

		EFSF/ESM Support		IMF Support		Market yields	
		Maturity	Interest rate	Maturity	Interest rate	5-year	10-year
Greece	May-10	5 years	4.041	3 years	3.23	8.31*	7.71
	June-2011	10 years	3.78	3 years	3.53	15.97	22.93
	March-2012	20 years	2.07	8 years	3.13	74.13	20.55
	December-2012	30 years	0.93	8 years	3.07	n.a.	11.67
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	June-2013	22 years	2.32	7 years	3.07	3.07	4.07
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	June-2013	22 years	2.19	7 years	3.07	5.17	6.38
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Cyprus	May-13	15 years	1.03	4 years	3.07	n.a.	n.a

Sources: International Monetary Fund, European Commission, European Financial Stability Facility, European Stability Mechanism and Bloomberg. * Refers to 4 years maturity

Official Sector Lending Strategies During the Euro Area Crisis

joint work with Giancarlo Corsetti (Cambridge) and Timothy Uy (Deloitte)

20th Banca d'Italia Workshop on Public Finance
Rome - March 2018

Disclaimer: The views on this presentation are my own and need not coincide with those of The European Stability Mechanism

Introduction

Traditional (IMF) approach to international bailouts focused on solving temporary balance of payments problems (external rebalancing)

- Combination of standard 3 to 7-year maturity loans and policy adjustment focused on fiscal, monetary and exchange rate measures

Approach challenged by successive waves of currency and financial crises after financial liberalization (South East Asia end of 1997 among others)...

- Exceptional Access Policy
- Frontloaded and precautionary instruments

...put to test again by the euro area crisis, where national economies:

- are heavily financialized and interconnected
- had built large imbalances, requiring significant structural adjustment

→ IMF's systemic exemption

→ development of euro area crisis resolution framework

Introduction

EA in many ways unique:

- Single currency rules out monetary and exchange rate policy adjustments → focus on fiscal and structural reforms
- ECB providing liquidity: No scarcity of “international reserves”

Yet, a large-scale experiment in official lending markedly diverging from traditional blueprint. We use it to gain insights into:

- The effects of official lending
- key issues in designing official lending (including collaboration among regional and global institutions)

Outline

1. Brief review of evolution of EA crisis resolution framework
2. Key divergence from conventional blueprint
 - Cash flow management through maturities and spreads
3. Official lending terms and market access
 - Event and regression analysis
4. Official lending and Debt Sustainability Analysis
 - Linking gross financing needs and the terms of official support
5. Selected (open) issues - *only if I speak fast enough*
 - Objectives of lending
 - Moral hazard & conditionality
 - Private sector involvement and capital flight
 - Seniority
 - Coordination between IMF and RFAs

Evolution of EA crisis resolution framework

Evolution of EA crisis resolution framework

First response in a “euro-area institutional void”

When Greek fiscal issues were known → demand for fiscal adjustment

In March 2010, Greece requested support: Greek Loan Facility (bilateral loans) and IMF SBA, managed by the ‘troika’ (IMF, EC and ECB)

Issues:

- Moral hazard motivated penalty rates (100 bps above IMF spreads)
- Concerns regarding the ability of the EC to withstand political pressures motivated the inclusion of the IMF
- As Greece DSA failed, fearing contagion, a *systemic exemption* added to IMF’s Exceptional Access Policy framework (March 2010)
- Program designed around fiscal gaps

As this strategy was seen as non-credible, capital flight unabated and tensions spread across borders...

Evolution of EA crisis resolution framework

Building up of EA infrastructure for managing crisis

As the crisis spread to Ireland Portugal, new euro area facilities were set up:

- European Financial Stability Facility (managed by the EWG)
- European Financial Stabilisation Mechanism (managed by the EC)

Yet, when Ireland (December 2010) and Portugal (March 2011) requested official support, the EFSF/EFSM loans still followed the IMF blueprint for maturities and spreads. Both countries also signed an IMF EFF program

These loans were modified in 2011, when maturities were extended and interest rates reduced

The 2012 EFSF program for Greece embedded these more accommodating conditions from the onset

