IMFS WORKING LUNCH

INFLATION TARGETING AND FINANCIAL STABILITY: MONETARY POLICY CHALLENGES FOR THE FUTURE

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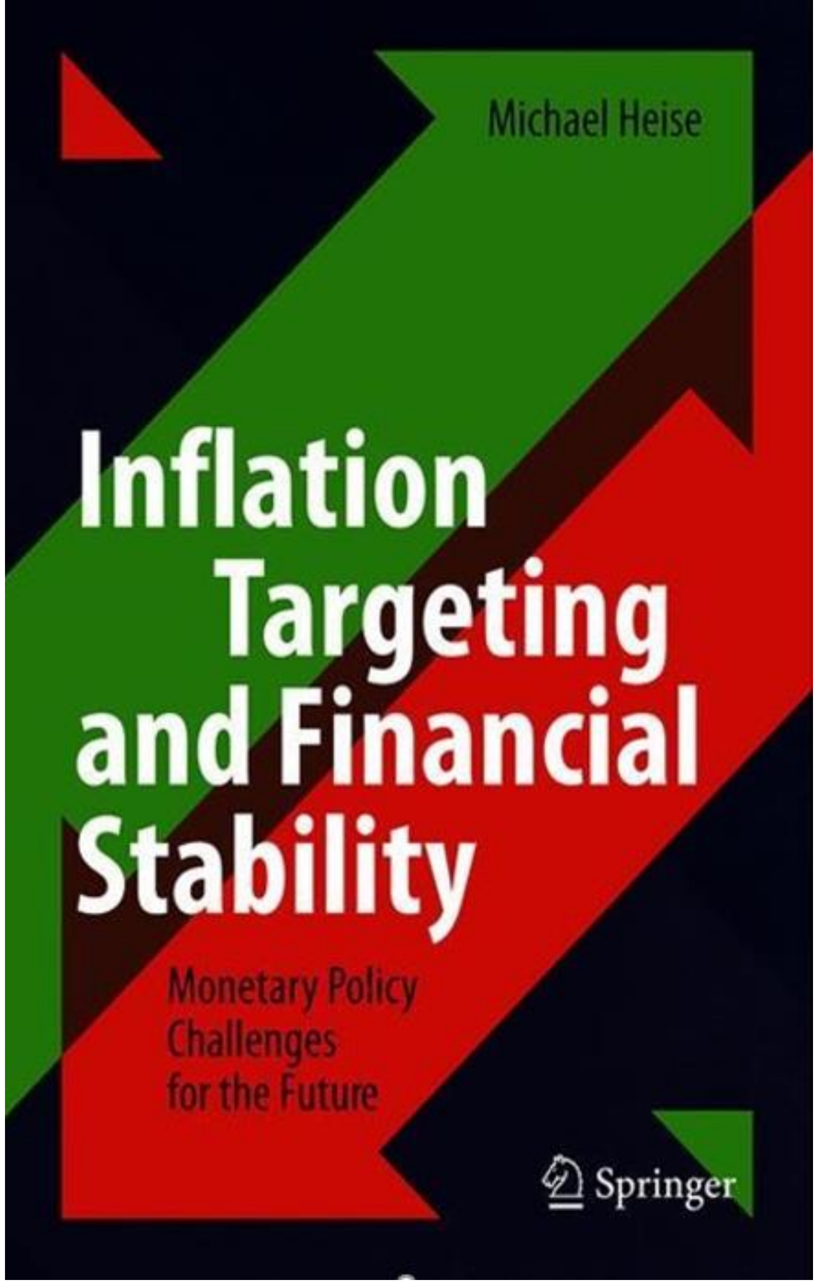
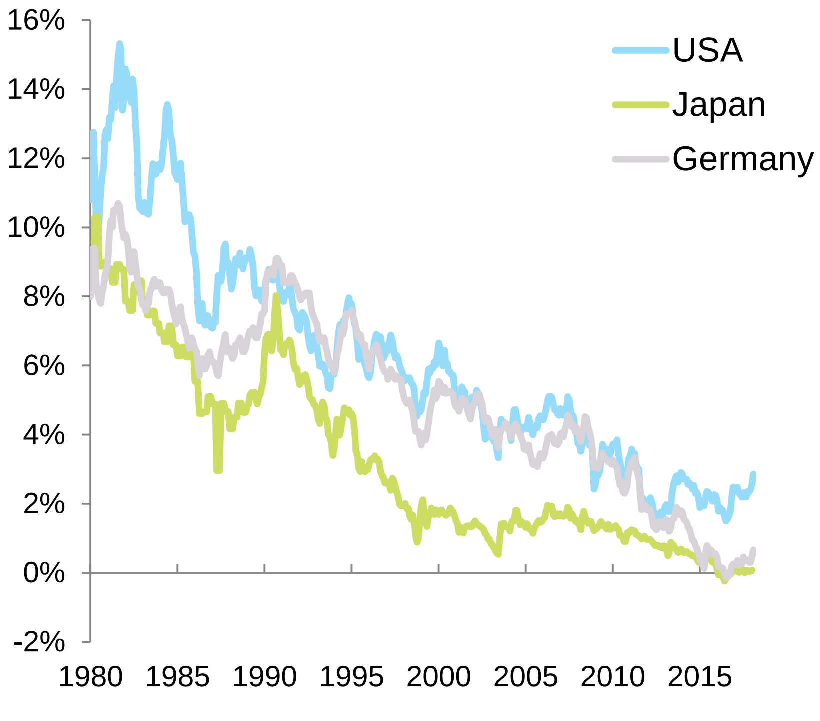
Goethe University Frankfurt / 08.04.2019 / 12:30-1:30 pm



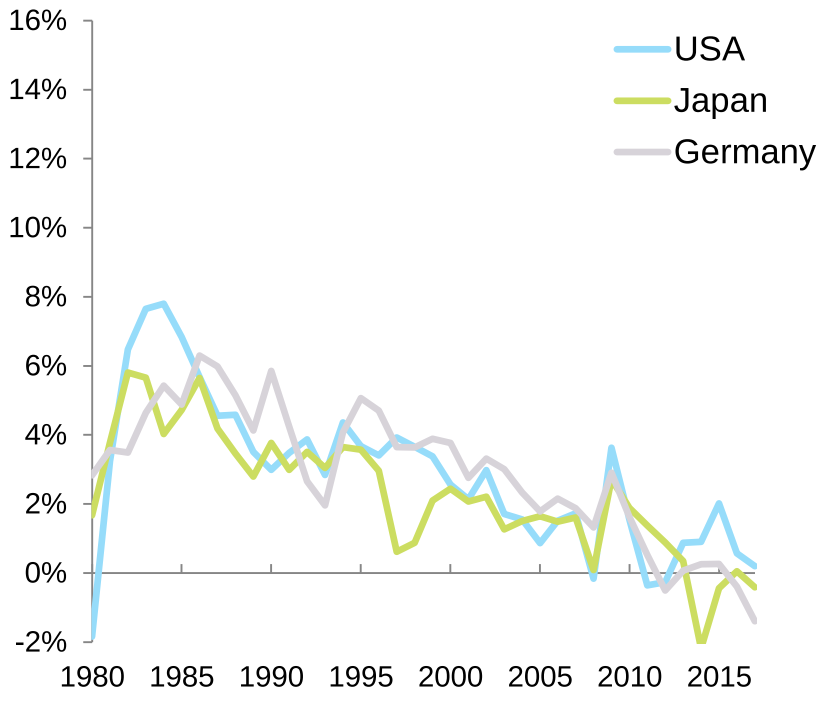
CONTENT

CHART 2.1 – THE SECULAR DECLINE OF BOND YIELDS IN ADVANCED ECONOMIES

10-year government bonds, nominal yields



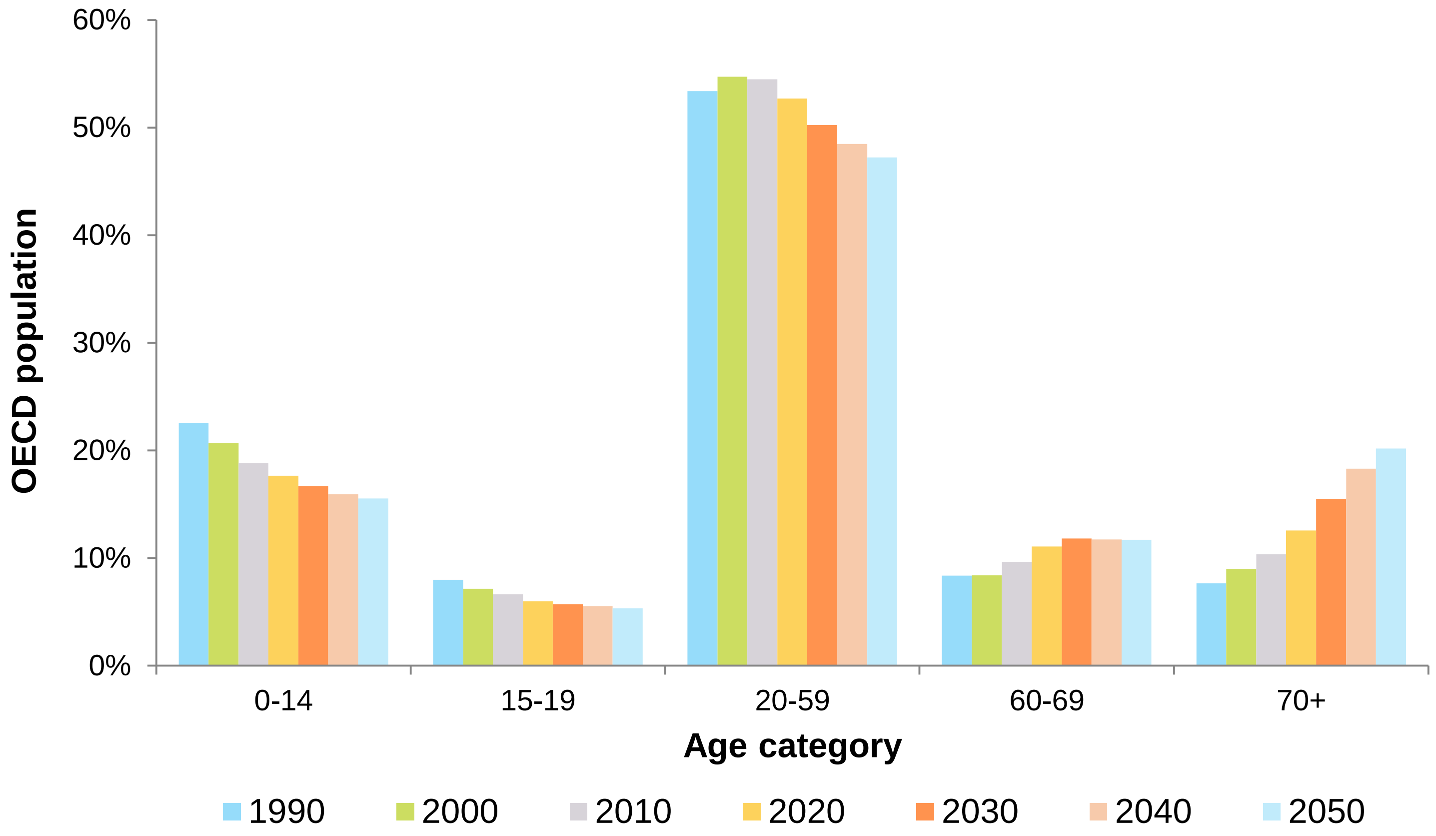
10-year government bonds, real yields*



* Nominal rates adjusted for Consumer Price Inflation

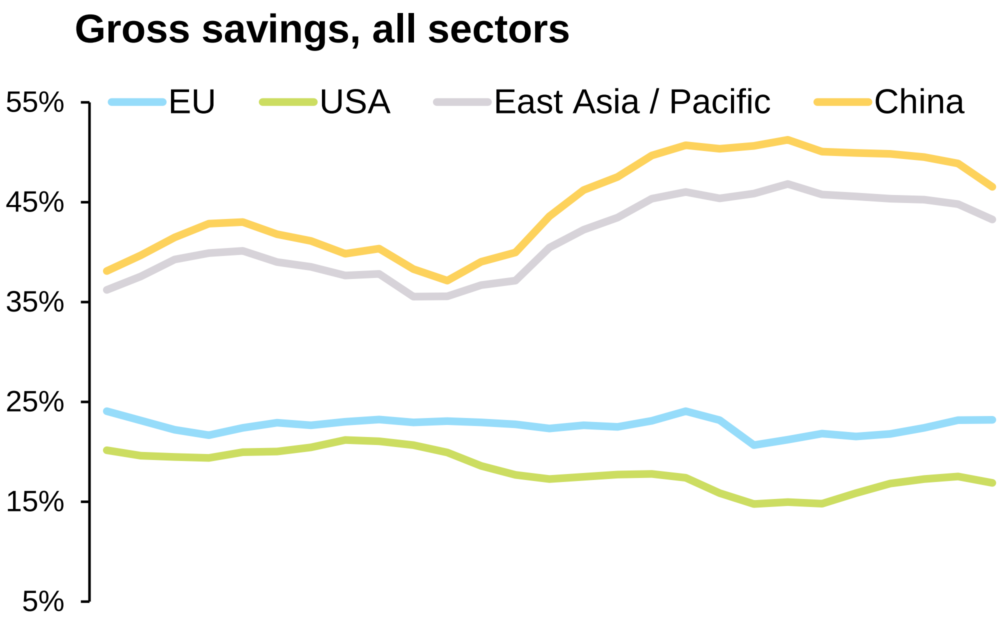
Source: Thomson Reuters Datastream, OECD, ECB

