EUROPEAN CENTRAL BANK

EUROSYSTEM

ECB Unconventional Monetary Policy Actions: Market Impact, International Spillovers and Transmission Channels

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Disclaimer

The views presented in this study are those of the authors and do not necessarily represent the views of the European Central Bank or the Eurosystem

Motivation

Lively debate on the international spill-overs of unconventional monetary policy

- D. Roussef, President of Brazil: *"This crisis started in the developed world, … it will not be overcome through quantitative easing policies that have triggered […]* ***a monetary tsunami****, have led to a currency war and have introduced new and perverse forms of protectionism in the world."*

The literature has focused mainly on the spillovers of US QE

- Neely, 2010; Chen et al., 2012; Leduc, 2012; Fratzscher, Lo Duca and Straub, 2013; Gambacorta, Hoffmann and Peersman, 2012; Rogers, Scotti and Wright, 2014; Bowman, Londono and Sapriza, 2014; Lim, Mohapatra and Stocker, 2014; Lo Duca, Nicoletti and Vidal, 2014; Chen et al., 2014; Gilchrist, Yue and Zakrajsek, 2014

What about the global spillovers of unconventional monetary policy by the ECB?

What we do in this study

We quantify the impact of ECB Unconventional Monetary Policy (UMP) measures on global financial markets

- ✓ We study the impact of policy announcements and operations (long term loans to banks and bond purchases)
- ✓ We use daily data for a more precise identification of unconventional monetary policy shocks

Focus on the immediate impact of policies on equity prices, yields and exchange rates

- ✓ We differentiate across country groups

We test for a number of transmission channels of policies to global markets

- ✓ We look at different risk channels and portfolio rebalancing

Overview of the presentation

Overview of ECB unconventional monetary policy

Empirical methodology

Results

Brief overview of ECB unconventional policies

Note: I review here only the policies that we consider in this study

Supplementary Long Term Refinancing Operations (SLTROs) - *since 2008*

- ✓ Collateralized loans to banks at longer than usual maturities (maturity up to 36 months) - Fix rate / full allotment auctions (mostly)
- ✓ Goal: to address bank funding problems

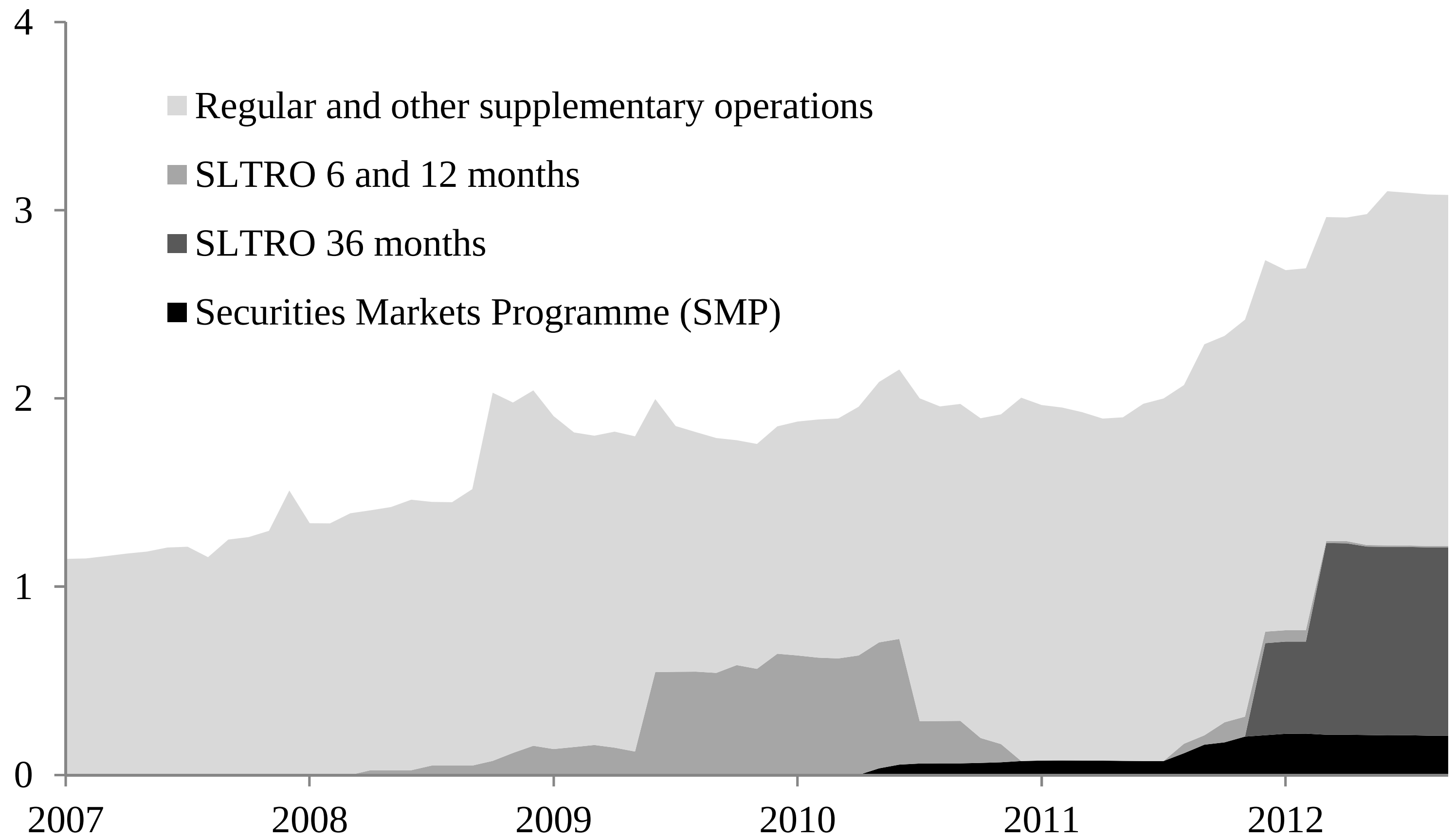
Securities Markets Programme (SMP) – *between 2010 and 2012*

