

APPENDIX: ADDITIONAL TABLES AND FIGURES

Table A.1: Unconventional Monetary Policy measures in the Euro Area

DATE	MEASURE	DESCRIPTION
March 28, 2008	3-month and 6-month LTRO	Three Longer-Term Refinancing Operations (LTROs): two 3-month operations at €60 billion each, and one 6-month LTRO at €25 billion, for a total of €145 billion. All three operations were conducted at a variable rate with the purpose of “supporting the normalization of the functioning of the euro money market”.
May 7, 2009	1-year LTRO and CBPP1	LTROs with a maturity of 1 year at a fixed rate with full allotment and Covered Bond Purchase Programme, respectively. The CBPP reached a nominal amount of €60 billion on termination date. Both programs served to “promote the ongoing decline in money market term rates, to encourage banks to maintain and expand their lending to clients, to help improve market liquidity in important segments of the private debt security market, and to ease funding conditions for banks and enterprises”.
May 10, 2010	SMP	Securities Markets Purchase Programme, implemented “to address the malfunctioning of securities markets and restore an appropriate monetary policy transmission mechanism.” Liquidity was re-absorbed through weekly liquidity-absorbing fine-tuning operations through fixed-term deposits that continued till June 2014. Through the SMP, the ECB purchased €218 billion of nominal Greek, Irish, Italian, Portuguese and Spanish bonds as of end-2012.
October 6, 2011	CBPP2	Covered Bond Purchase Programme 2, with purchases for an intended €40 billion between November 2011 and October 2012. The objectives were to “(a) contribute to easing funding conditions for credit institutions and enterprises; and (b) encouraging credit institutions to maintain and expand lending to their clients”.
December 8, 2011	3-year LTRO	LTROs with a maturity of 3 years at a fixed rate with full allotment. The operations were introduced in an effort by the ECB to “support the liquidity situation of euro area banks [...] and to provide liquidity to the global financial system”. The operations amassed a total amount of nearly €1 trillion in central bank assets in 2012.
July 26, 2012	Speech	Remarks made by ECB President Mario Draghi at the Global Investment Conference in London: “Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.”

Table A.1 (cont.): Unconventional Monetary Policy measures in the Euro Area

DATE	MEASURE	DESCRIPTION
September 6, 2012	OMT	Outright Monetary Transactions in secondary markets for sovereign bonds in the euro area to “safeguard the monetary policy transmission mechanism in all countries of the euro”. The program was attached to the European Stability Mechanism (ESM), and was unlimited.
July 4, 2013	Open-ended guidance	Remarks made by President Draghi during the monthly ECB press conferences: “The Governing Council expects the key ECB interest rates to remain at present or lower levels for an extended period of time.”
June 5, 2014	Negative interest rates and TLTROs	The ECB lowered the interest rate on the deposit facility to -0.10 percent, and announced Targeted Longer-Term Refinancing Operations. Those operations carried a maturity date of 4 years at an initial total entitlement amount of €400 billion, with two successive TLTROs in September and December 2014. Their purpose was to “support bank lending to households and non-financial corporations, excluding loans to households for house purchase”.
September 4, 2014	APP, ABSPP and CBPP3	Expanded Asset Purchase Programme (APP), Asset-Backed Securities Purchase Programme (ABSPP), third Covered Bond Purchase Programme (CBPP3). The ECB announced that “the newly decided measures will have a sizeable impact on our balance sheet.” The purpose of those measures was to “support our forward guidance on the key ECB interest rates [...]”
January 22, 2015	PSPP added to APP	Public Sector Purchase Programme added to the APP. Purchased securities included “nominal and inflation-linked central government bonds, as well as bonds issued by recognized agencies, regional and local governments, and international organizations and multilateral development banks located in the euro area”. The goal of the program was to counter declining inflation and inflation expectations. APP holdings in October 2017 were €2.2 trillion, of which €1.8 trillion are part of the PSPP.
March 10, 2016	TLTRO II and CSPP added to PSPP.	Corporate Sector Purchase Program (CSPP) added to the APP. Targeted Longer-Term Refinancing Operations II. The program’s goal was to “further ease private sector credit conditions and to stimulate credit creation”.