CHART 2.2 – SHIFTS IN OECD AGE DISTRIBUTION

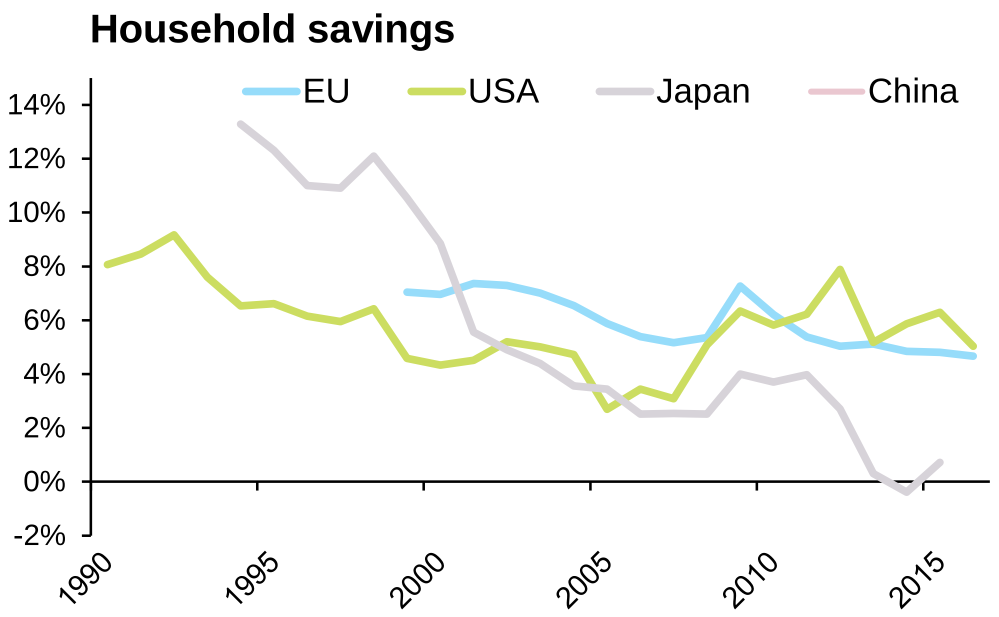


Source: UN, Department of Economic and Social Affairs.
World Population Prospects

CHART 2.3 – SAVINGS RATES BY GEOGRAPHY



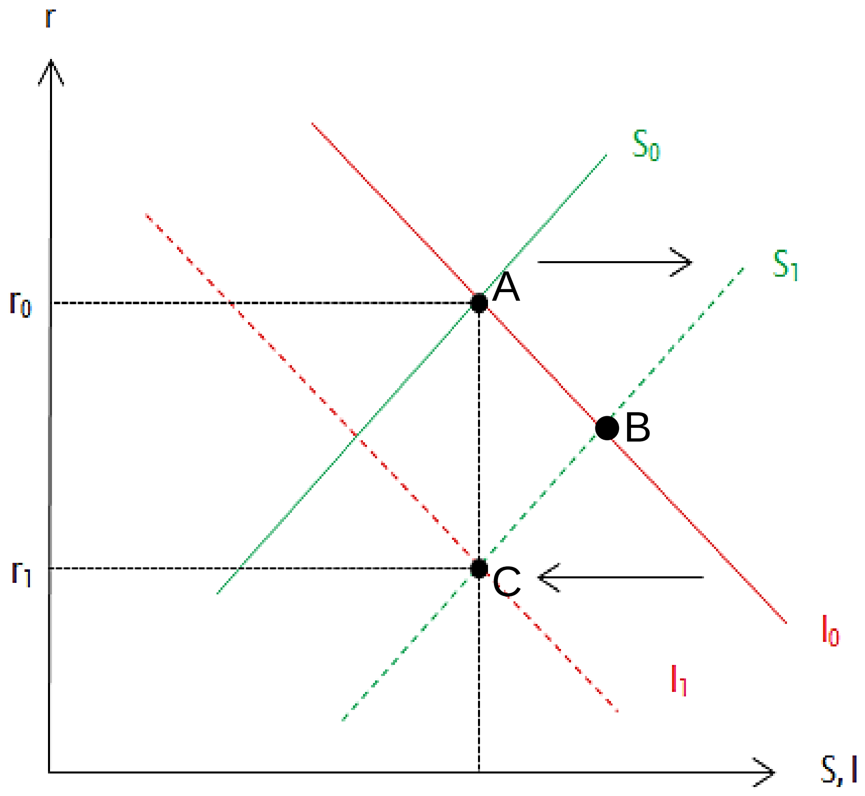
Source: World Bank



Source: OECD

Japan: It is the only large country that presents a secular decline in the savings rate. Its population has been slowing since the mid-1970 and the ageing of the society set in earlier and more forcefully compared to other countries. The growing number of elderly Japanese has an average lower saving rate than active workers and partly even draw down their wealth – a reminder of how much demography effects savings and how the retirement of baby boomers will decline our saving rate, particularly in the years after 2020.

CHART 2.6 – SHIFT IN SAVINGS AND INVESTMENT CURVE



r = real interest rate (global equilibrium interest rate)

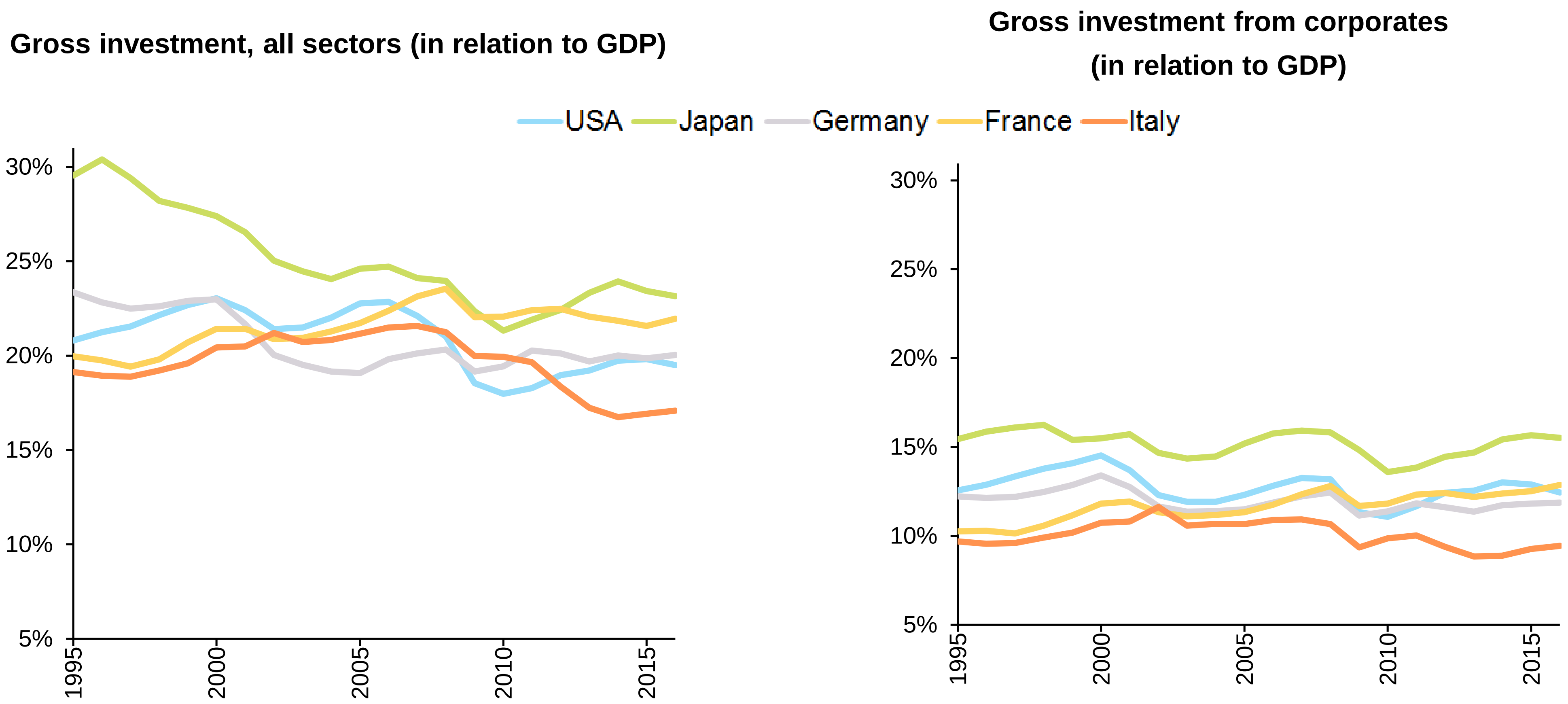
Right shift in savings curve:

- Emerging markets
- Demography
- Income distribution

Left shift in investment curve:

- Uncertainty
- Deleveraging
- Decline in public-sector investment
- Falling relative price of investment goods

CHART 2.7 – INVESTMENT RATIOS IN INDUSTRIALIZED COUNTRIES



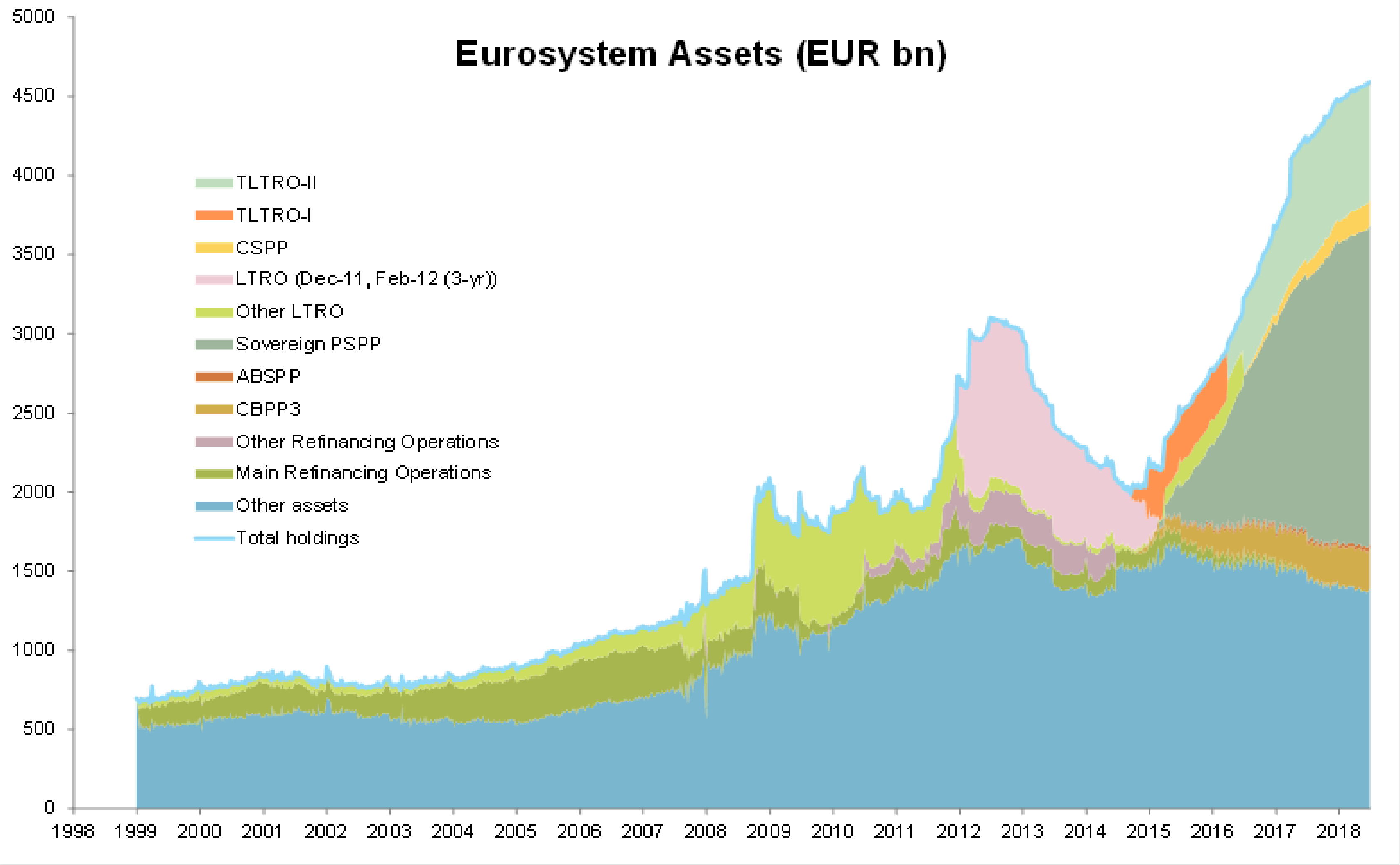
Source: World Bank

Source: Eurostat / HIS

CHART 2.8 – WHERE ARE GLOBAL REAL INTEREST RATES HEADING IN THE LONG-TERM?

