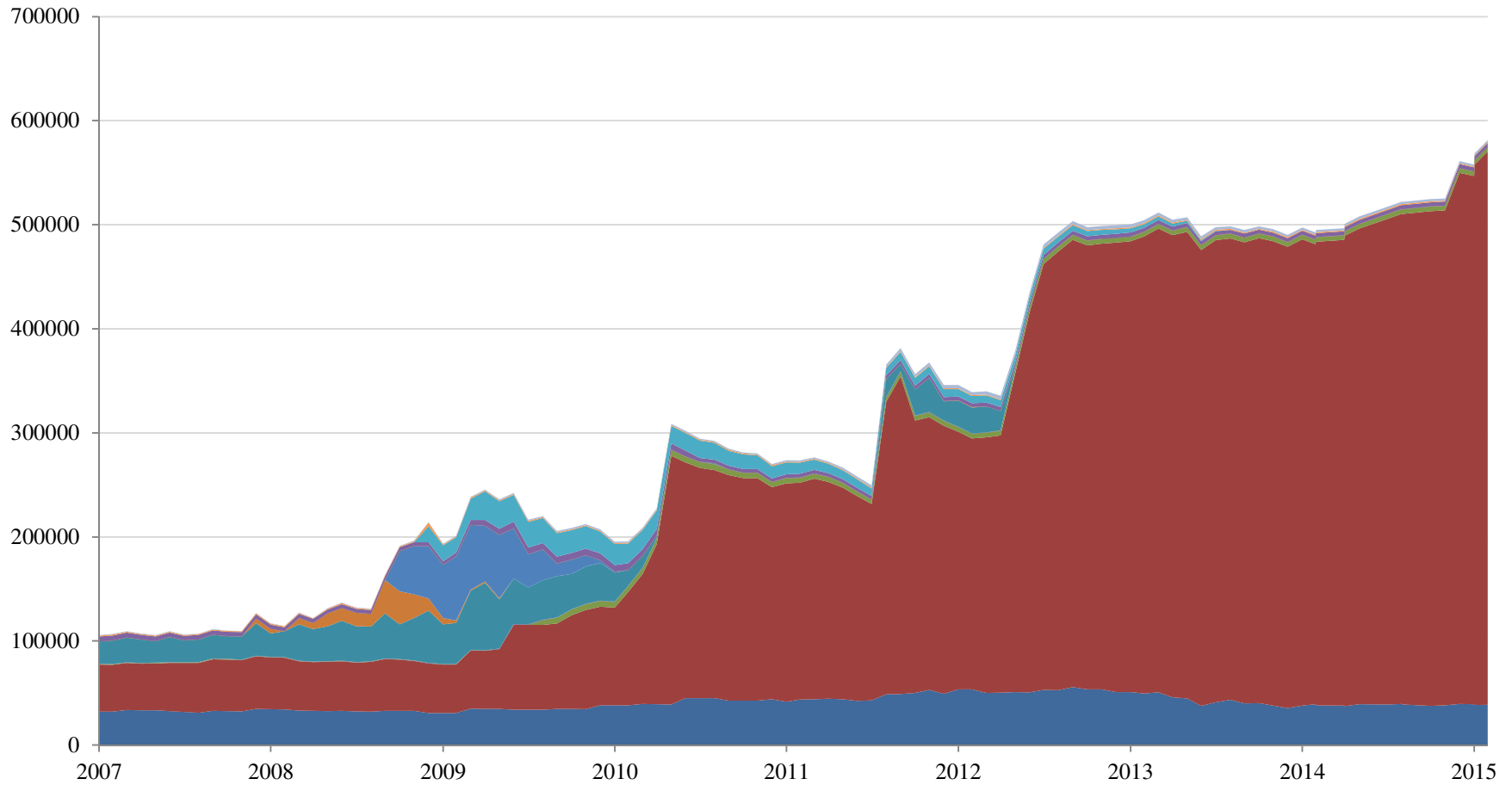
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Bank of Japan - Liabilities