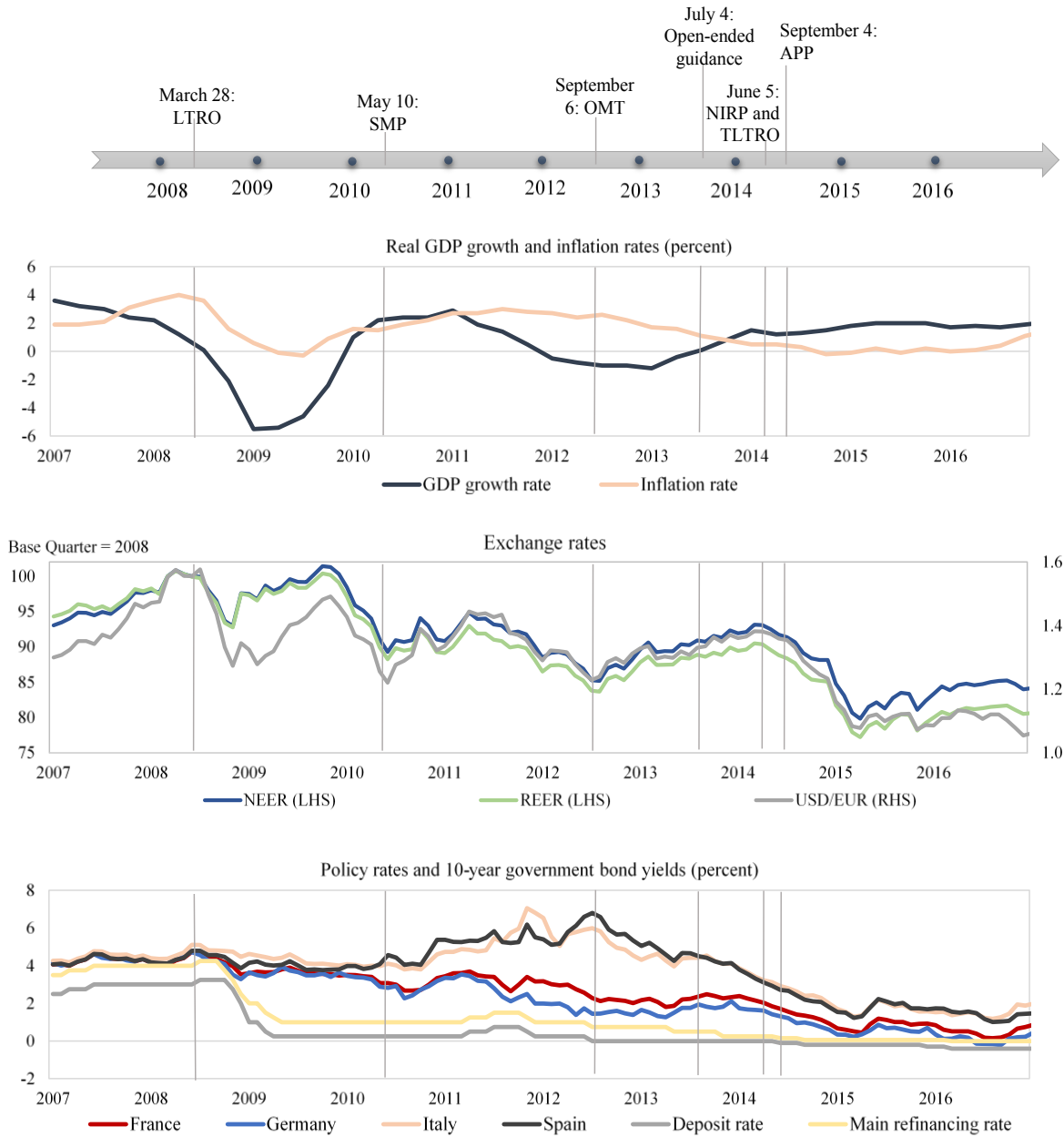
Table A.2: Unconventional Monetary Policy measures in the United Kingdom