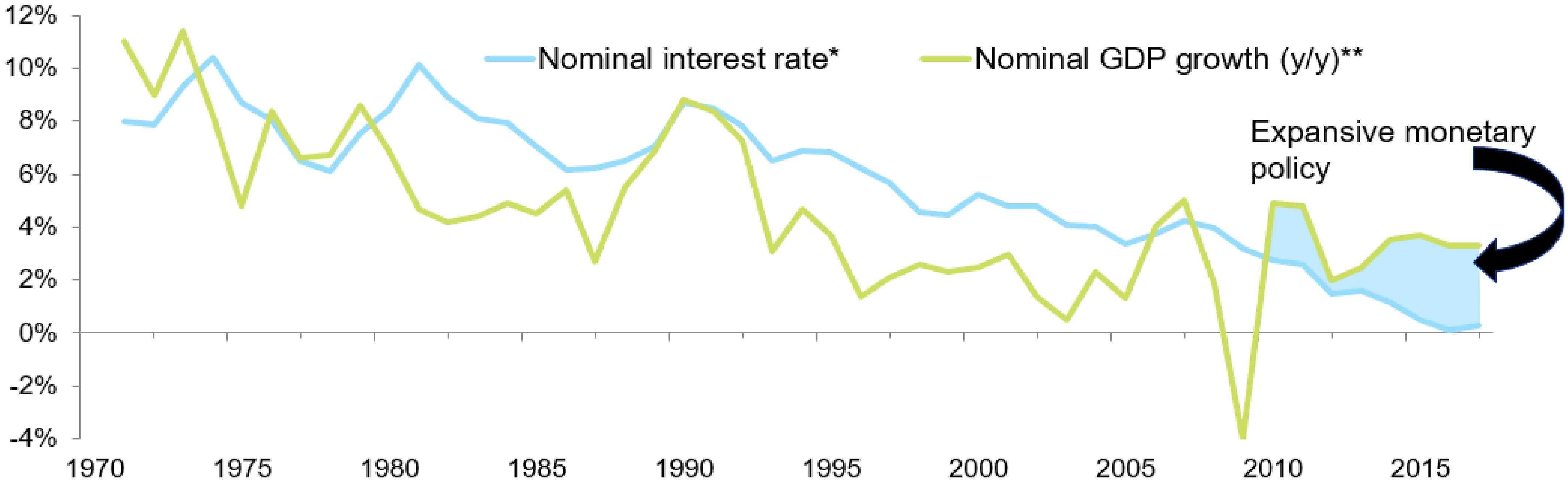
Driving factors	**Impact on real interest rate: slightly up**
Shift in saving curve • Demography: rising proportion of older people • Lower savings in emerging markets	Upward
Shift in investment curve • Pressure from private sector deleveraging eases • Public-sector investment rises slightly • Importance of intangible investment remains high	Slightly upward
Portfolio shifts • Little change of regulatory preference for government bonds • Preference for safe assets on the side of investors remains?	Unchanged?
Productivity growth • Positive impact of information and communication technology	Slightly upward

CHART 2.10 – ECB BALANCE SHEET STRUCTURE



Source: Allianz Research

CHART 2.11 – GERMANY: BOND YIELDS UNDERSHOOT NOMINAL GDP GROWTH

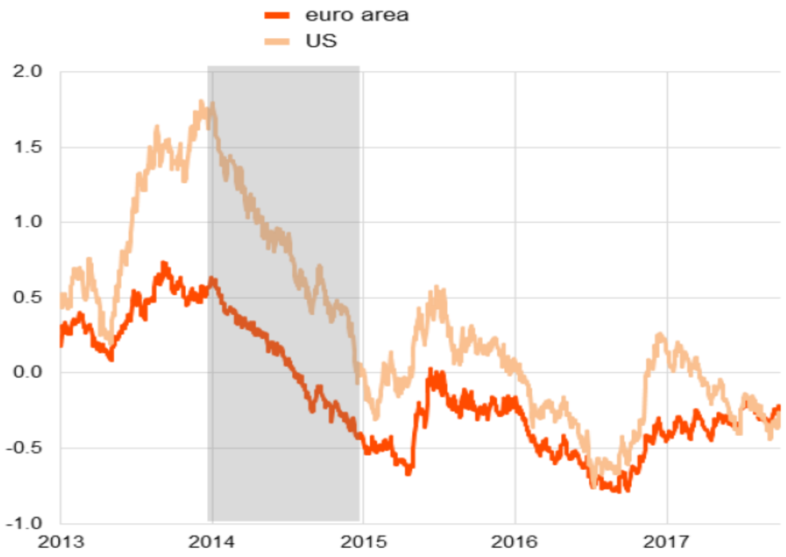


* Yield on bonds outstanding 9-10 year government bonds. 2017: Average January – June.
** Prior to 1991: territory of the former federal republic; 2017: Allianz Research forecast

Source: OECD, Destatis, Allianz Research

CHART 2.12 – TEN-YEAR EURO-AREA BOND YIELDS AND THE TERM PREMIUM

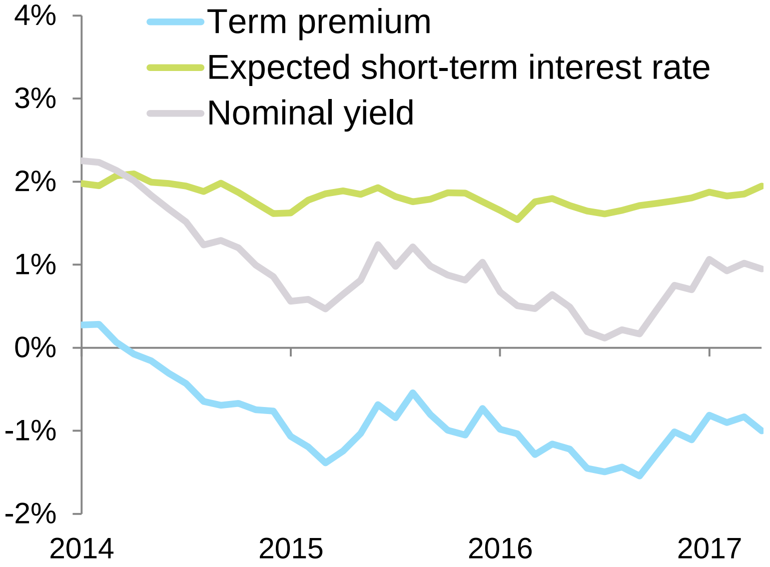
10-year term premia estimates: EU vs US (%)
(January 2013 – September 2017)



Notes: The US Treasury term premium is based on the term structure model by T. Adrien, R. Crump and E. Moench (2013), „Pricing the Term Structure with Linear Regression", *Journal of Financial Economics*, 110, pp.110-138; the euro area OIS term premium is based on the term structure model by Joslin, S., K. Singleton and H. Zhu (2011), „A New Perspective on Gaussian Dynamic Term Structure Models.", *Review of Financial Studies,* 24, pp. 926-970. The last estimates are for 29/09/2017.

Source: ECB, Benoît Cœuré: „Monetary policy, exchange rates and capital flows"

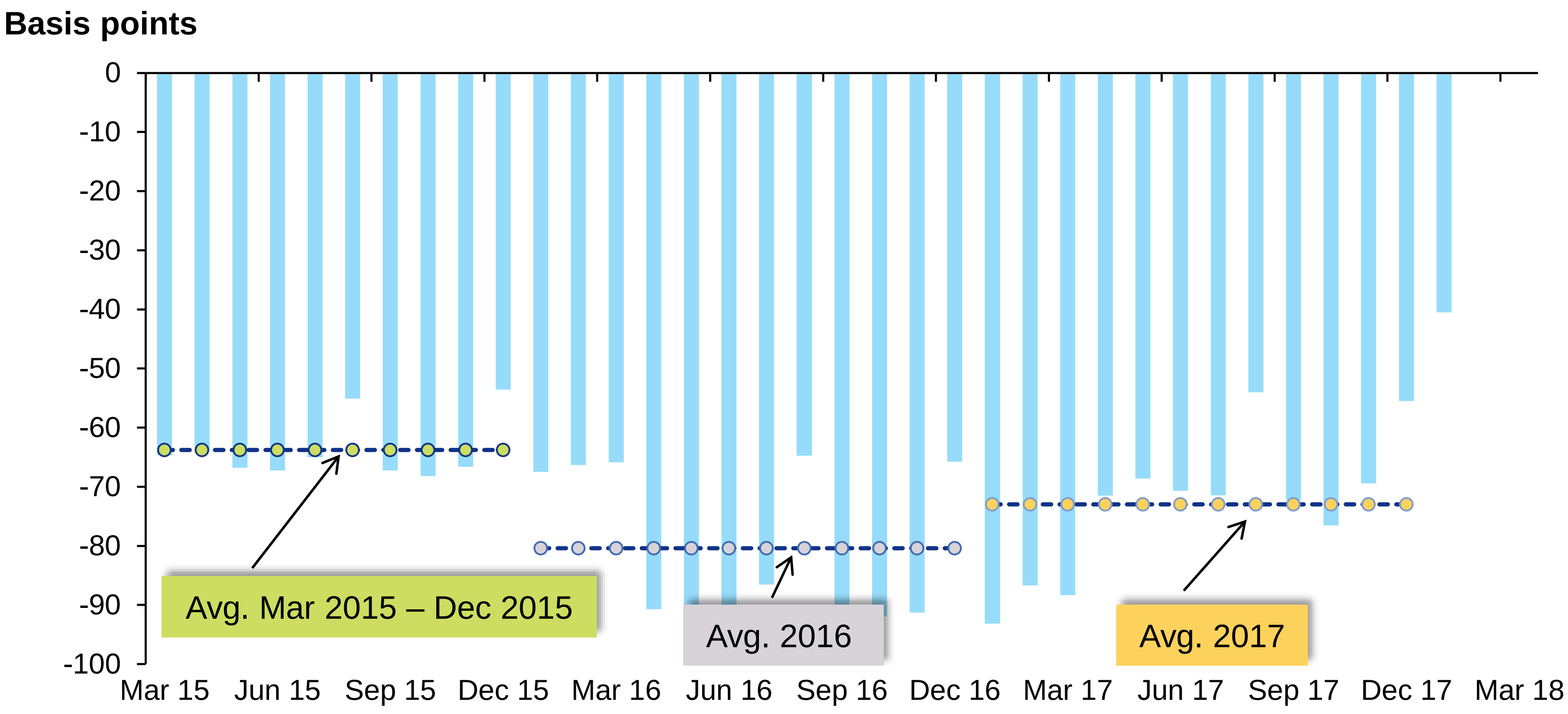
Euro-area bond yield and components *
(January 2014 - April 2017)



Notes : Decomposition of the 10-year nominal yield according to an estimated joint macroeconomic and term structure model; see P Hördahl and O Tristani, „Inflation risk premia in the euro area and the United States", *International Journal of Central Banking*, September 2014. Yields are expressed in zero coupon terms, for the euro area, French government bond data is used.