Source: Bank of Japan

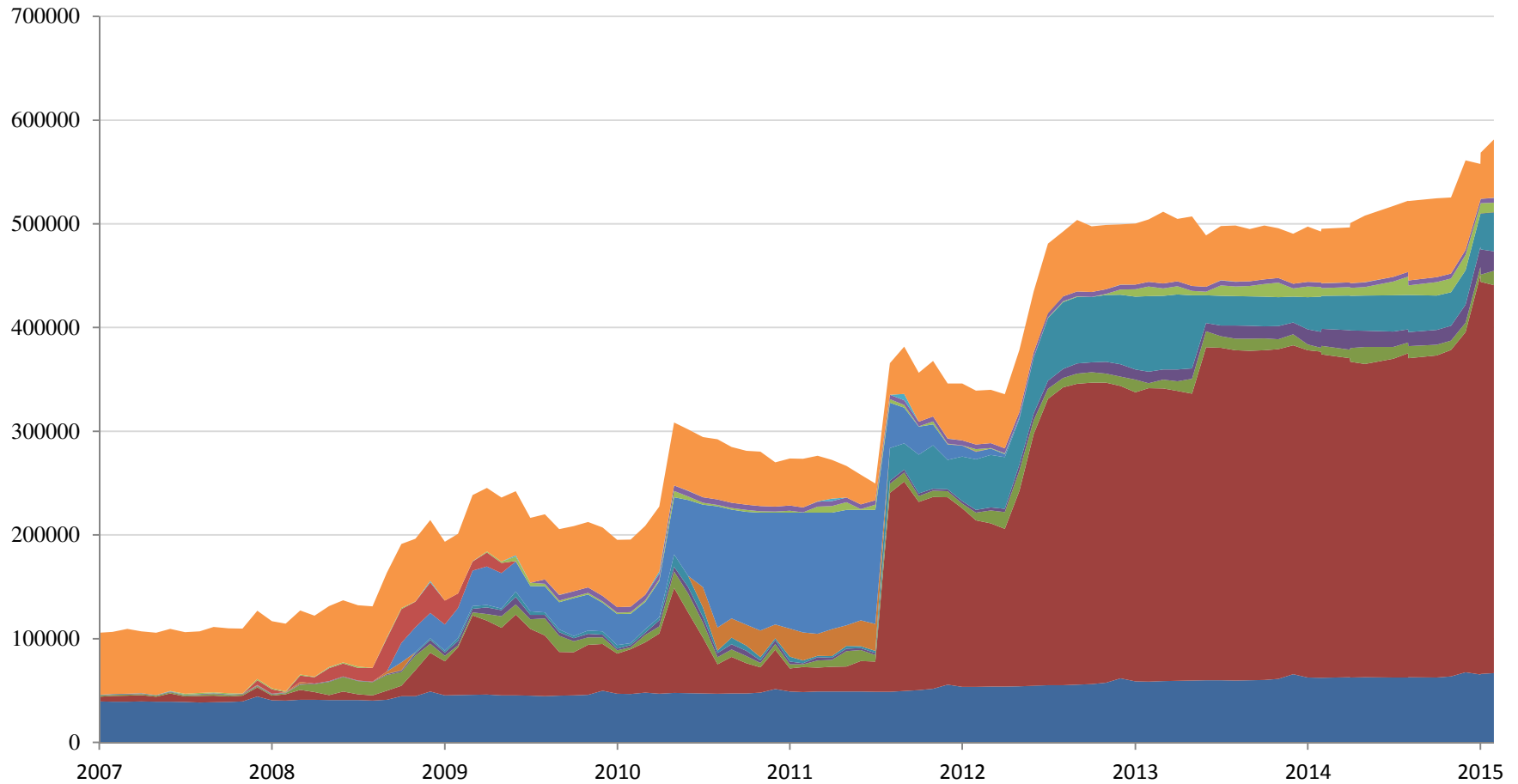
Swiss National Bank Assets



- Gold holdings and claims from gold transactions
- Monetary assistance loans
- Balances from swap transactions against CHF
- CHF securities
- Reserve position in the IF
- Foreign currency investents
- Claims from CHF repo transactions
- Domestic Money Market claims
- Loan to stabilisation fund
- International payent instruments
- Claims from USD repo transactions
- Claims against domestic correspondents
- Other assets