- ✓ Purchases of government bonds issued by countries under market stress
- ✓ Goal: to address government bond market tensions that hampered the monetary policy transmission mechanism

Outright Monetary Transactions (OMT) – *since September 2012*

- ✓ Possibility of unlimited purchases of government bonds (up to the 3 year maturity bucket) for countries that apply for a macro adjustment programme
- ✓ Goal: to address government bond market tensions that hampered the monetary policy transmission mechanism

Balance sheet of the ECB
(euro trillions, Jan 2007 to Sep 2012)



Methodology

Benchmark panel model (fixed effects):

$$Y_{i,t} = \beta MP_t + \lambda_1 F_t + \lambda_2 Z_{t-1} + \varepsilon_{i,t}$$

$Y_{i,t}$: daily changes in asset prices, portfolio flows, risk measures

F_t: contemporaneous controls (economic surprises, Fed QE announcements, outcome of primary bond auctions in the EA)

$Z_{i,t-1}$: lagged controls (US equity, VIX, etc)

MP_t: ECB UMP policy interventions, it includes

- ✓ Impulse dummies for the announcement of policies
- ✓ Long term loans to banks (SLTROs)
- ✓ Purchases of government bonds under the SMP

Policies are not endogenous: we use daily data. The decision to start policy actions does not depend on changes in daily conditions in one day (what matters is the big picture!)

ECB UMP explanatory variables

Impulse dummies for policy announcements

- Focus on ECB policy announcements that were covered in the front page of the Financial Times
- 4 key announcements (2 related to the SMP and 2 to the OMT)