Source: Bank for International Settlements, Annual Report 2017

CHART 2.13 – ESTIMATED QE IMPACT ON 10-YEAR GERMAN GOVERNMENT BOND YIELDS (MAR 2015 TO JAN 2018)

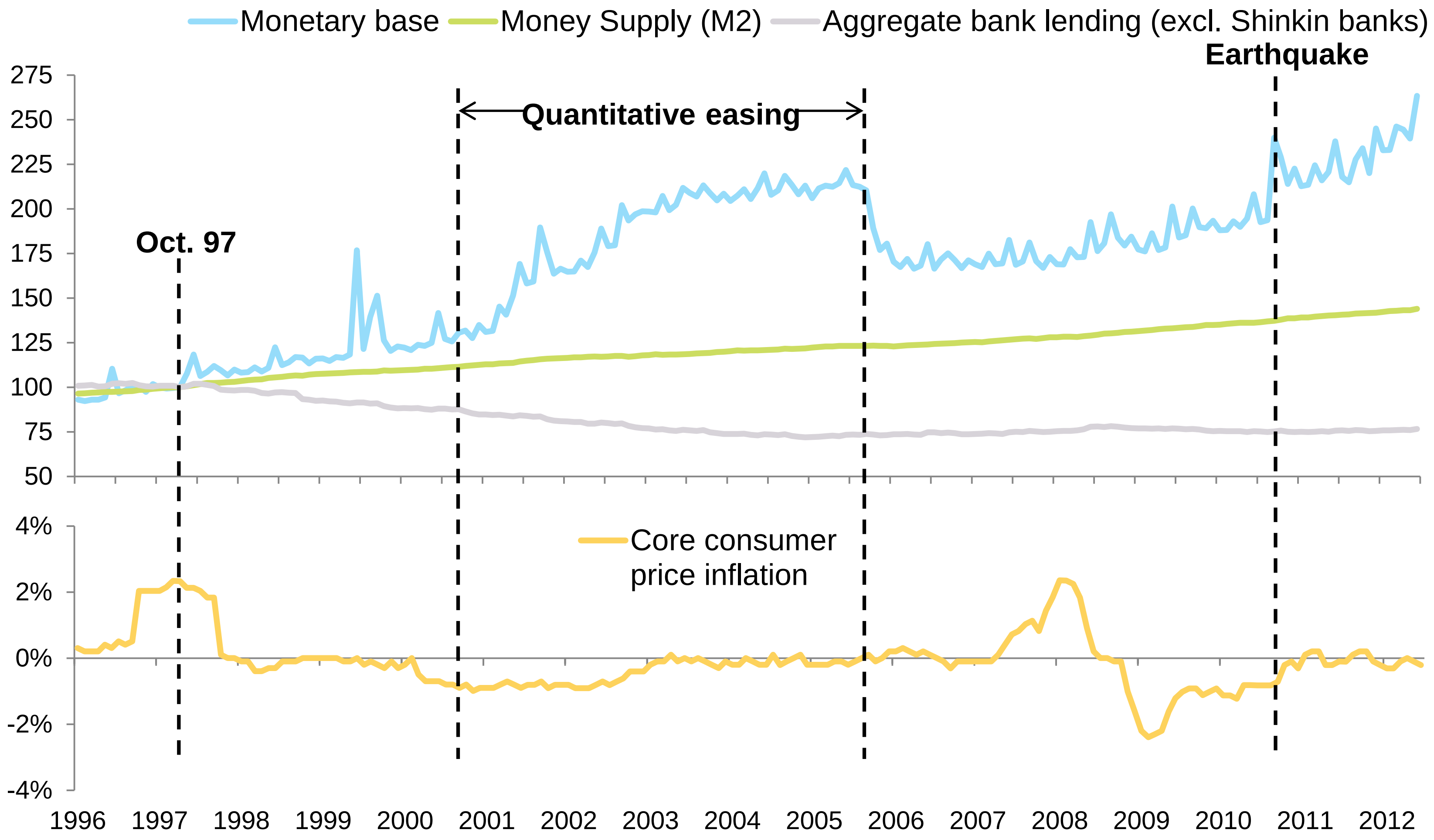


Source: ECB, Own calculations

CHART 3.1 – DRASTIC LIQUIDITY INJECTION WITHOUT MUCH EFFECT IN JAPAN

Monetary base, money supply (M2), bank lending and inflation in Japan

(Oct 1997 = 100)

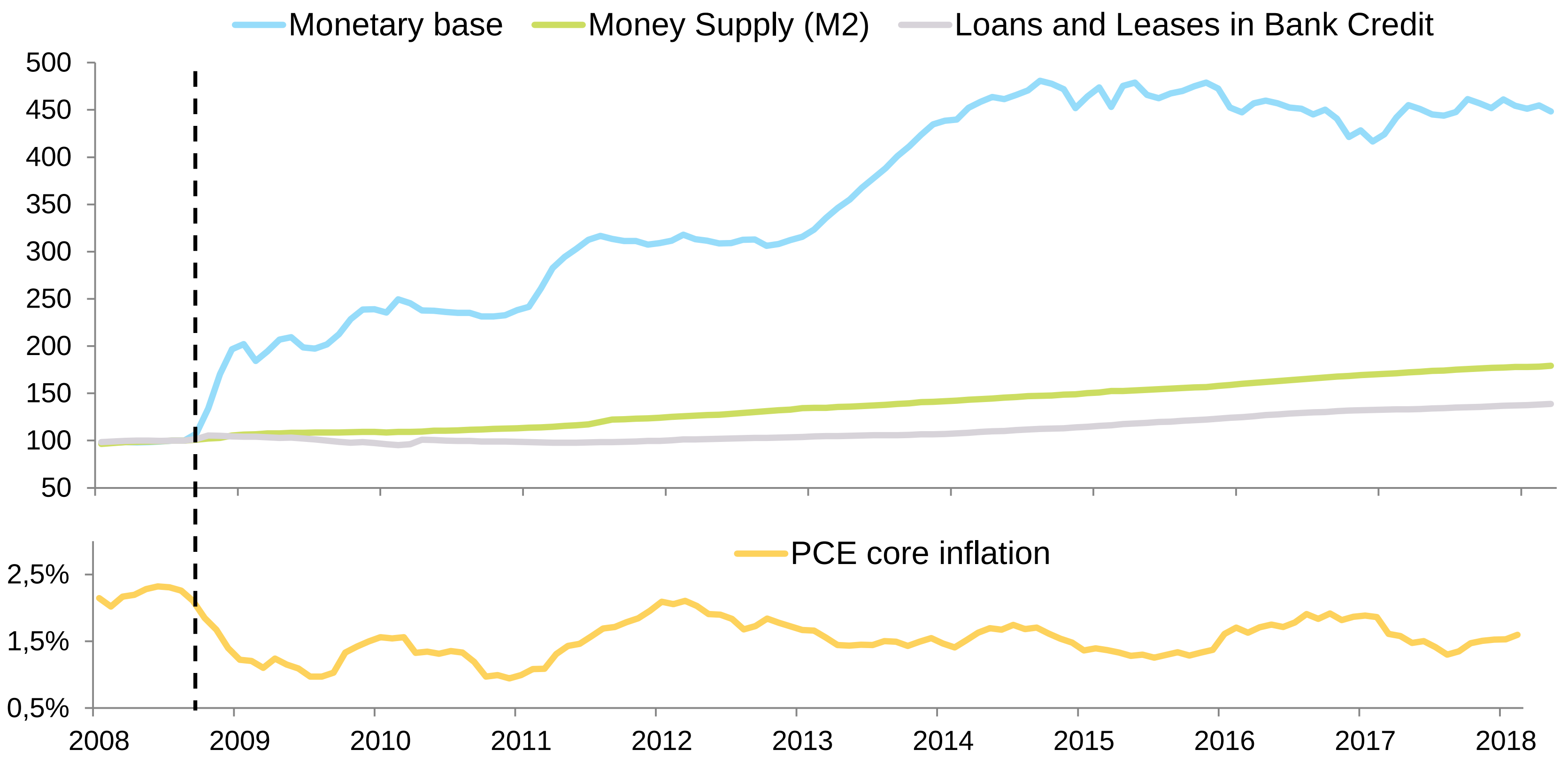


Source: Datastream, Allianz Research

CHART 3.2 – MODERATE INCREASE OF BANK LENDING DESPITE QUANTITATIVE EASING IN THE US

Monetary base, money supply, bank lending and inflation in the US

(Aug 2008 = 100)