Evolution of EA crisis resolution framework

A permanent infrastructure for crisis resolution

In mid-2011, the crisis spread to Spain/Italy and the response took a decisive turn: a permanent framework (built around the ESM) was created

- Moving away from the IMF focus on temporary BoP problems
 - ESM loans to address fiscal, external or even bank crises
- Beyond the catalytic-finance approach:
 - internalize spillovers (including via “systemic exemption” clause)
- More flexible and accommodative terms of lending

Key divergence from IMF blueprint

Key divergence: Lending Terms

	Loan size	Margins	Maturities
IMF	Up to six times the country's quota under standard programs	From 100 bps up to 400 bps on top of the SDR rate	Five years for SBAs
	Above six times the quota, only via exceptional access policy	Grows with the size and duration of the loan	Seven to ten years for EFFs
EFSF-ESM	Size of the loan determined via DSA	For standard loans its 10 bps above the ESM/EFSF funding cost	Effective maturities have reached 40 years for EFSF and 22.5 for ESM
	No pre-defined upper limits	For indirect bank recapitalisation the margin is 30 bps	No pre-defined limit on maturities

Larger programs and longer maturities, at thinner spread over funding costs:

“Repayment-flow management to smooth market access” strategy

Evidence on the effects of official lending terms on market access

Official lending terms and market access

In 2011 and 2013, authorities modified the Portuguese and Irish loans

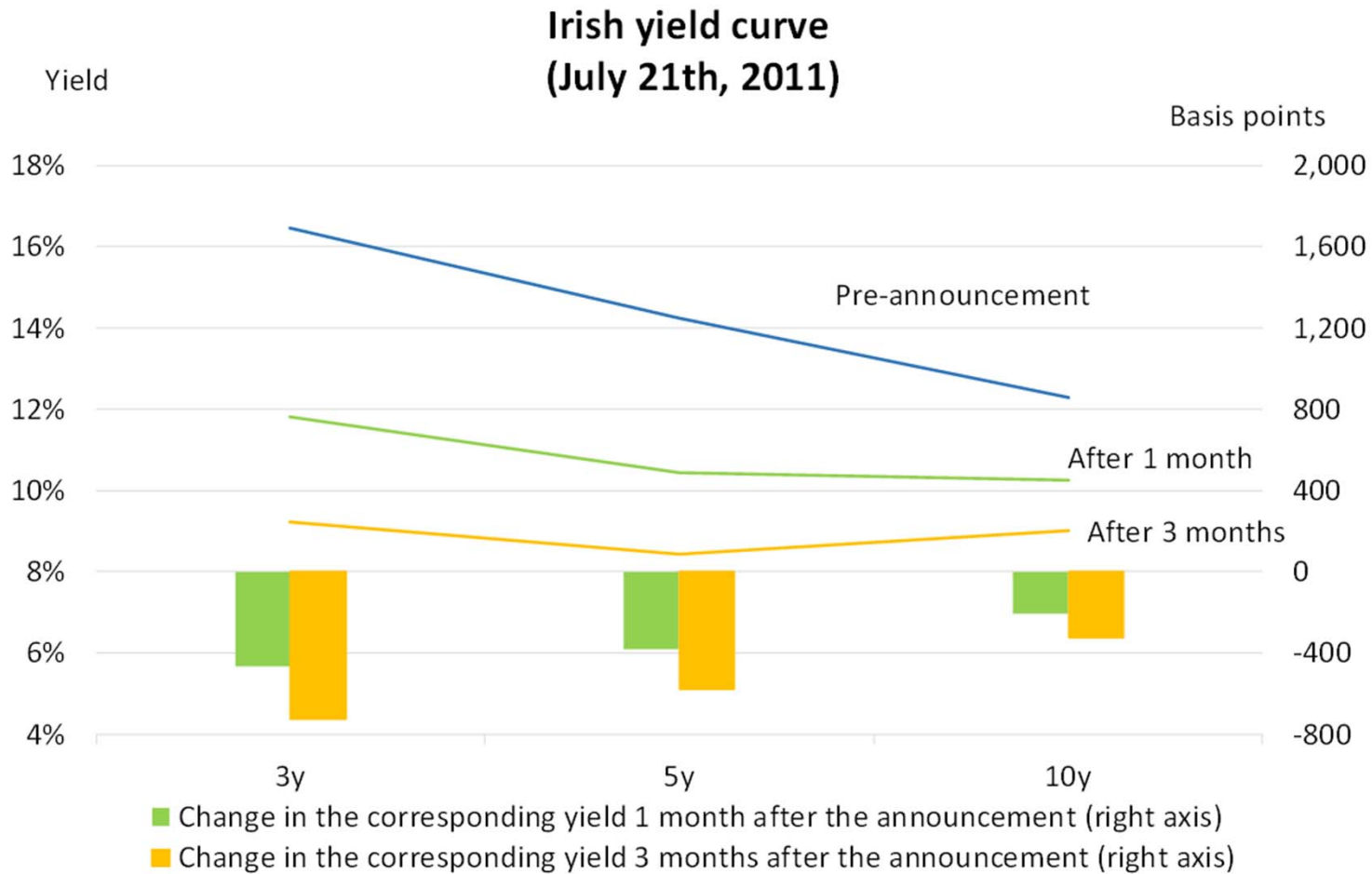
Use these quasi-experiments to study the relation between the terms of official financing and the conditions of market access