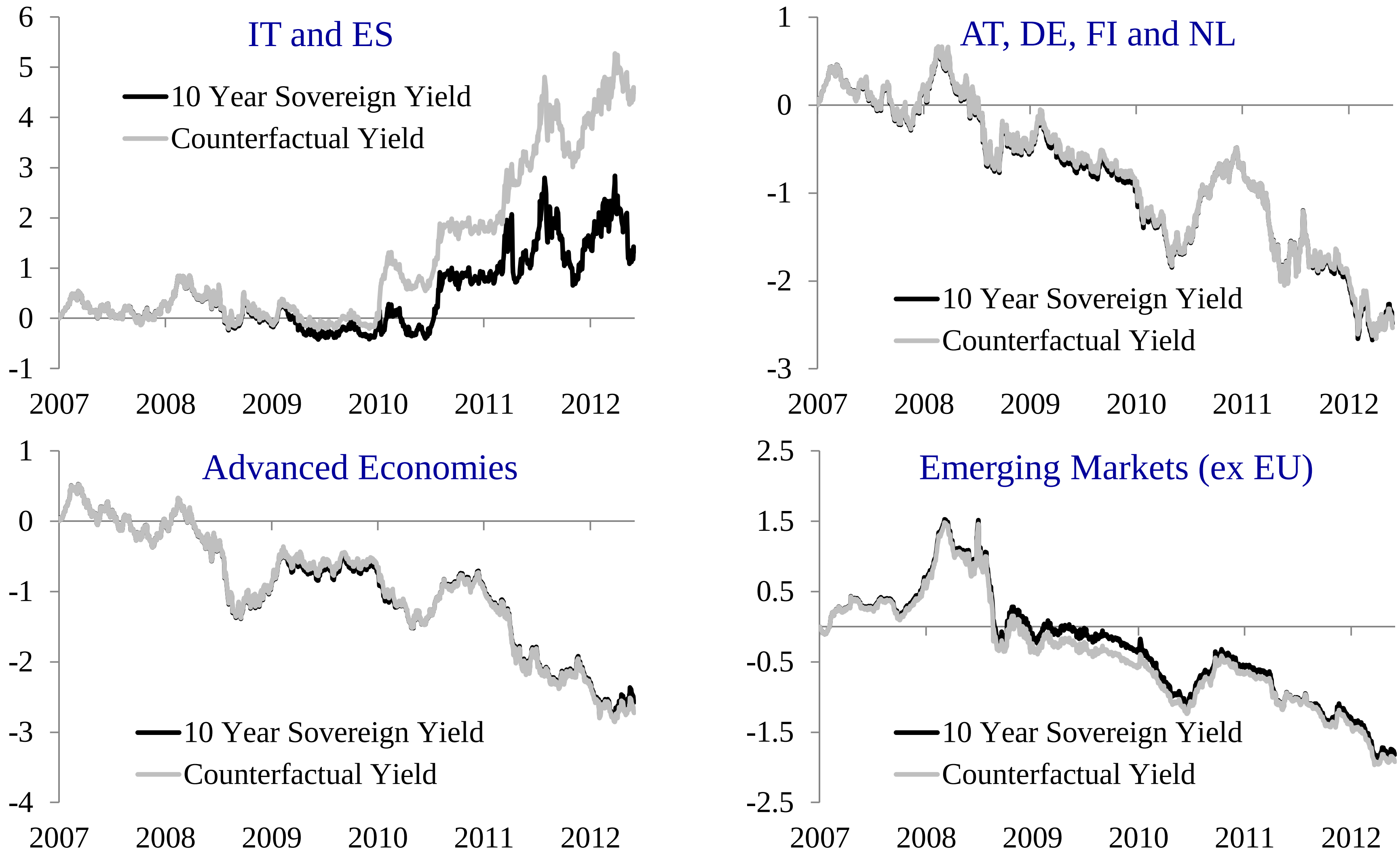
SLTROs

- Change in outstanding loans over a 7 day window around auctions/repayment days (otherwise is 0)
- It captures pricing effects of portfolio rebalancing occurring in anticipation and after the auction
- No endogeneity issues: the demand for long term loans is determined by low frequency factors and is unrelated to daily changes in asset prices

SMP

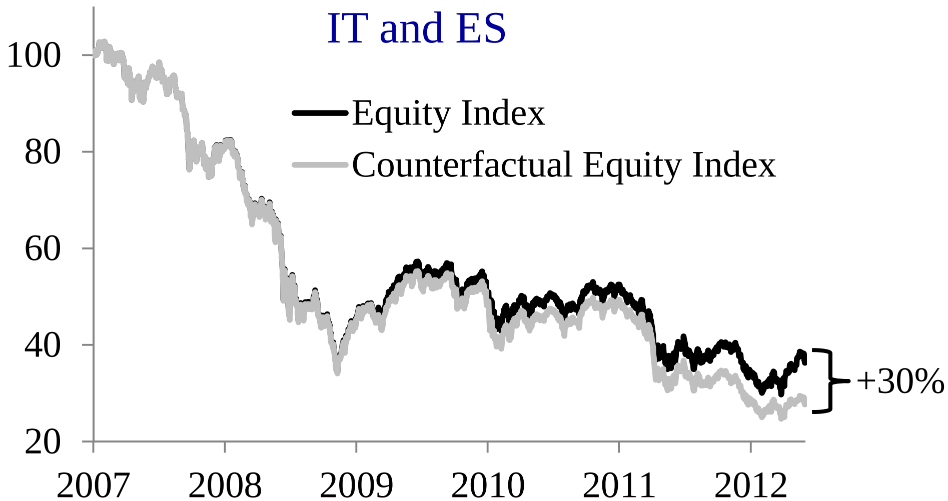
- Endogeneity: ECB purchased bonds reacting to daily market conditions
- We look at the price impact of purchases that deviate from an estimated (intraday) SMP reaction function