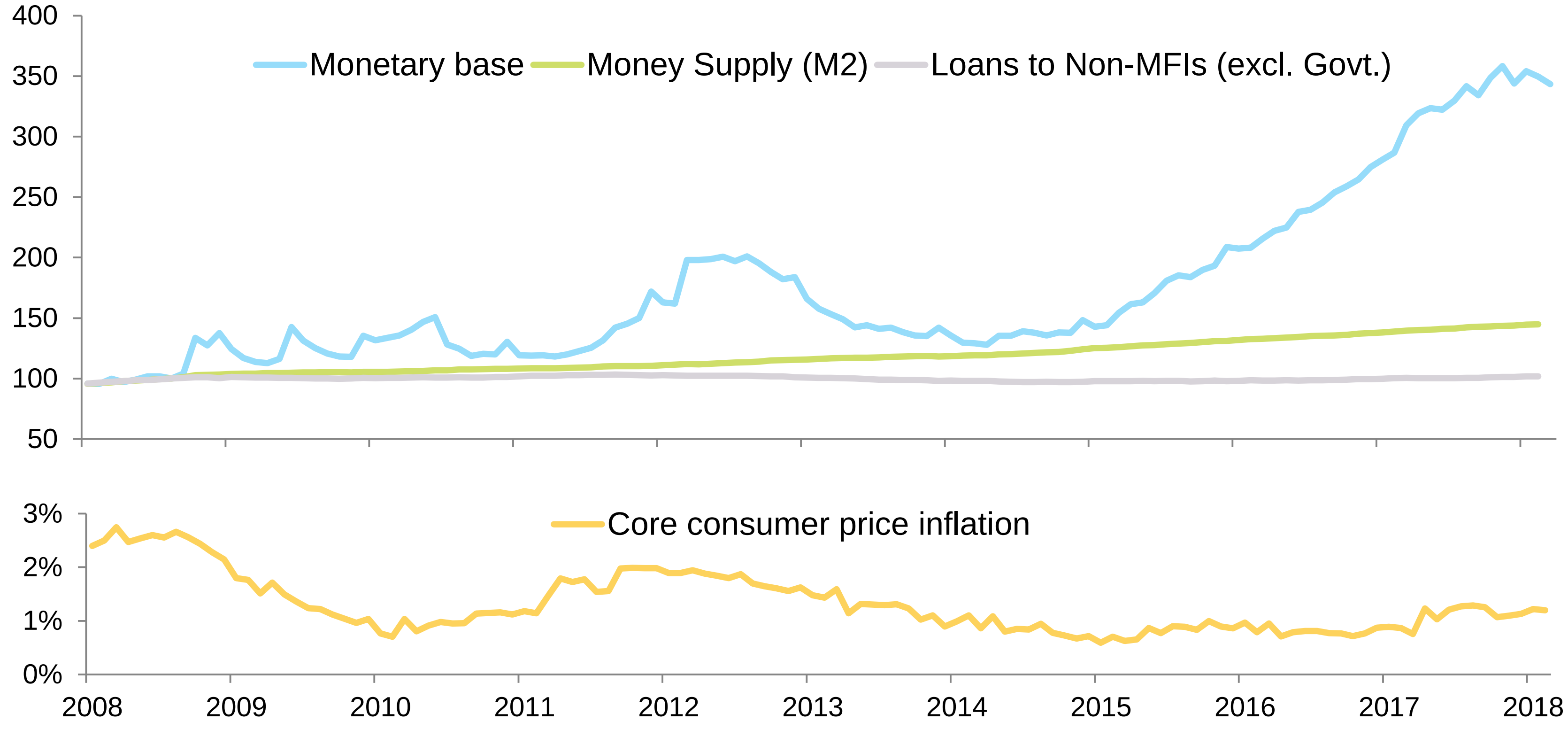


Source: Datastream, Allianz Research

CHART 3.3 – WEAK EUROZONE BANK LENDING DESPITE BALANCE SHEET EXPANSION BY THE ECB

Monetary base, money supply (M2), bank lending and inflation in the EMU

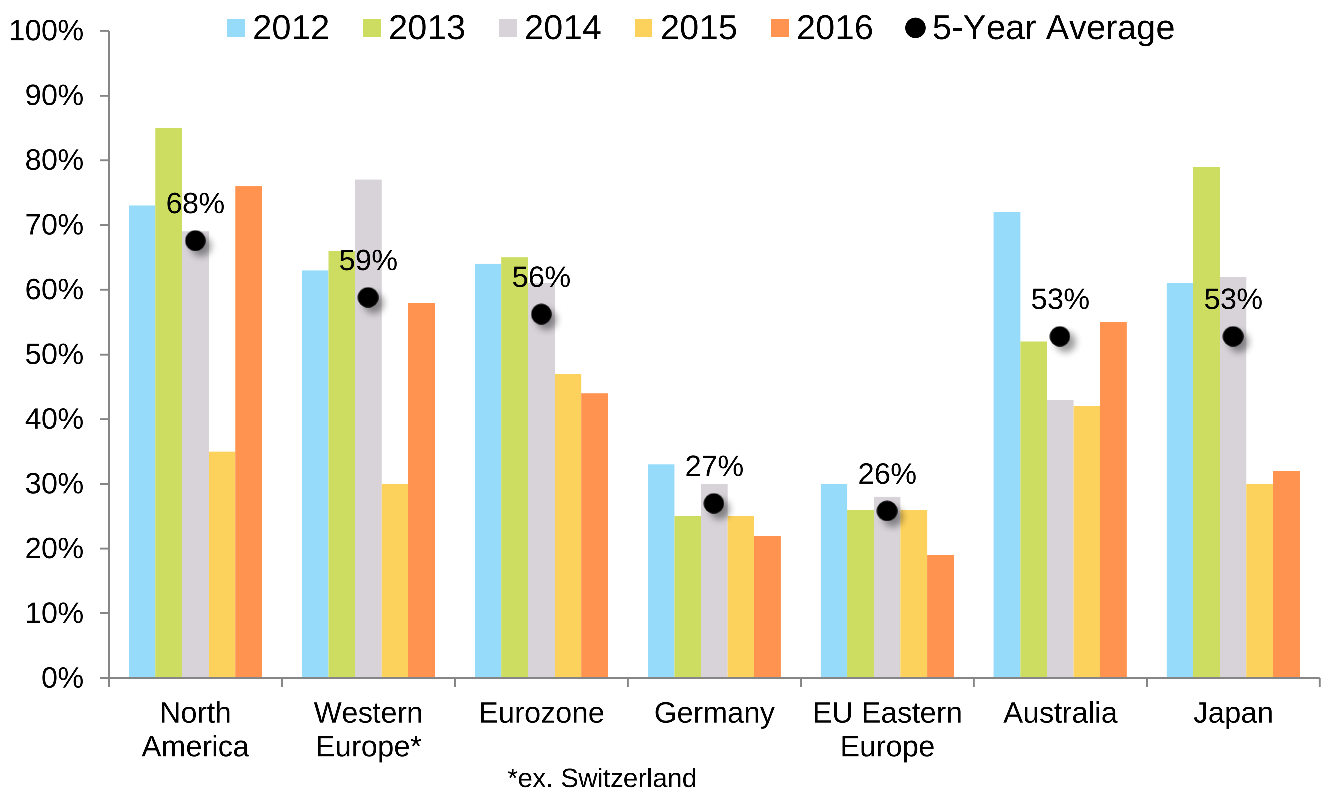
(Aug 2008 = 100)



Source: Datastream, Allianz Research

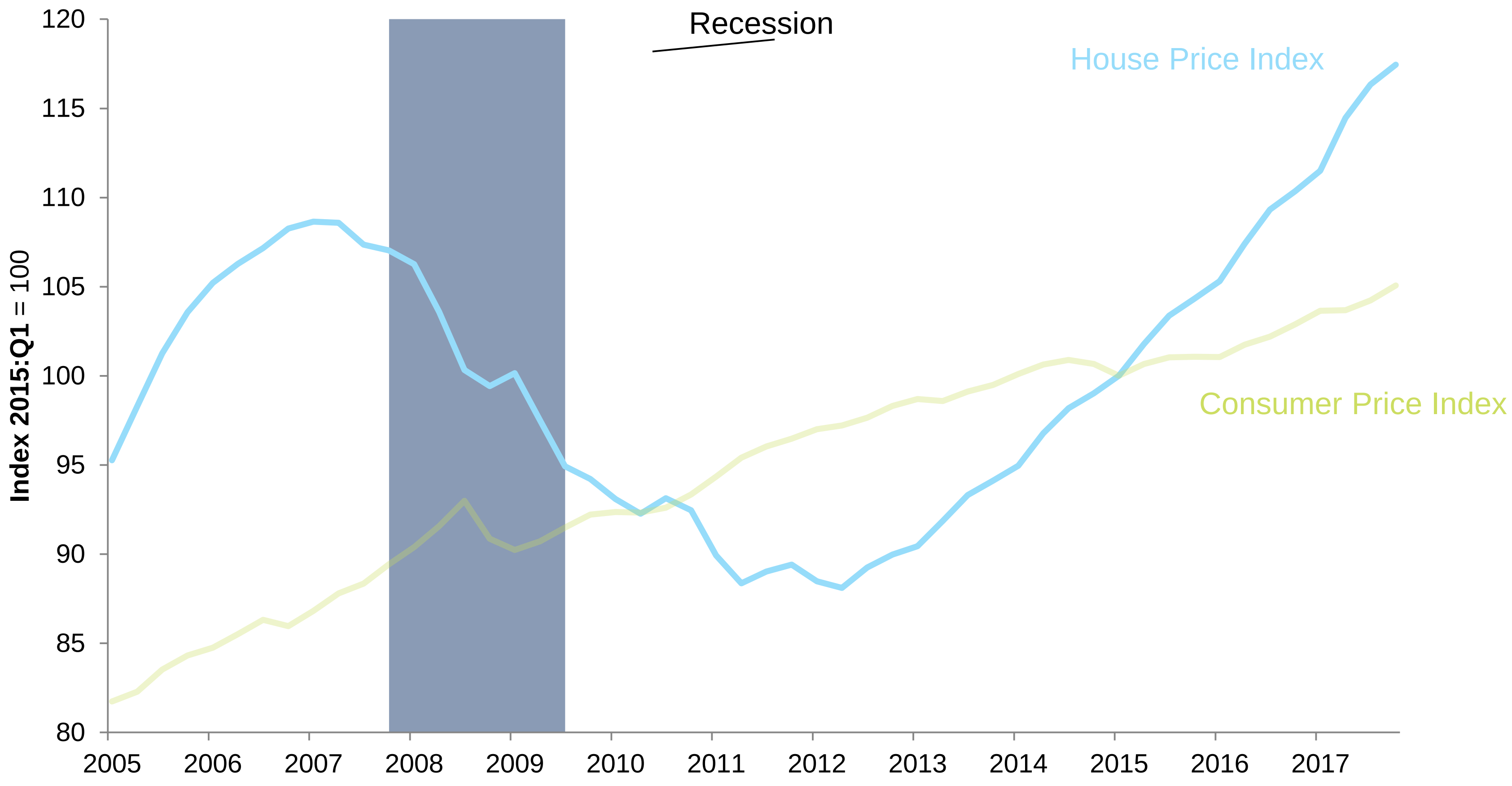
CHART 3.4 – HOW VALUATION GAINS IMPACT FINANCIAL WEALTH

Contribution of market valuations to financial asset growth



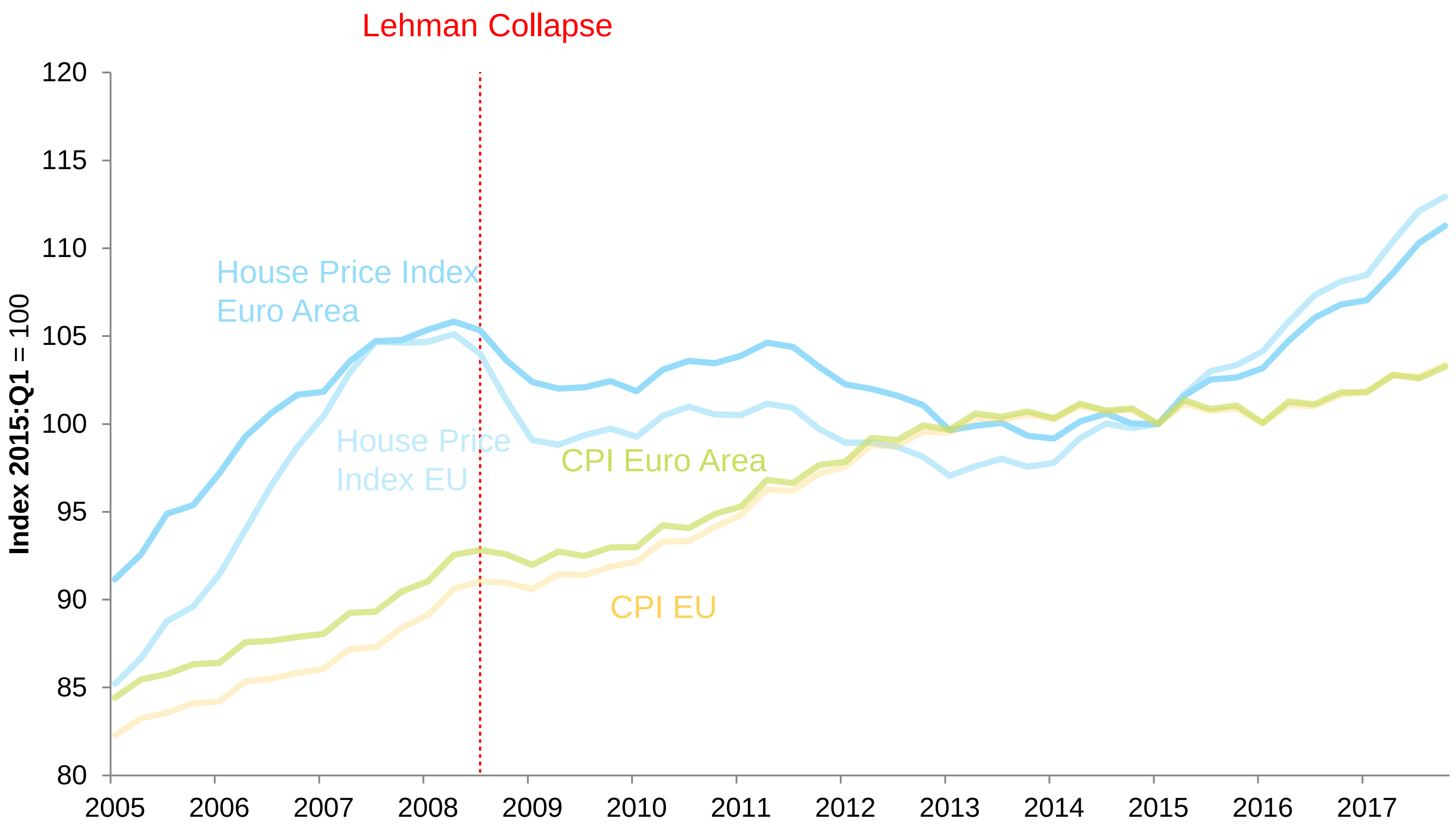
Source: National Central Banks and Statistical Offices, Allianz Research

CHART 3.5 – HOUSE PRICE INDEX USA



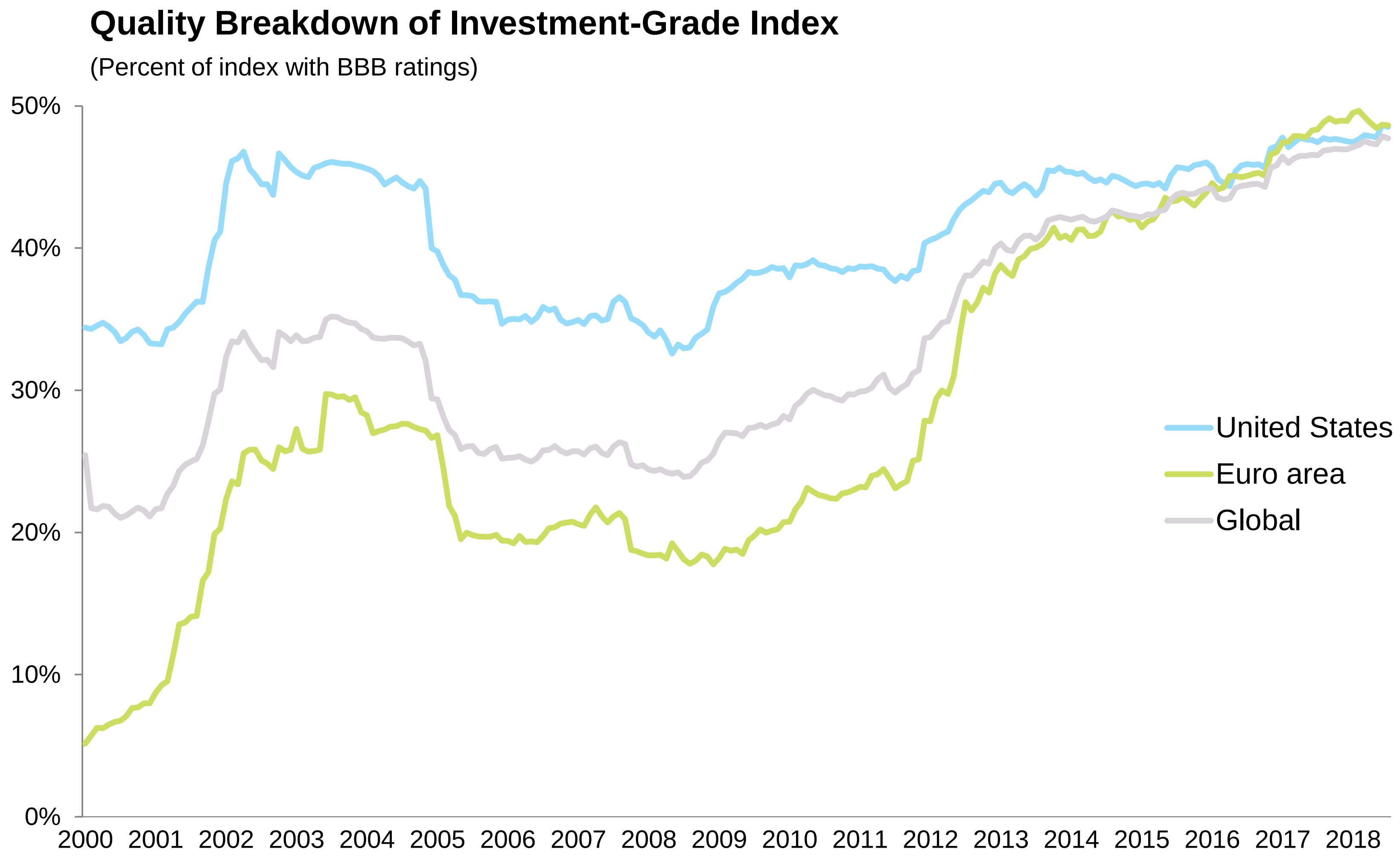
Source: All transactions House Price Indices for the U.S., U.S. Federal Housing Finance Agency