- Event analysis focused on June -2011 (monthly data)
- Regression analysis using 2009-2016 data (daily data)

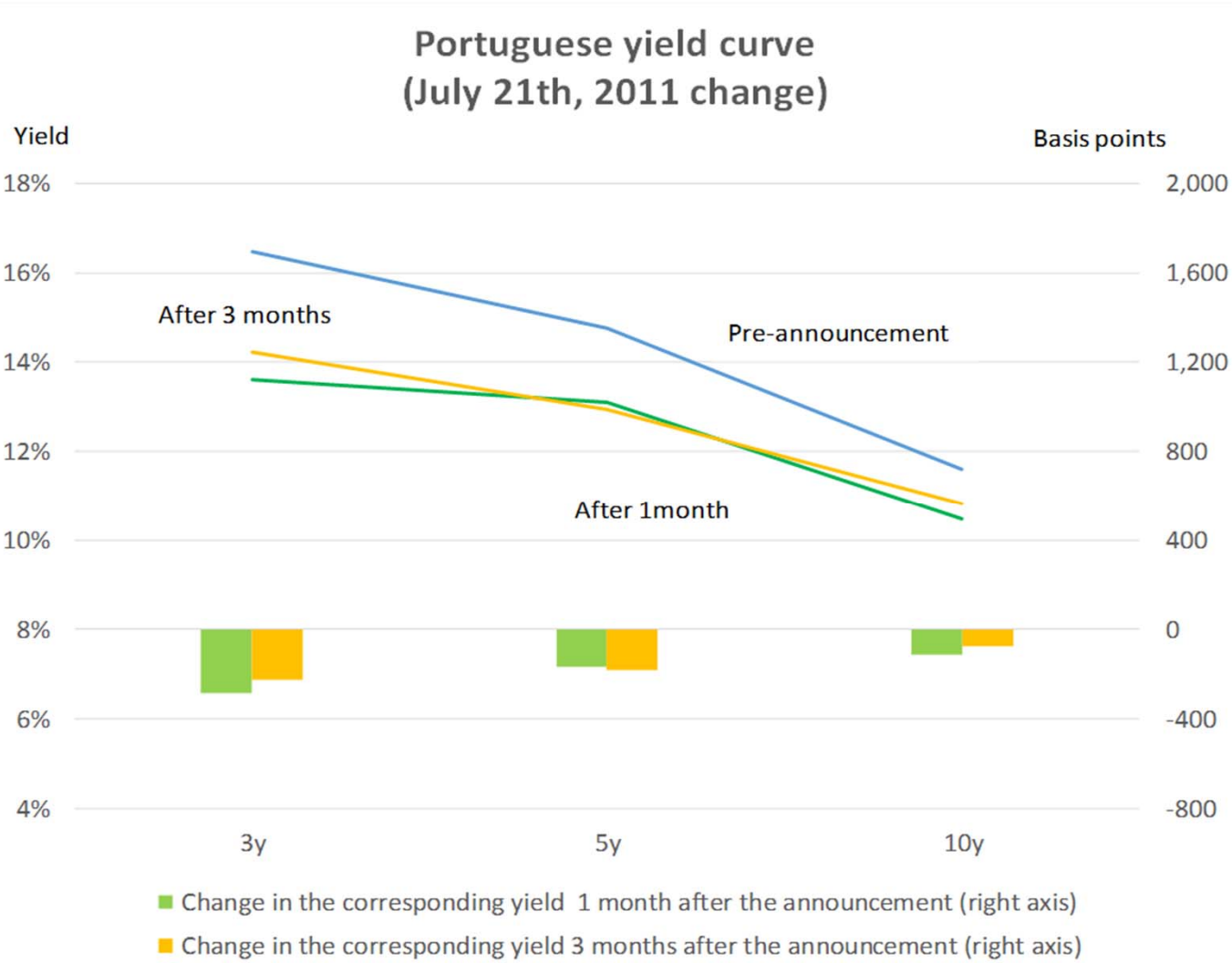
Our event analysis plots yield curves and changes in bid-ask spreads before and after the contract amendments:

- Yield curves shifted down and flattened out
- Market liquidity improved
- Heterogeneous effects along the yield curve

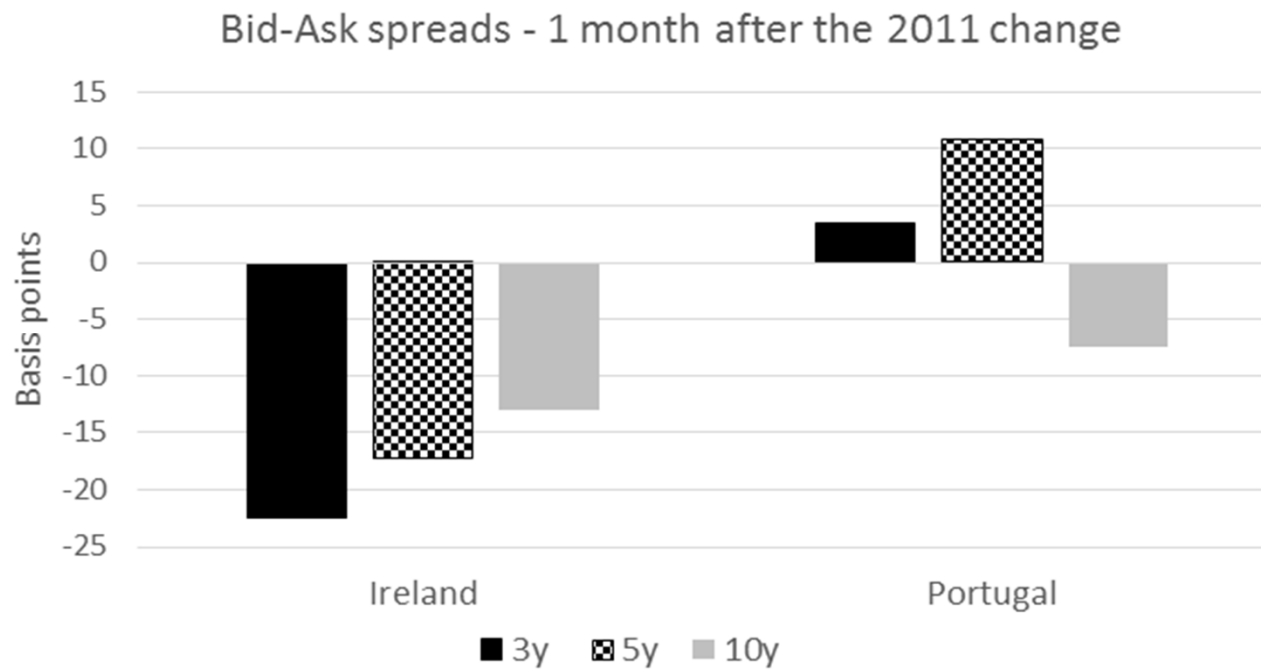
Irish yield curve around 2011 loan amendment