Source: Swiss National Bank

Swiss National Bank Liabilities



- Banknotes in circulation
- Sight deposits of foreign banks and institutions
- SNB debt certificates
- Counterpart of special drawing rights allocated by the IF
- Sight deposits of domestic banks
- Other sight liabilities
- Other tie liabilities
- Other liabilities
- Liabilities towards the Confederation
- Liabilities from CHF repo transactions
- Foreign currency liabilities
- Provisions and equity capital

Source: Swiss National Bank

Explanation

Explanation of Factors Adding to Reserves Chart

The Federal Reserve Board has posted on its website information on how its balance sheet was allocated across the different asset classes, as well as the composition of its liabilities. For many years prior to the most recent turmoil that has occurred in financial markets, the bulk of the Federal Reserve's assets were in the form of its holdings of US Treasury securities. Nearly 90% on average of its assets were of this type. Other major asset categories included Treasury currency and the gold stock. Normal daily open-market operations which add to and subtract from the Federal Reserve's balance sheet take place mainly through repurchase and reverse repurchase agreements. The composition of the Federal Reserve's portfolio has, however, changed dramatically during the recent period of financial turmoil, as the Board of Governors has modified the terms under which access to the discount window is available to banks, and now to investment banks, and the FOMC has modified its securities lending program from the System Open Market Account (SOMA). Specifically, several new programs have been created and several have been modified since they were originally established (while not all have as yet shown up on the Federal Reserve's balance sheet they will be added to the Factors Chart 1 as loans are made):

Term Discount Window Program (TDWP) – announced August 17, 2007

Under the TDWP banks were permitted to borrow on the full range of eligible discount window collateral for a term of up to 90 days.

Term Auction Facility (TAF) – announced December 12, 2007

Under the TAF banks were permitted to bid for term federal funds with maturities up to 28 days, backed by the full range of eligible discount window collateral.

Foreign Central Bank Term Auction Facility – announced in December 2007

Swap lines were established with the European Central Bank and Swiss National Bank specifically to facilitate the establishment of a dollar term auction facility against foreign denominated collateral to provide dollar liquidity in foreign markets. The swap lines were expanded several times and the program expanded to include seven additional central banks (Bank of England, Bank of Japan, Norges Bank, Sveriges Riksbank, Reserve Bank of Australia, Danmarks Nationalbank and Bank of Canada)

Term Securities Lending Facility (TSLF) – announced March 11, 2008

Under the TSLF primary dealers (both banks and investment banks) were permitted to borrow US Treasuries from the SOMA portfolio overnight for a term of up to 28 days, using Treasuries, agency securities, agency mortgage-backed securities, AAA/Aaa-rated private-label real estate MBS, collateralized MBS, agency-collateralized mortgage obligations, and other asset-backed securities (these latter securities were added to the list on May 2, 2008). The Treasury securities so borrowed could then be repo-ed overnight and used as a way of liquefying what might otherwise be illiquid assets in this period of market turmoil. The TSLF-related securities lent show up on the System's balance sheet as off balance-sheet items.

Primary Dealer Credit Facility (PDCF) – announced March 16, 2008, and renewed on July 20, 2008 until January 30, 2009

Under the PDCF primary dealers that didn't have access to the discount window were permitted to borrow from the window under this program using Treasuries, agencies, and investment-grade munis, corporates, MBS and ABS for which a market price is available as collateral. The collateral requirement was subsequently relaxed to include all securities that can be readily pledged in the tri-party repo system.