CHART 3.6 – HOUSE PRICE INDEX EUROPE



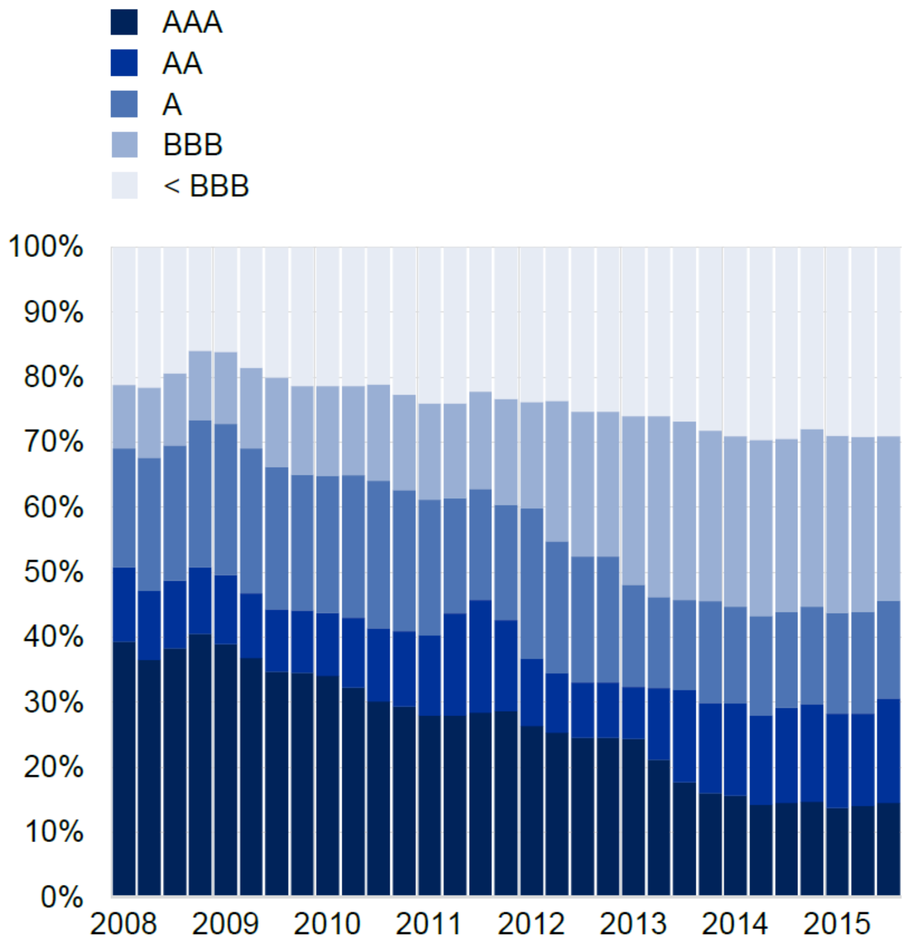
Source: House Price Index (2015 = 100) - quarterly data, Eurostat; Consumer Price Inflation (2015 =100) – quarterly data, FRED

CHART 3.7 – BALANCE SHEET VULNERABILITIES



Source: IMF, 2018* Data from the IMF Debt Database
as presented in IMF Global Financial Stability Report 2018

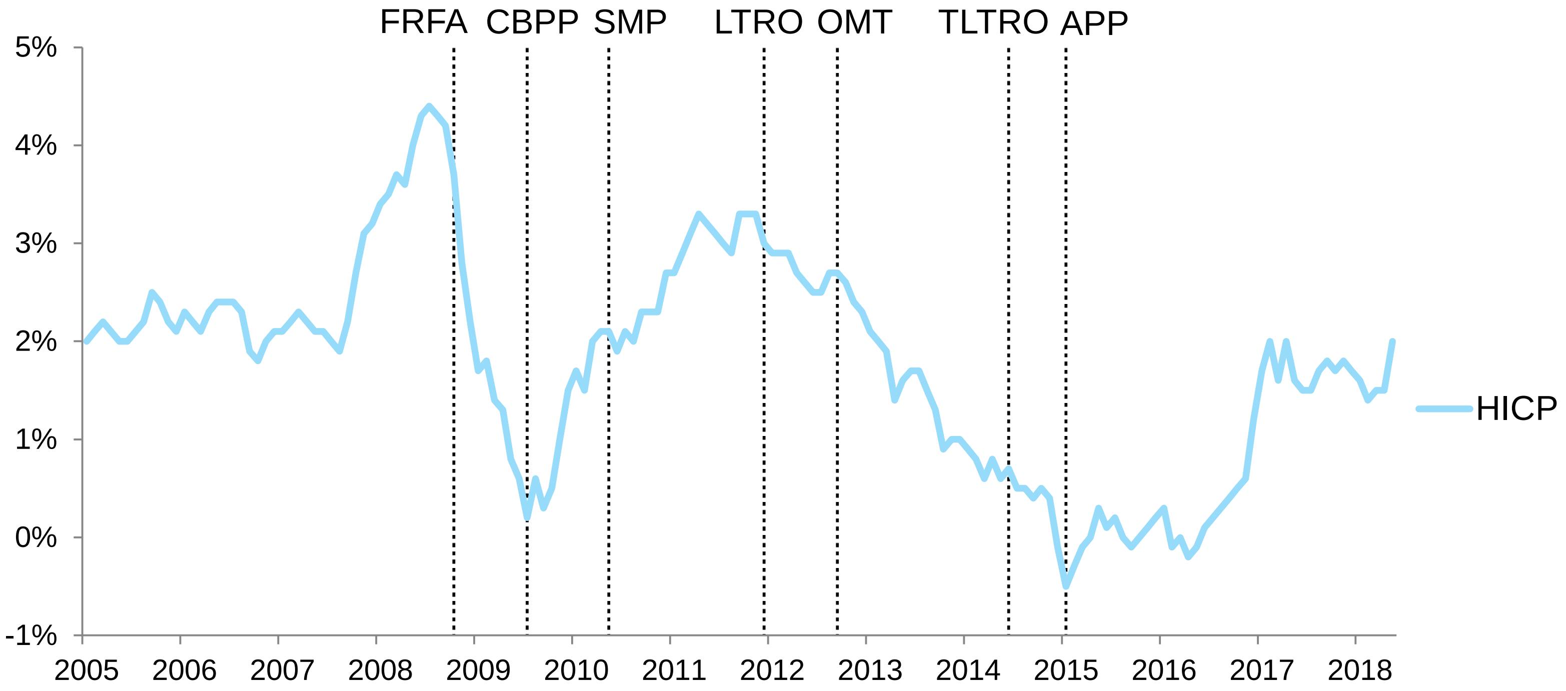
CHART 3.8 – CORPORATE BOND HOLDINGS UNDER ASSET MANAGEMENT IN THE EUROZONE BY RATING*



Source: ESRB, Macroprudential policy issues arising from low interest rates and structural changes in the EU financial system, Nov. 2016

*Corporate bond portfolios of asset managers show a declining share of high quality bonds and more risks in their portfolios for the euro area. If and when the macroeconomic outlook worsens and investors become more risk averse, the value of lower quality bonds will decline disproportionately. Hence, the positive effect of asset prices on consumer and investment demand will turn strongly negative and amplify the economic slowdown. The same can happen, if the interest rate outlook changes and central banks become more hawkish, whereby the return on safe bonds will rise while markets for lower quality assets suffer.

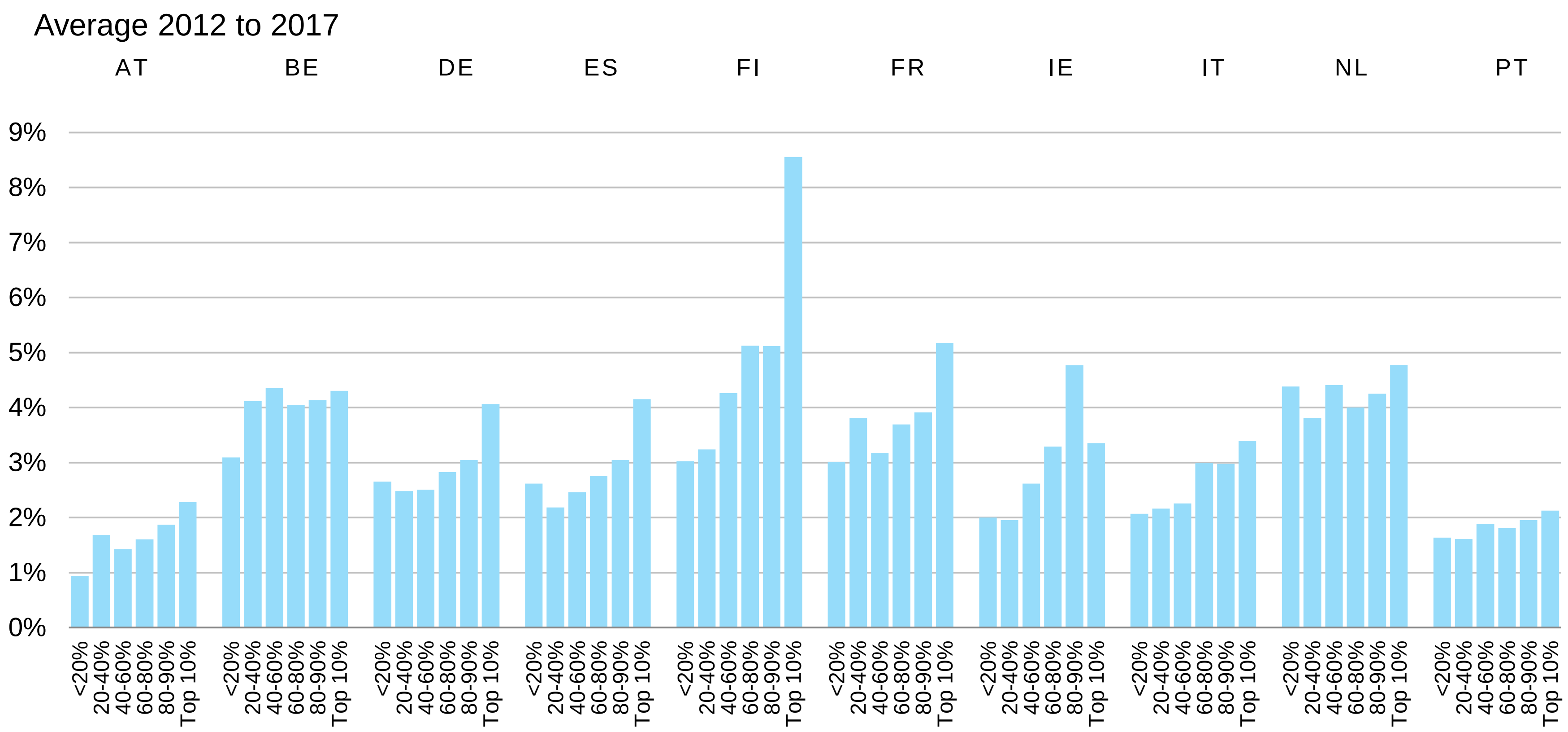
CHART 3.9 – ECB POLICY MEASURES AND THE HARMONIZED INDEX OF CONSUMER PRICES



FRFA: Fixed-rate Full-allotment Procedure (15.Oct 2008)
CBPP: Covered Bond Purchase Programme (July 2009)
SMP: Securities Markets Programme (Mai 2010)
LTRO: Long-term Refinancing Operations (21. Dec 2011, 29. Feb 2012)
OMT: Outright Monetary Transactions (Sept 2012)
TLTRO: Targeted Long-term Refinancing Operations (5. June 2014)
APP: Asset Purchase Programme (22. Jan 2015)

Source: Harmonized Index of Consumer Prices (HCPI), monthly data (annual rate of change), Eurostat.