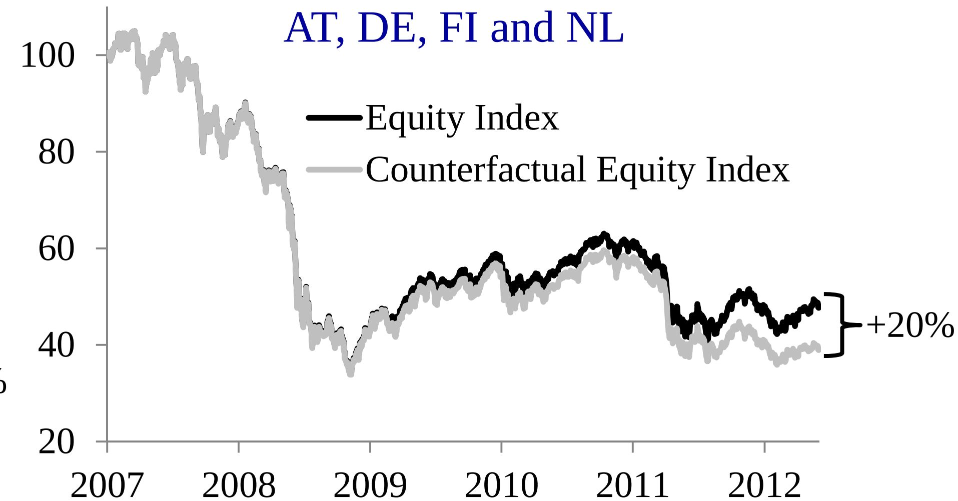
Actual yields and counterfactual yields without policy intervention