Asset-backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) - announced September 19, 2008

The Federal Reserve created a special facility providing non-recourse loans to banking organizations to finance their purchases of high-quality asset-backed commercial paper (ABCP) from money market mutual funds.

Commercial Paper Funding Facility (CPFF) – announced October 7, 2008 to provide temporary direct purchase of newly issued commercial paper directly from corporate issuers.

Explanation *(continued)*

Explanation of Factors Adding to Reserves Chart (cont'd)

While the Federal Reserve has attempted to sterilize the impact of its lending programs so as to avoid undue expansion of the money supply, we do not believe that this adequately represents the total expansionary impact of the Federal Reserve's efforts to deal with the problems in certain segments of financial markets. The System has also initiated, in addition to its regular securities lending program, the Term Securities Lending Facility. This Facility permits prime dealers to borrow securities from the Federal Reserve's portfolio for a term of up to 28 days. In a series of rolling overnight loans of securities, prime dealers are permitted to pledge a wide range of eligible collateral (Treasuries, agencies, agency MBS, AAA/Aaa-rated private-label RMBS, CMBS, agency CO and other ABS) in return for US Treasuries which they can then RP out overnight. The effect is to enable them to liquify otherwise illiquid securities on their balance sheets and replace them with dollar assets which can then be deployed in other ways. While these assets represent a reallocation of reserves within the US banking system, they also represent a way for prime dealers to tap into dollar reserve assets from the rest of the world. To the extent that prime dealer assets are freed up, these institutions can engage in lending that would otherwise not occur. Securities lent under the TSLF are off the Federal Reserve's balance sheet since the transaction is unwound each morning. During the day, the funds that had been RePoed by the prime dealers is likely replaced by daylight overdrafts from the Federal Reserve. Thus, there is effectively an off balance sheet creation of additional reserves to the banking system. To reflect the potential expansionary impact of the TSLF, we have created Chart 1, which attempts to reflect the potential impact that the TSLF may be having on the banking and financial system by adding the TSLF memorandum item to the Federal Reserve's balance sheet.

Definitions of additional Items Shown in Cumberland Table on Factors Adding to Reserves

The following are the definitions of the items shown on the chart:

Maiden Lane II LLC. On December 12, 2008, the Federal Reserve Bank of New York (FRBNY) began extending credit to Maiden Lane II LLC under the authority of section 13(3) of the Federal Reserve Act. This limited liability company was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG subsidiaries).

Maiden Lane III LLC. On November 25, 2008, the Federal Reserve Bank of New York (FRBNY) began extending credit to Maiden Lane III LLC under the authority of section 13(3) of the Federal Reserve Act. This limited liability company was formed to purchase multi-sector collateralized debt obligations (CDOs) on which the Financial Products group of American International Group, Inc. (AIG) has written credit default swap (CDS) contracts.

Net Portfolio Holdings of Commercial paper Funding Facility LLC – Beginning Oct.27th the the Federal Reserve began buying newly issued commercial paper directly from high quality issuers. These purchases are being made through a limited liability company that was formed to purchase three-month U.S. dollar-denominated commercial paper from eligible issuers and thereby foster liquidity in short-term funding markets and increase the availability of credit for businesses and households.

Securities Lent Off Balance Sheet to Dealers Overnight – Treasury securities lent under the Desk's normal securities lending program

Securities Lent Off Balance Sheet to Dealers Term Facility – Treasury securities lent under the TSLF

Mutual Fund Facility – (AMLF)- Asset-backed commercial paper money market mutual fund liquidity facility added to extend non-recourse loans to U.S. depository institutions and bank holding companies to finance their purchase of high-quality asset backed commercial from money market mutual funds.

Maiden Lane LLC. On June 26, 2008, the Federal Reserve Bank of New York (FRBNY) extended credit to Maiden Lane LLC under the authority of section 13(3) of the Federal Reserve Act. This limited liability company was formed to acquire certain assets of Bear Stearns and to manage those assets through time to maximize repayment of the credit extended and to minimize disruption to financial markets.