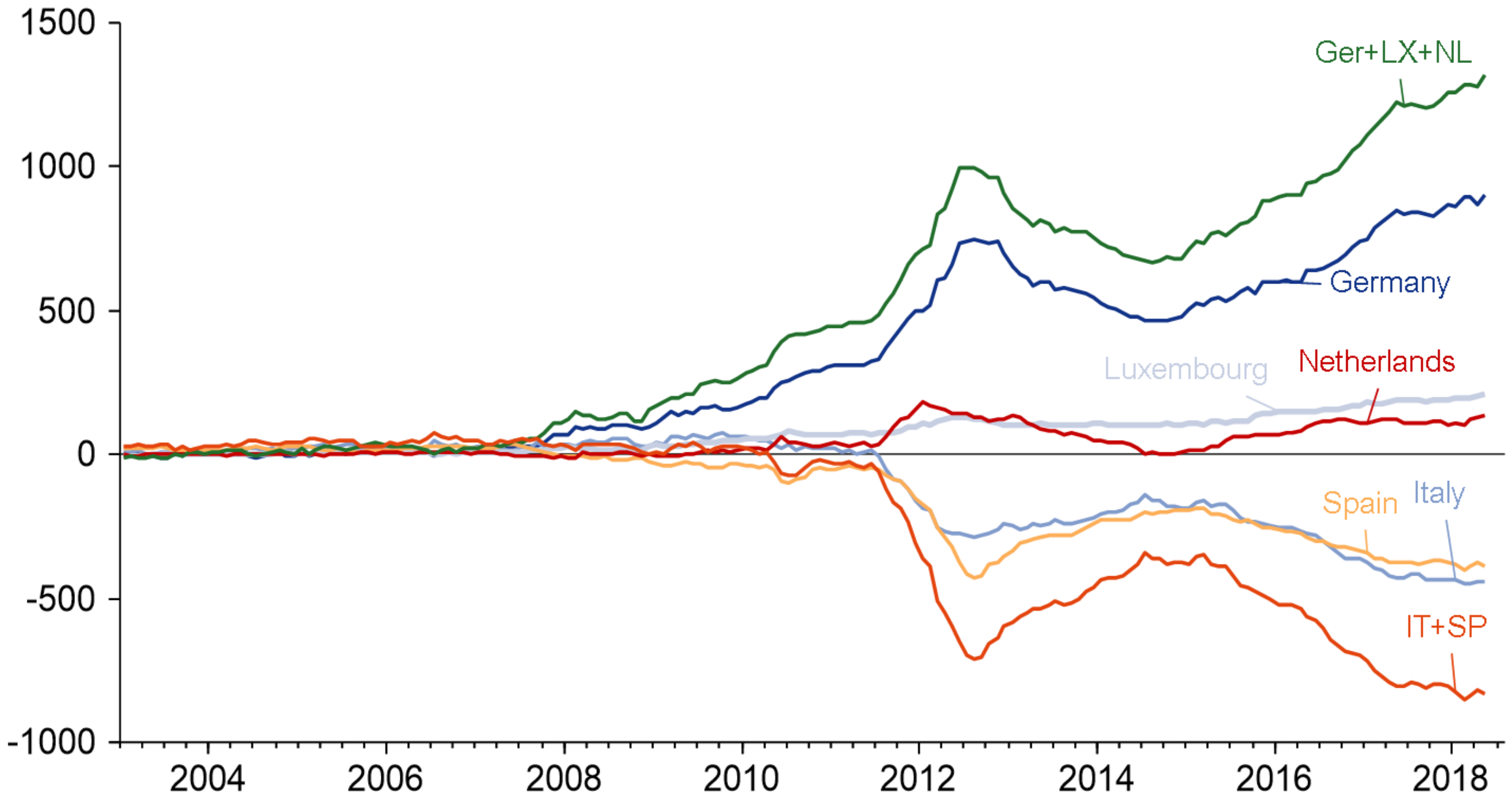
CHART 4.3 – NOMINAL TOTAL RETURN BY INCOME GROUP



Source: ECB: The Eurosystem Household Finance and Consumption Survey, Allianz Research

CHART 4.5 – TARGET II (IM)BALANCES RISE TO EVER HIGHER LEVELS

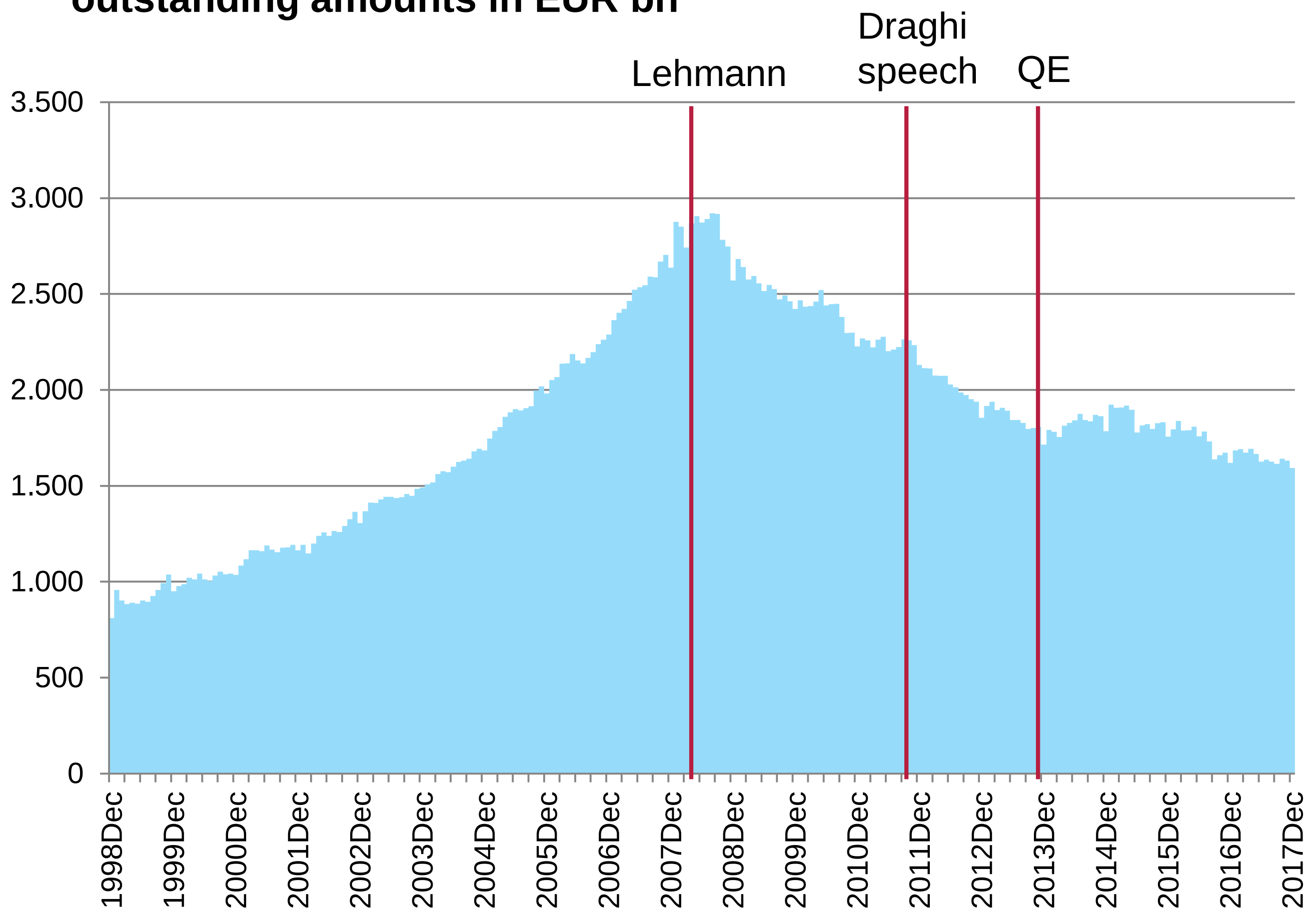
Eurozone Target II Balances, EUR bn



Source: Thomson Reuters Datastream, Allianz Research

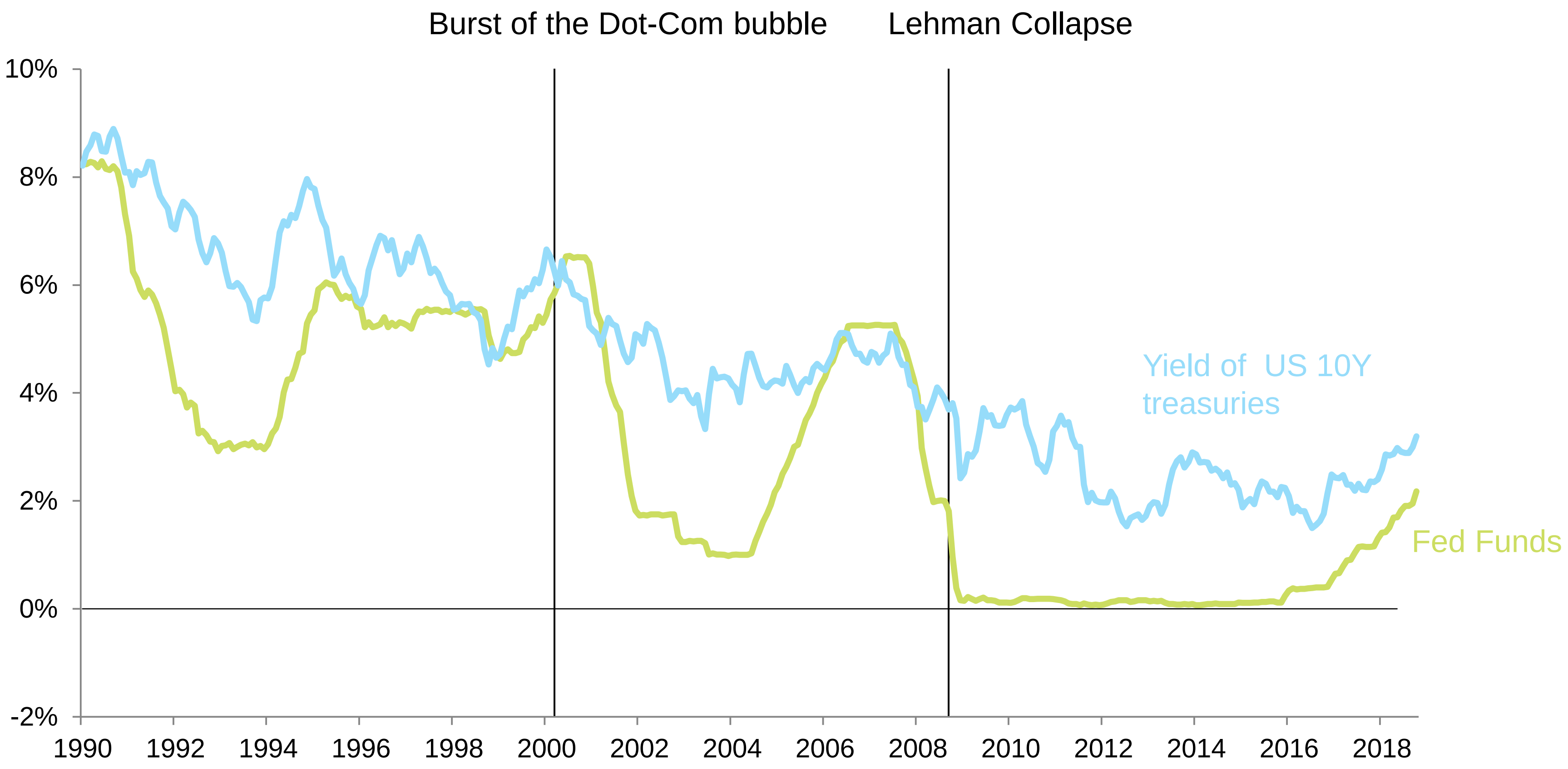
CHART 4.6 – INTER-BANK LENDING SQUEEZE IN THE EUROZONE

Cross-border bank lending within in the Eurozone, loans & debt securities, MFIs, outstanding amounts in EUR bn