DATE	MEASURE	DESCRIPTION
Mar 5, 2009	QE1	To raise “nominal spending to a level consistent with meeting the inflation target”, BoE launches QE to purchase £75 billion of corporate and government bonds. Purchases are later increased to £200 billion (almost entirely gilts) and completed in January 2010.
Oct 6, 2011	QE2	BoE announces new asset purchases for £75 billion. Purchases are further increased in February 2012 to £125 billion.
Jul 5, 2012	QE3	BoE announces new asset purchases for £50 billion.
Aug 7, 2013	Forward guidance	The BoE will not increase rates or scale down the asset purchase program at least until the “unemployment rate has fallen to a threshold of 7%” Guidance ceases to hold if medium-term inflation rises above 2.5 percent, or inflation expectations become de-anchored, or monetary stance threatens financial stability.
Feb 12, 2014	Forward guidance	The BoE “judges that there remains scope to absorb spare capacity further before raising bank rate” and when “the economy can sustain higher interest rates, Bank Rate is expected to rise only gradually.”
Aug 4, 2016	QE4	“To provide additional support to growth and to achieve a sustainable return of inflation to the target”, BoE announces the purchase of £60 billion of government bonds and £10 billion of corporate bonds.

Table A.3: Unconventional Monetary Policy Measures in Japan since the Global Financial Crisis