Other Assets Less Euro TAF – Other Federal Reserve assets minus the Foreign Central Bank TAF facilities conducted by the 9 participating foreign central banks as a result of dollar swap arrangements with the Federal Reserve.

Other credit extensions – emergency credit extended by a Federal Reserve Bank under exigent circumstances to an individual, partnership, or corporation that has been approved by the Board of Governors. This would include AIG

Primary Dealer Credit Facility – Funds lent to primary dealers under the PDCF

Foreign Central Bank TAF – Funds lent by now 9 central banks as a result of swap arrangements. These include: European Central Bank, Swiss National Bank, Bank of England, Danmarks Nationalbank, Svirages Risksbank, Bank of Japan, Bank of Canada, Reserve Bank of Australia and Norges Bank.

Term auction credit – Loans of term federal funds to banks under the TAF

Repurchase agreements – Securities sold under agreements to repurchase them at a latter time

Explanation *(continued)*

Explanation of Factors Adding to Reserves Chart (cont'd)

Miscellaneous which include:

Float – Temporary funds that reflect the difference between checks that have been credited against the sending bank's reserve account but have not been cleared against the receiving

bank's account

Gold – Gold bullion held by the System primarily in the Federal Reserve Bank of NY's vaults

Special drawing rights certificate accounts – an asset reflecting an allocation of funds to the US from the IMF and any accumulation of such assets by the Federal Reserve that had been allocated to other countries

Treasury currency – US Treasury currency (mainly silver certificates that are being held by the Federal Reserve system but not in circulation)

Regular Discount Window Credit which include:

Primary credit – Discount window credit available to generally sound depository institutions on a very short-term basis as a backup rather than a regular source of funding. Depository institutions are not required to seek alternative sources of funds before requesting advances of primary credit.

Secondary credit – Discount window credit that is extended on a very short-term basis to depository institutions not eligible for primary credit. It is available to meet backup liquidity needs when its use is consistent with a timely return to market sources of funding or the orderly resolution of a troubled institution.

Seasonal credit – Discount window credit that is available to relatively small depository institutions to meet regular seasonal funding needs. Historically, the credits were related to agriculture.

Securities held outright - Include US Treasury bills, notes and bonds, inflation-indexed compensation, and federal agency securities (these securities are not presently in the portfolio).

Currency in Circulation - Estimated amount of Federal Reserve Notes in circulation.

Reverse Repurchase Agreements - Cash value of agreements with market counterparties that the Federal Reserve has collateralized with U.S. Treasuries and agency debt.

Treasury Cash Holdings - Treasury holdings of cash with the Federal Reserve

Deposits with Federal Reserve Banks other than reserve balances - Deposit balances of the U. S. Treasury, Foreign official deposits, required clearing balances, other miscellaneous balances and adjustments to account for float.

Other Liabilities and Capital - Includes the liabilities of Commercial Paper Funding Facility LLC, Maiden Lane LLC, Maiden Lane II LLC, Maiden Lane III LLC, and TALF LLC to entities other than the Federal Reserve Bank of New York, including liabilities that have recourse only to the portfolio holdings of these LLCs, and Federal Reserve Capital.

Reserve Balances - Deposits of banks with the Federal Reserve.

Explanation *(continued)*

Explanation of Factors Adding to Reserves Chart (cont'd)

The Bank of England and European System of Central Banks significantly expanded their balance sheets in response to the financial crisis. To provide a more complete picture of how these institutions have responded by comparison with the Federal Reserve we have added a parallel set of asset and liability charts for the ECB and a chart of the asset holdings of the Bank of England. Neither of these two institutions publishes data exactly like the Federal Reserve's "Factors Affecting Reserves" data. Nevertheless, by examining changes in the balance sheet compositions for each of the central banks, it is possible to draw meaningful comparisons.