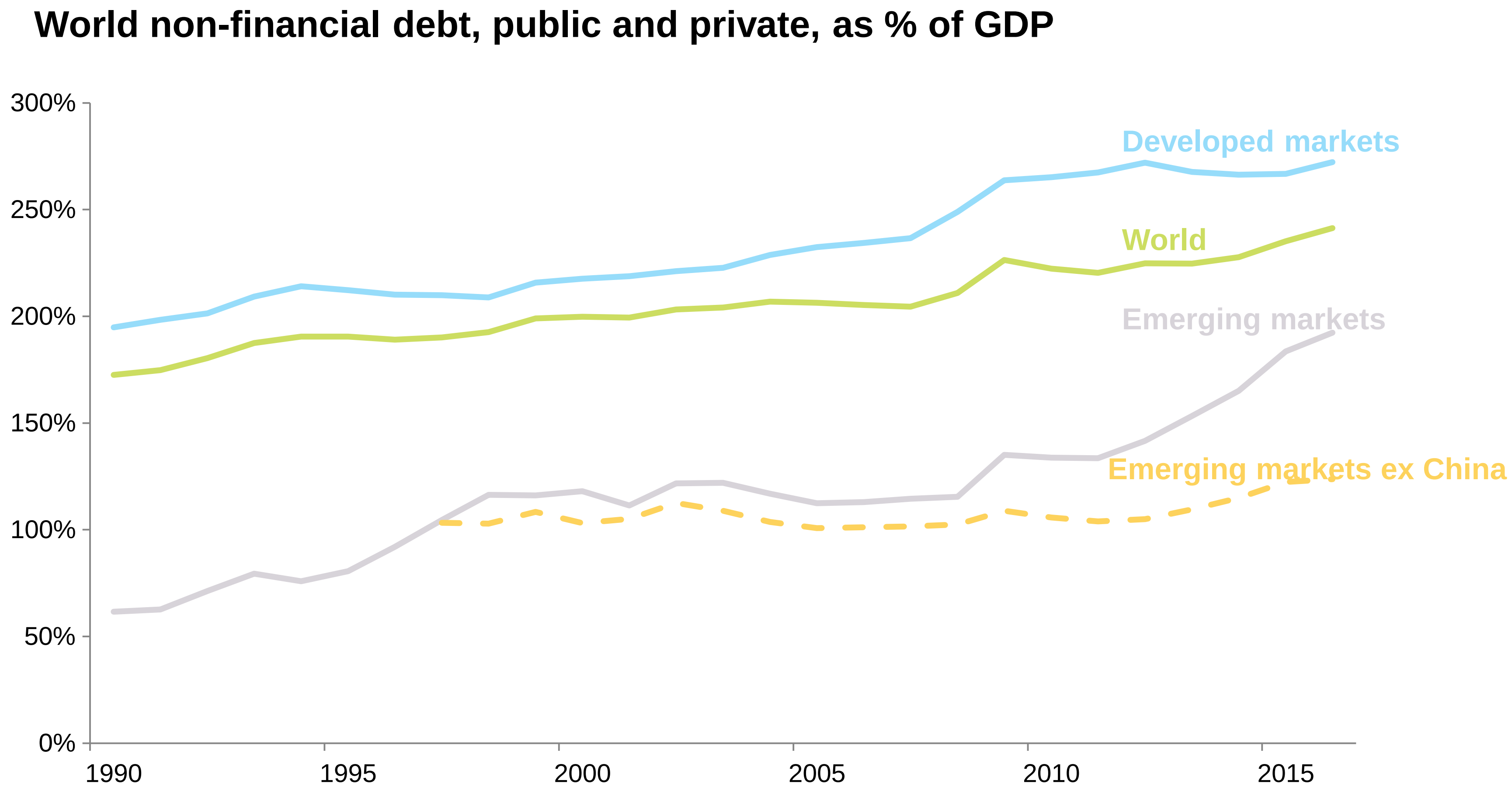
Source: ECB, Allianz Research

CHART 4.7 – FED POLICY AND THE CYCLE



Source: Yield of ten year treasuries - Federal Reserve Economic Data, Federal Reserve Bank of St. Louis

CHART 4.8 – DELEVERAGING. WHAT DELEVERAGING?



Source: Allianz GI, BIS, data as at 2Q 2017, analysis based on G20 countries

POLICY CHALLENGES AND PROPOSAL FOR CHANGE

a) Recalibrating Inflation Targets

- Central Banks could start by defining price stability targets (whether implicit or explicit) in a more adaptable way.

<u>Three options:</u>

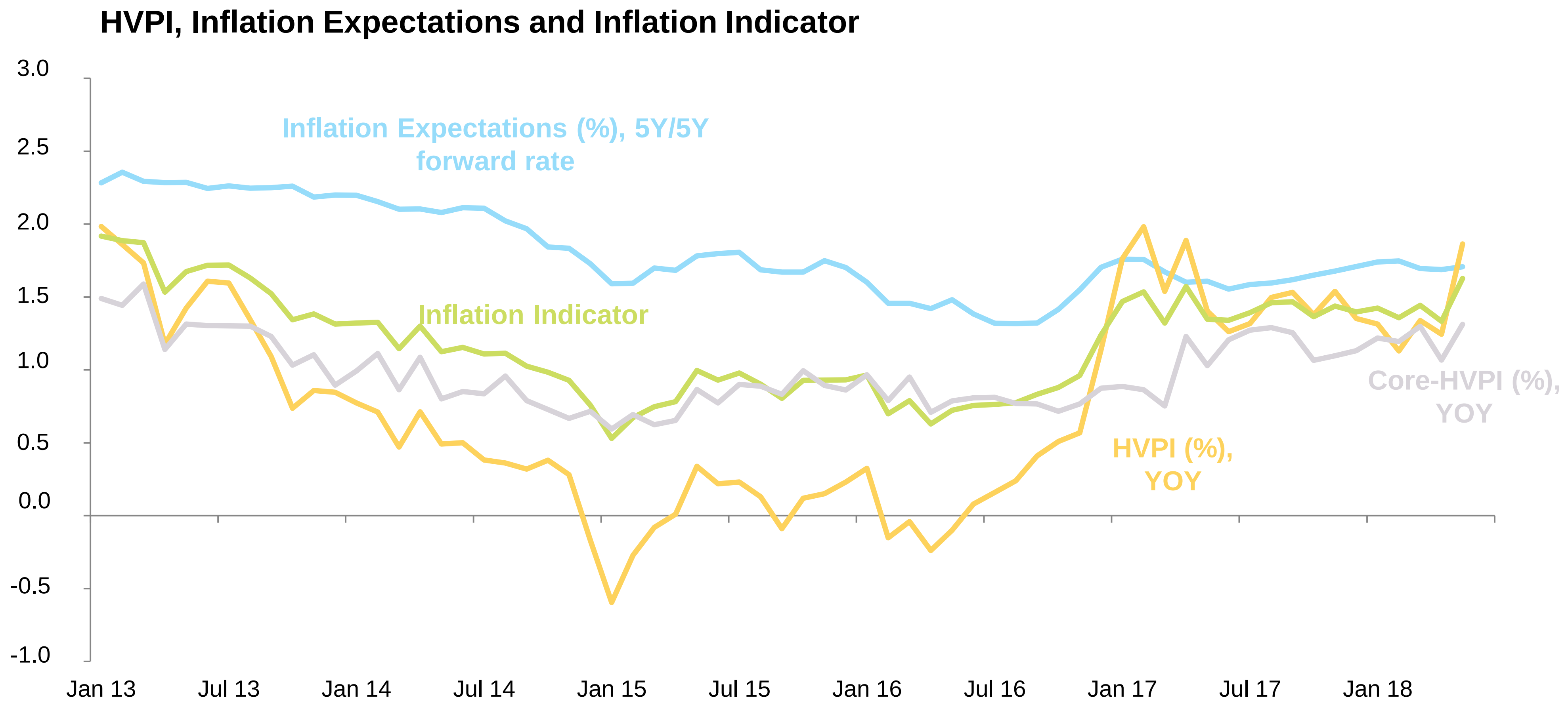
- Extension of number of years in which inflation target must be reached to deviate from the reference value for consumer price inflation for a longer time if needed.
- Defining ranges of inflation that are more easily compatible with price stability.
- Defining the target of protecting monetary stability more broadly.

→ Widen the definition of price stability targets and move the focus away from a simple year-on-year target for consumer price inflation.

b) Accounting for Trade-Offs with Financial Stability and leaning against the wind

- Loosened monetary and financial conditions are warranted during weak economic growth, but can create risks for future growth after long economic upswings, as investors become less risk averse due to high valuations and low volatility. Loose financial conditions become a symptom of complacency, rather than stability
- Smoothing the financial cycle by "leaning against the wind" approach improves economic performance in the long run, The ECB`s two pillars are a useful framework for such a policy.
- Emphasizing the second pillar does not implicate a complete overhaul of ECB's policy approach, rather a rebalancing based on a broad set of financial cycle indicators
- Macroprudential policy cannot neutralize the financial market impact of monetary policies

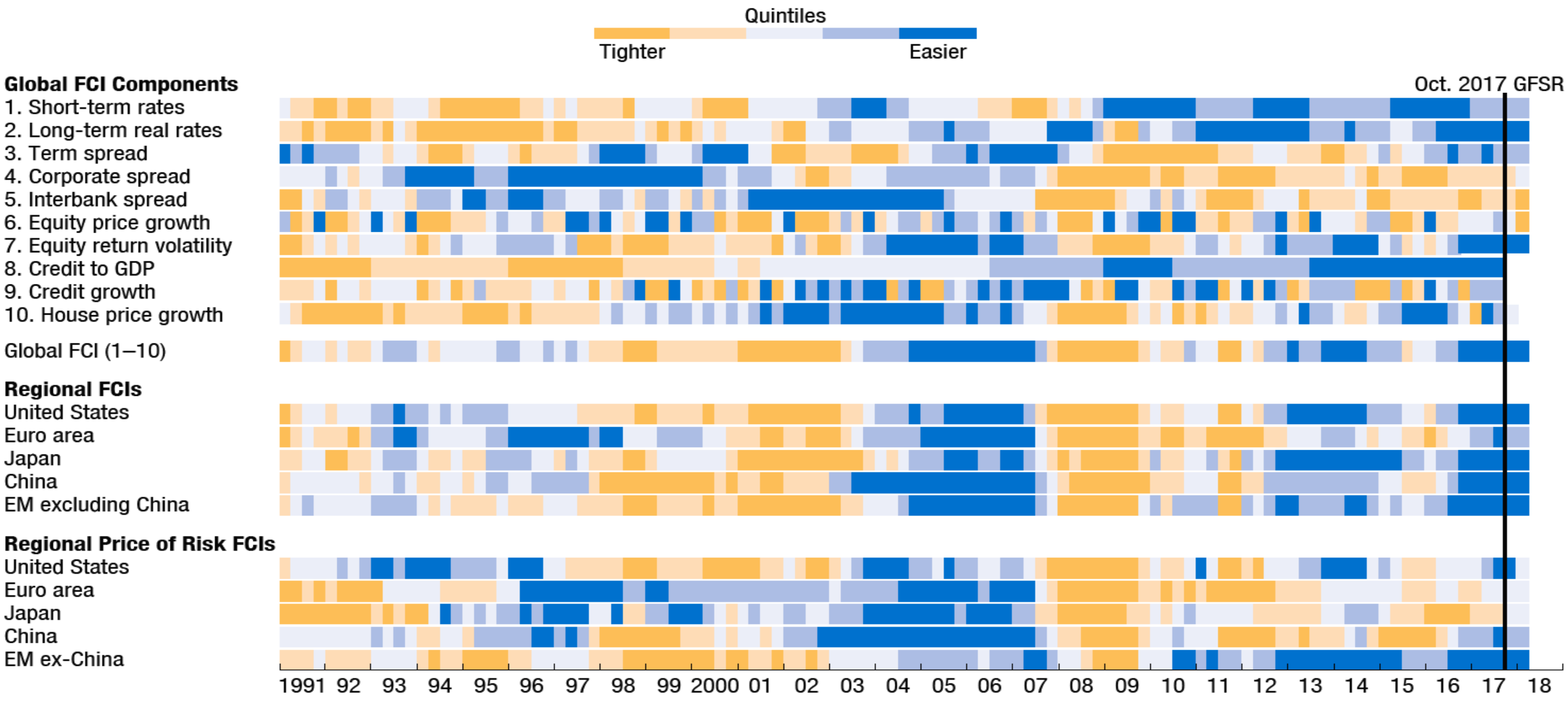
CHART 5.1 – SUGGESTION FOR AN INFLATION INDICATOR



Building a broader Index of Price Stability:
Deviations of such an index from the ECB‘s reference value of „below, but close to 2%“ are much less pronounced than those of the year-on-year change in headline inflation rates. Credibility of central banks could be enhanced by using a target definition with different important elements of inflation.

Source: Thomson Reuters Datastream, Allianz Research

CHART 5.2 – GLOBAL AND REGIONAL FCIS AND THEIR COMPONENTS



Source: IMF Global Financial Stability Report, 2018 (Bloomberg Finance L.P., IMF staff estimates)

Judging by the IMF‘s index, financial conditions have been loose for a number of years and tightened only slightly since the Fed has begun decreasing the degree of accomodation in its policies. Additionally, the index shows that financial conditions are typically very loose in advance of major market corrections, most notably in the run-up to 2008.