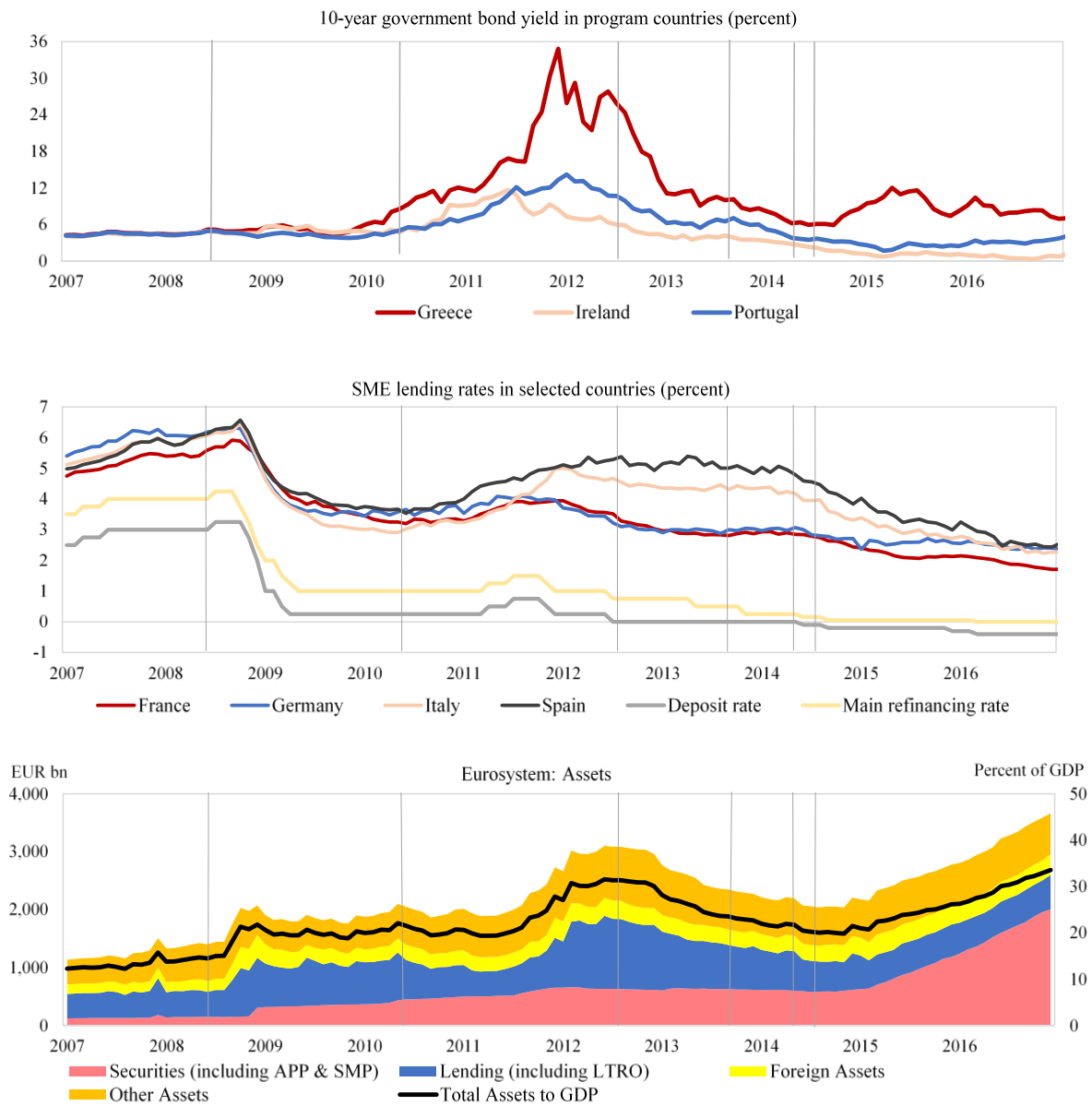
DATE	MEASURE	DESCRIPTION
Oct 5, 2010	Forward guidance and asset purchases	Because of a growth slowdown, BoJ announces the purchase of ¥5 trillion assets (including government bonds, commercial paper, corporate bonds, ETFs and real estate investment trusts). Purchases are later increased to ¥20 trillion. Furthermore, BoJ announces that “it will maintain the virtually zero interest rate policy until it judges [...] that price stability is in sight, on condition that no problem will be identified in examining risk factors”.
Feb 14, 2012	Forward guidance and asset purchases	To support financial conditions and economic recovery, BoJ announces the purchase of ¥10 trillion JGBs and its intension to keep rates at zero and implement asset purchases “until it judges that the 1 percent [inflation] goal is in sight on the condition that the Bank does not identify any significant risk”.
Jan 22, 2013	Forward guidance and asset purchases	“The Bank sets the price stability target at 2 percent” and aims to “achieve this target through a virtually zero interest rate policy and purchases of financial assets, as long as the Bank judges it appropriate”. BoJ will purchase each month ¥2 trillion JGBs and ¥10 trillion T-Bills.
Apr 4, 2013	QQE1	To achieve “the price stability target at the earliest possible time”, the BoJ announces open-ended purchases of ¥50 trillion JGBs and ¥1 trillion ETFs per year. BoJ will also “more than double the average remaining maturity of JGB purchases” to about 7 years.
Oct 31, 2014	QQE2	Because “downward pressures” on prices, BoJ increases yearly purchases of JGBs and ETFs to ¥80 and ¥3 trillion, respectively. Average maturity of JGB purchases is further extended to 7-10 years.
Jan 29, 2016	Negative interest rates	In response to volatility in global financial markets, a decline in oil prices, and uncertainty about the Chinese economy, the BoJ “will apply a negative interest rate of -0.1% to current accounts that financial institutions hold at the Bank”.
Sep 21, 2016	Yield Curve Control	To achieve the inflation target, the BoJ announces that it “will control short-term and long-term interest rates”. The short-term rate on reserves remains at -0.1%, while the “Bank will purchase JGBs so that 10-year JGB yields will remain [...] around 0%”. Furthermore, the BoJ announces an “inflation-overshooting commitment” to increase the monetary base until inflation exceeds the 2 percent target in a stable manner.