Consolidated Balance Sheet Assets and Liabilities of European System of Central Banks: Definition of items ¹

Assets

1. The item gold and gold receivables forms part of the foreign reserves of the Eurosystem. It consists of physical gold and non-physical gold in the form of gold deposit accounts.
2. Claims on non-euro area residents denominated in foreign currency represent the main foreign exchange reserve assets of the Eurosystem. Receivables from the IMF consist of drawing rights within the reserve tranche (net, i.e. national quota minus balances in euro at the disposal of the IMF), special drawing rights and other claims such as the General Arrangements to Borrow (GAB), loans under special borrowing arrangements or deposits within the framework of the Enhanced Structural Adjustment Facility (ESAF). (A related balance sheet item is the liabilities item counterpart of special drawing rights allocated by the IMF, which shows the amount of special drawing rights that was originally allocated free of charge to the respective country/NCB on condition that the special drawing rights would have to be paid back under specific circumstances.) The sub-item balances with banks and security investments, external loans and other external assets consists of foreign currency assets other than gold and SDR holdings with non-euro area residents. This sub-item contains, inter alia, investments in notes and bonds, bills, money market paper and cash deposits.
3. Claims on euro area residents denominated in foreign currency include foreign currency assets held with euro area residents, such as investments in notes and bonds, bills, money market paper and deposits.
4. The item claims on non-euro area residents denominated in euro shows two sub-items. The sub-item balances with banks, security investments and loans contains current accounts, fixed-term deposits, day-to-day money, securities and loans. Under claims arising from the credit facility under the ERM II, the Eurosystem would show claims arising from intervention in the context of the new exchange rate mechanism. The counterpart of this balance sheet position is shown on the liabilities side of the balance sheet under liabilities arising from the credit facility under the ERM II.
5. Lending to financial sector counterparties of euro area is broken down into seven positions and mainly reflects the liquidity-providing monetary policy instruments used by the Eurosystem. In the consolidated opening balance sheet of the Eurosystem this item shows the results of the monetary policy operations conducted by euro area NCBs in Stage Two which will mature in the first weeks of Stage Three. Main refinancing operations and longer-term refinancing operations are regular liquidity-providing open market operations executed by the Eurosystem in the form of reverse transactions. The former are conducted through weekly standard tenders and have a maturity of two weeks. The latter are executed through monthly standard tenders and have a maturity of three months. Fine-tuning reverse operations are irregular open market operations executed by the Eurosystem mainly in order to deal with unexpected liquidity fluctuations in the market. Structural reverse operations are liquidity-providing open market operations executed by the Eurosystem mainly with the aim of adjusting the structural liquidity position of the financial sector vis-à-vis the Eurosystem. The marginal lending facility is a standing facility of the Eurosystem which counterparties may use to obtain overnight liquidity at the pre-specified interest rate. Credits related to margin calls may arise from value increases in underlying assets regarding other credit to counterparties. In such cases, central banks may return excess cash to the counterparty. The sub-item other lending includes current accounts, short-term investments and assets resulting from the transformation of the former foreign currency reserves of the euro area. Any other claims stemming from monetary policy operations initiated by the euro area NCBs during Stage Two that do not correspond to the items described previously will be shown under this heading.

Explanation *(continued)*

Explanation of Factors Adding to Reserves Chart (cont'd)

6. The position securities of euro area residents denominated in euro contains certain categories of marketable securities, which may potentially be used for monetary policy operations.
7. General government debt denominated in euro shows outstanding non-marketable claims on euro area governments stemming from before 1 January 1994, from which date onwards EU NCBs could no longer provide credit facilities to governments or make direct purchases of debt instruments from governments. This debt will have to be redeemed by governments in due course.
8. The position other assets is a collective item including, in particular, items in the course of settlement (settlement account balances, for example the float of cheques in collection), coins of euro area Member States and other financial assets (e.g. equity shares, participating interests, investment portfolios related to central banks' own funds, pension funds and severance schemes or securities held due to statutory requirements). This item also contains tangible and intangible fixed assets, revaluation differences on off-balance-sheet instruments as well as accruals and deferred expenditure.