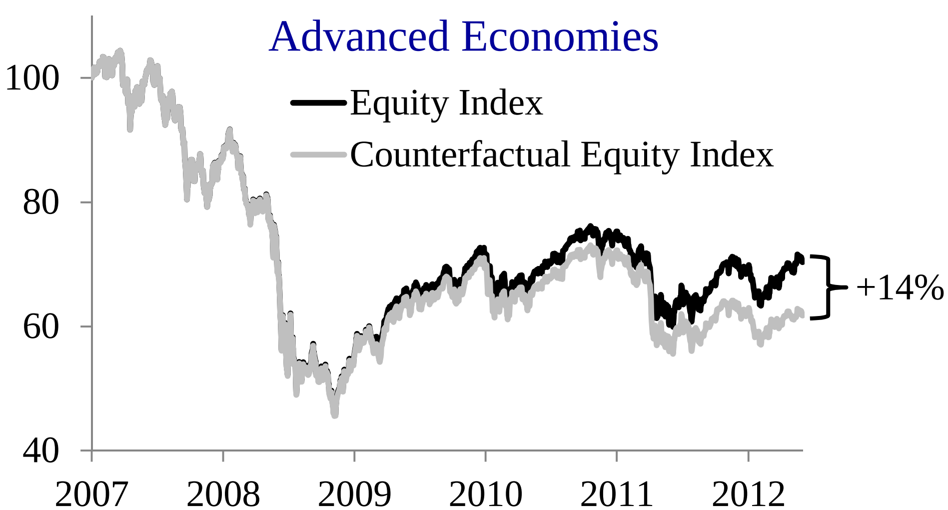


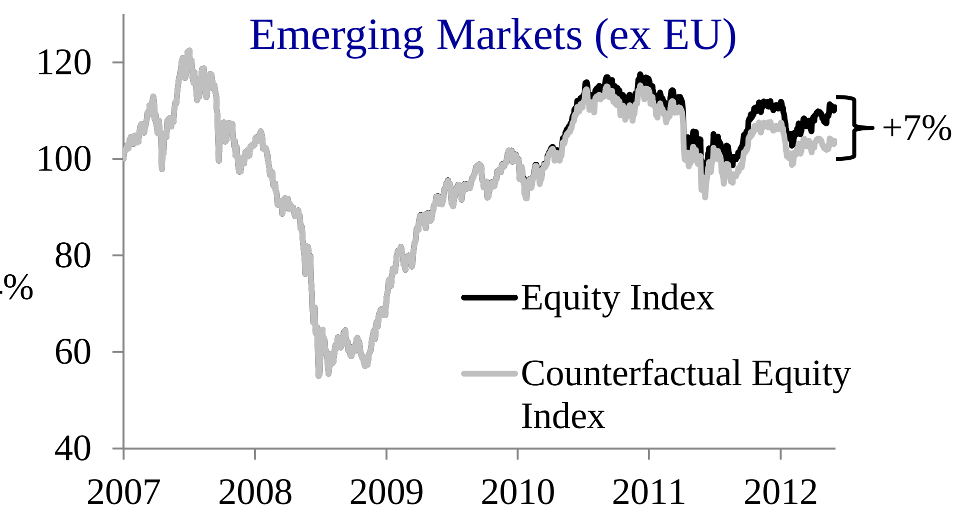
Note: yields are rescaled, May 2007 = 0

Actual equity indexes and counterfactual equity indexes without policy intervention









Note: equity indexes are rescaled, May 2007 = 100

Impact of different policies

IT and ES

	10 year yields (diff. in p.p.)	Equity Returns (% change)
OMT Announcements	-	+
SMP Announcements	-	+
SLTRO 6 to 12 months	-	+
SLTRO 36 months	-	+
SMP purchases	-	+

AT, DE, FI and NL

	10 year yields (diff. in p.p.)	Equity Returns (% change)
OMT Announcements	+	+
SMP Announcements		
SLTRO 6 to 12 months	-	+
SLTRO 36 months	-	+
SMP purchases		+

Advanced Economies

	10 year yields (diff. in p.p.)	Equity Returns (% change)
OMT Announcements	+	+
SMP Announcements		
SLTRO 6 to 12 months	-	+
SLTRO 36 months		+
SMP purchases		+

Emerging Economies (ex EU)

	10 year yields (diff. in p.p.)	Equity Returns (% change)
OMT Announcements		+
SMP Announcements	-	
SLTRO 6 to 12 months		
SLTRO 36 months		
SMP purchases		+

Channels of transmission: risk channels

Transmission channels of ECB UMP

Dependent variable as indicated at the top of each column

	Implied Volatilities	Bank CDS EA	Bank CDS G20	Sovereign CDS EA	Sovereign CDS G20
	(diff. in p.p.)	(diff in b.p.)	(diff in b.p.)	(diff in b.p.)	(diff in b.p.)
AN_OMT	-4.56 ***	-28.49 **	-20.42 ***	-29.83 **	-8.94 ***
AN_SMP	3.04 *	n.a.	12.78	-40.95 **	-9.21 **
SLTRO	-3.20 ***	-21.32 ***	-5.59 ***	-12.58 ***	1.68
VLTRO	-4.30 ***	-98.69 ***	-43.91 ***	-40.72 ***	0.74
SMP	-15.14 ***	-10.05	7.97	-32.87 *	-8.13 *

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SMP purchases lowered risk aversion / uncertainty and sovereign risk in the EA and in other G20 countries

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SLTROs lowered bank risk in the euro area and in other G20s

Smaller impact on risk aversion / uncertainty and sovereign risk

Impact of policies on global portfolio flows

We use daily data on mutual funds allocations (source EPFR)

Findings:

I. Some evidence of portfolio rebalancing into euro area bonds in response to ECB policies

II. Small positive impact on equity and bond flows into emerging markets

Overall, very limited impact of ECB polices on global portfolio flows

Conclusions

ECB policies had positive spillovers to equity prices across regions, impact on yields limited within the euro area

Positive impact on market confidence (decrease in implied volatilities) and other risk measures (sovereign and bank CDS spreads)