Figure A.1: Selected European Central Bank Policy Announcements and Economic Indicators in the Euro Area



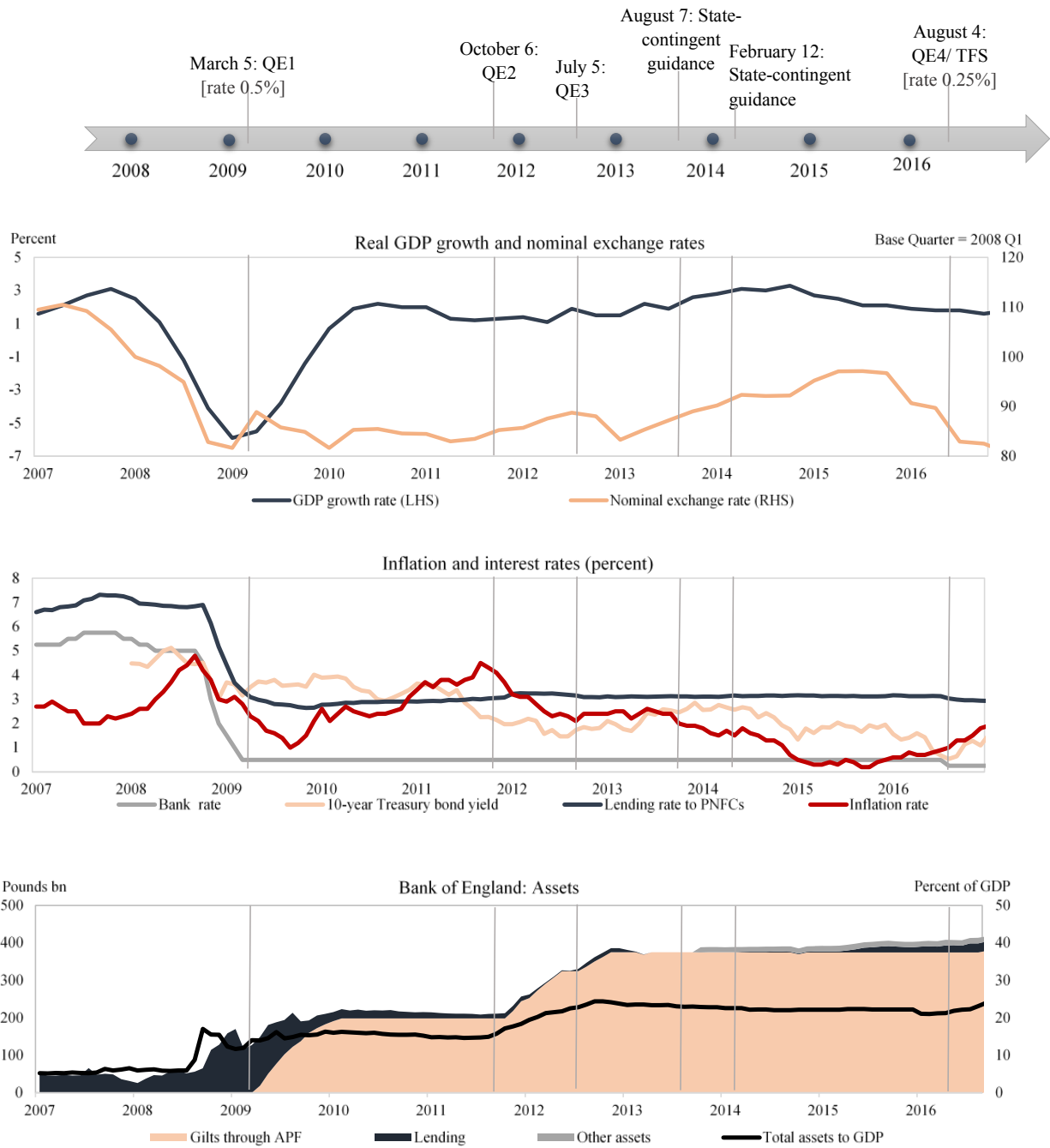
Source: Haver analytics, ECB and authors' calculations

Figure A.1: Selected European Central Bank Policy Announcements and Economic Indicators in the Euro Area (continued)