Liabilities

1. The banknotes in circulation figure represents the value of all banknotes issued by the Eurosystem. Until 2002, when euro banknotes will be used for the first time, the position will show only banknotes denominated in the former national currencies of the euro area Member States.
2. Liabilities to euro area financial sector counterparties denominated in euro are broken down into five sub-items. The sub-item current accounts (covering the minimum reserve system) shows the euro accounts of financial sector counterparties that have access to monetary policy operations of the Eurosystem, including their accounts used to hold minimum reserves according to the framework of the minimum reserve system of the Eurosystem. The deposit facility is a standing facility of the Eurosystem which counterparties may use to hold overnight deposits remunerated at the pre-specified interest rate. (This sub-item has to be seen in connection with the assets sub-item marginal lending facility. While the former instrument may be used for the short-term investment of excess liquidity, the latter instrument may serve to cover short-term liquidity shortages.) The fixed-term deposits are an instrument used by the Eurosystem for absorbing liquidity. Fine-tuning reverse operations are irregular open market operations executed by the Eurosystem mainly in order to absorb unexpected liquidity inflows to the market. Deposits related to margin calls may arise from value decreases in underlying assets provided against credit to counterparties. The Eurosystem may in this case require counterparties to supply additional cash or assets. Equivalents to the latter two balance sheet sub-items are shown on the assets side, namely the sub-item of the same name, fine-tuning reverse operations (see asset item 5.3 above), and the sub-item credits related to margin calls (see asset item 5.6 above).
3. Debt certificates issued are discount paper, which could be issued on an ad hoc basis with the aim of absorbing liquidity. The initial balance reflects paper issued by euro area NCBs during Stage Two. In future, such debt certificates, if any, will be issued by the ECB through euro area NCBs, with a maturity of less than twelve months.
4. For liabilities to other euro area residents denominated in euro a breakdown is provided between liabilities to general government and other liabilities.
5. Liabilities to non-euro area residents denominated in euro consist of current accounts and deposits with the Eurosystem held by central banks, other banks, international/supranational institutions and other non-euro area depositors. The balances of the TARGET accounts of non-euro area NCBs are also shown under this item.

Explanation *(continued)*

6. Liabilities to euro area residents denominated in foreign currency are shown in a separate balance sheet item without a sectoral split (cf. point 4 above).
7. Liabilities to non-euro area residents denominated in foreign currency consist of deposits, balances and other liabilities, and liabilities arising from the credit facility under the ERM II (see asset item 4 above).
8. Counterpart of special drawing rights allocated by the IMF - (see asset item 2 above).
9. The position other liabilities is a collective item including items in the course of settlement (settlement account balances, for example the float of giro transfers), the revaluation differences on off-balance-sheet instruments, accruals and deferred income. This position also includes provisions (for pensions, for exchange and price risks and for other purposes), current income (net accumulated profit) and the profit of the previous year (before distribution).
10. In the item revaluation accounts, unrealized gains related to price movements and foreign exchange rate movements are disclosed, for reasons of substance and transparency. This item also includes the unrealized gains of euro area NCBs that have arisen due to the change from national accounting rules to harmonized accounting rules for the Eurosystem.
11. The item capital and reserves consists of paid-up capital, legal reserves and other reserves.

Explanation *(continued)*

Explanation

The Bank of England and European System of Central Banks have significantly expanded their balance sheets in response to the financial crisis. To provide a more complete picture of how these institutions have responded by comparison with the Federal Reserve, we have added two charts. One is for the ECB and the other is for the Bank of England.

Neither bank publishes data exactly like the Federal Reserve's "Factors Affecting Reserves" data. Nevertheless, by examining changes in the asset composition of each institution, it is possible to draw meaningful comparisons.

The legends of each chart show the asset categories as they are labeled by each of the central banks in their weekly data releases.