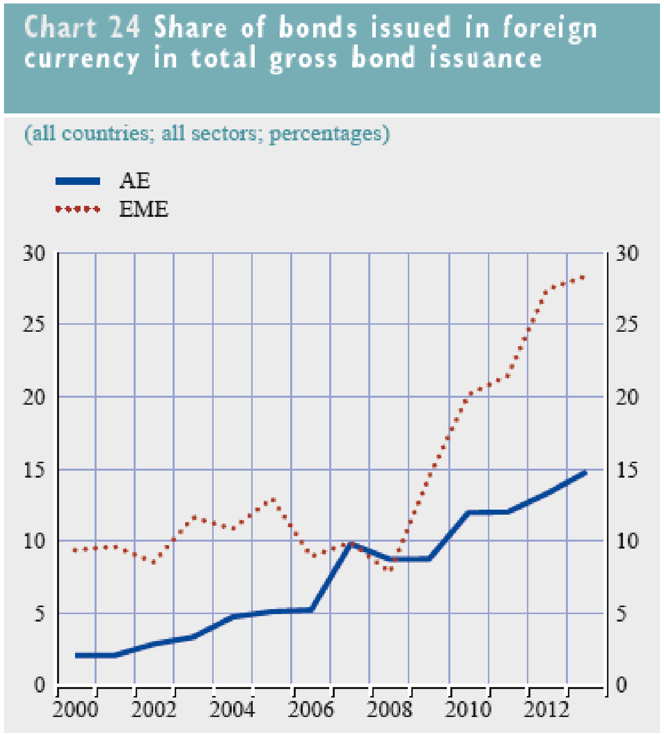
Little response of international portfolio flows to ECB policies (no global portfolio rebalancing)

Overall, impression that ECB policies have smaller impact on global markets than the Fed policies

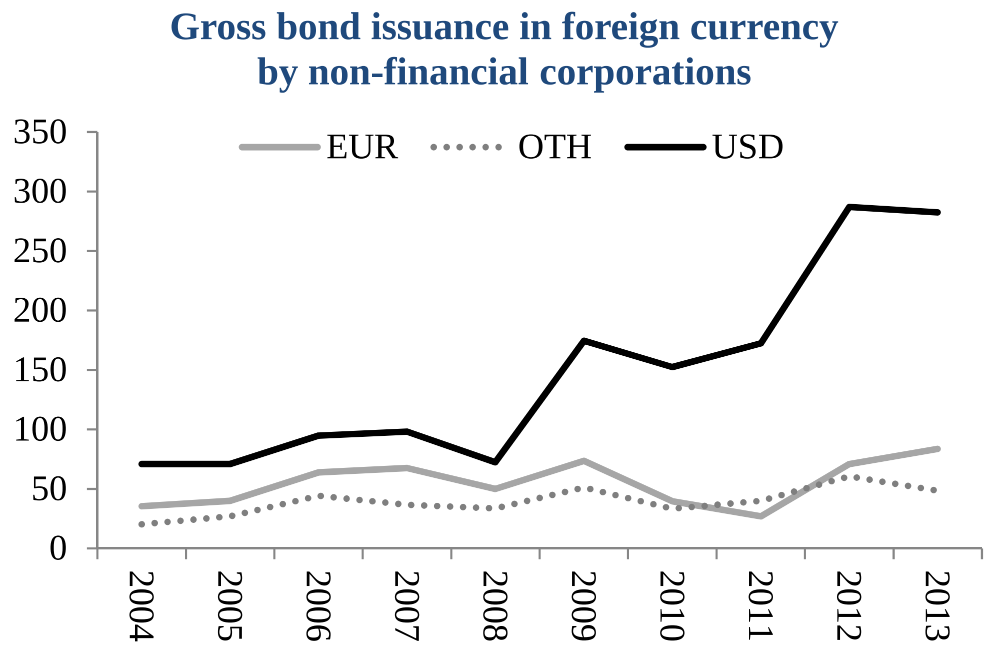
- ECB policies - no impact on foreign long term yields
- FED policies - large impact on foreign long term yields (Rogers et. Al, 2014; Bowman et Al. 2014; Gilchrist et al. 2014, and others)

Potential explanations for the larger role of the Fed…

- Global shift from bank intermediated to direct (bond markets) finance (Shin, 2014; Turner, 2014; and others)
- Increasing fraction of issuance in foreign currency
- Increasingly large role of the USD in bond markets



Source: ECB, report on International role of the euro, July 2014



Note: USD billions

Source: Dealogic