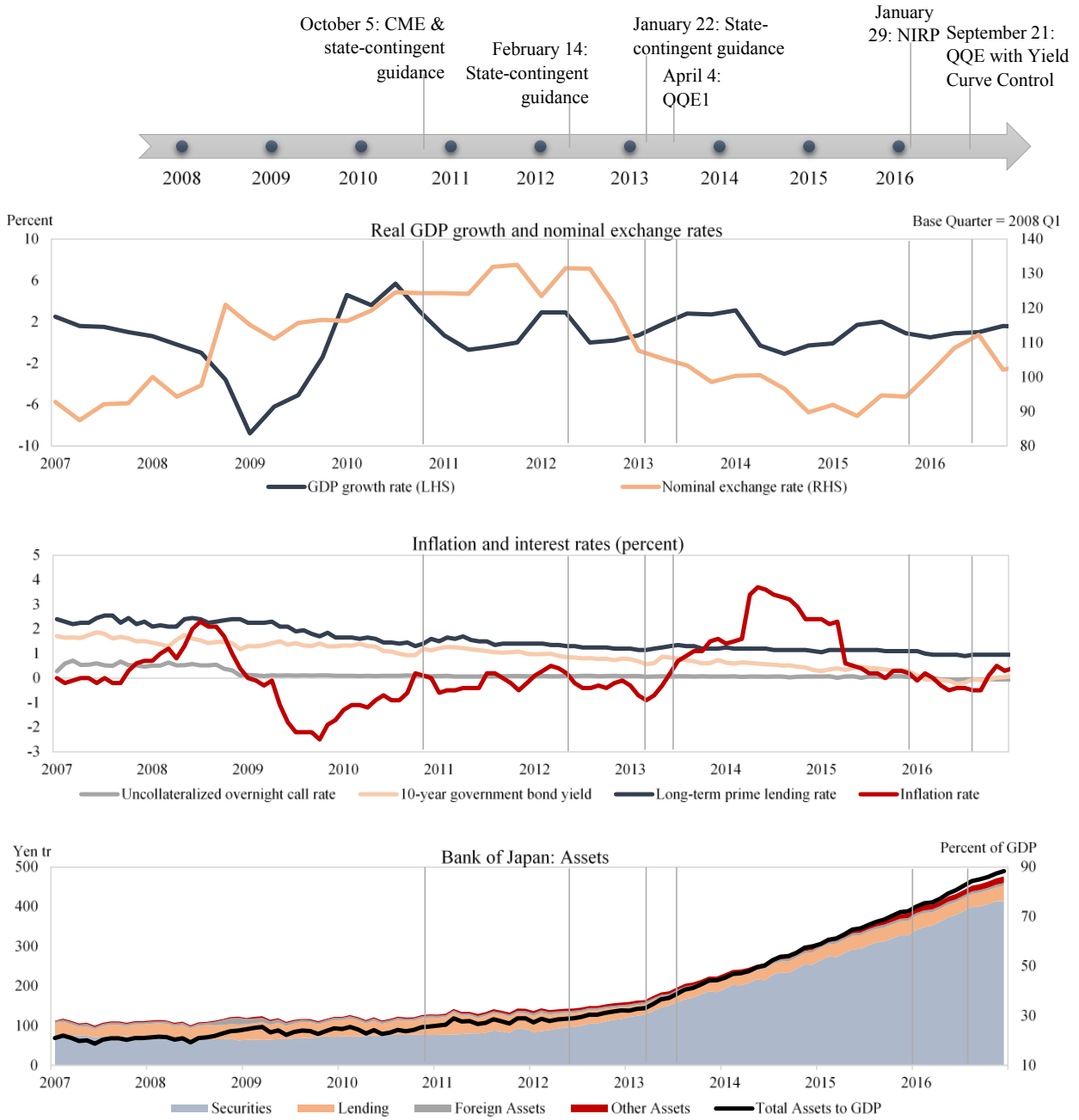
Source: Haver analytics and staff calculation

Figure A.2: Selected Bank of England Policy Announcements and Economic Indicators in the United Kingdom



Source: Haver analytics, Bank of England and authors' calculations

Figure A.3: Selected Bank of Japan Policy Announcements and Economic Indicators in Japan



Source: Haver analytics and authors' calculations