Portuguese yield curve around 2011 loan amendment



Market liquidity around 2011 loan amendments



Regression-based event analysis

Following Foley-Fisher et al. (RFE, 2016), we estimate the regression below:

$$tp_t^{10,3} = \delta_m + \sum_{j=-5}^5 \beta_j^{sign} \cdot D_t^{sign} + \sum_{j=-5}^5 \beta_j^{2011} \cdot D_t^{2011} + \sum_{j=-5}^5 \beta_j^{2013} \cdot D_t^{2013} + \sum_{j=-5}^5 \beta_j^{ECB} \cdot D_t^{ECB}$$

where:

$tp_t^{10,3}$ is the term spread (difference between the 10 and 3 year bond yields)

D_t^{sign} is a dummy taking value one the date in which the EFSF/ESM was granted

D_t^{2011} takes value one the date of the 2011 change on EFSF/ESM loans

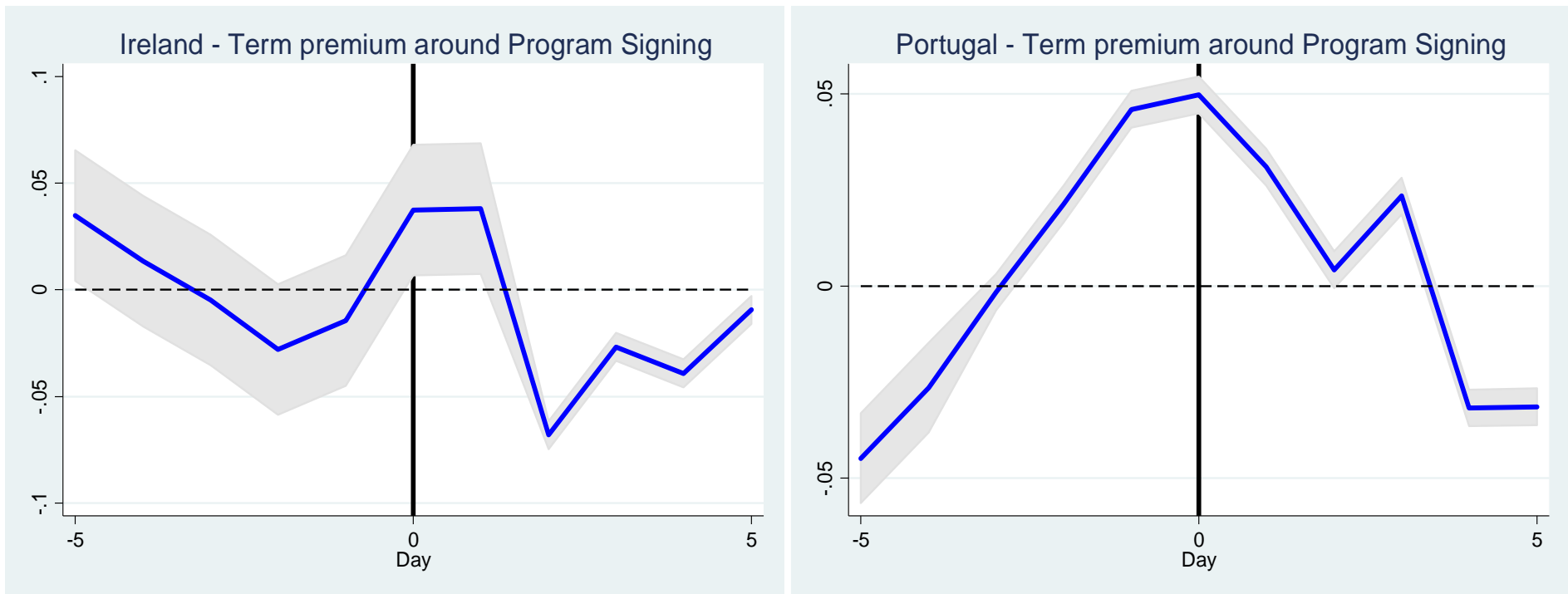
D_t^{2013} takes value one the date of the 2013 change on EFSF/ESM loans

D_t^{ECB} takes value one when the ECB announced SMP, LTRO, TLTRO, OMT and QE

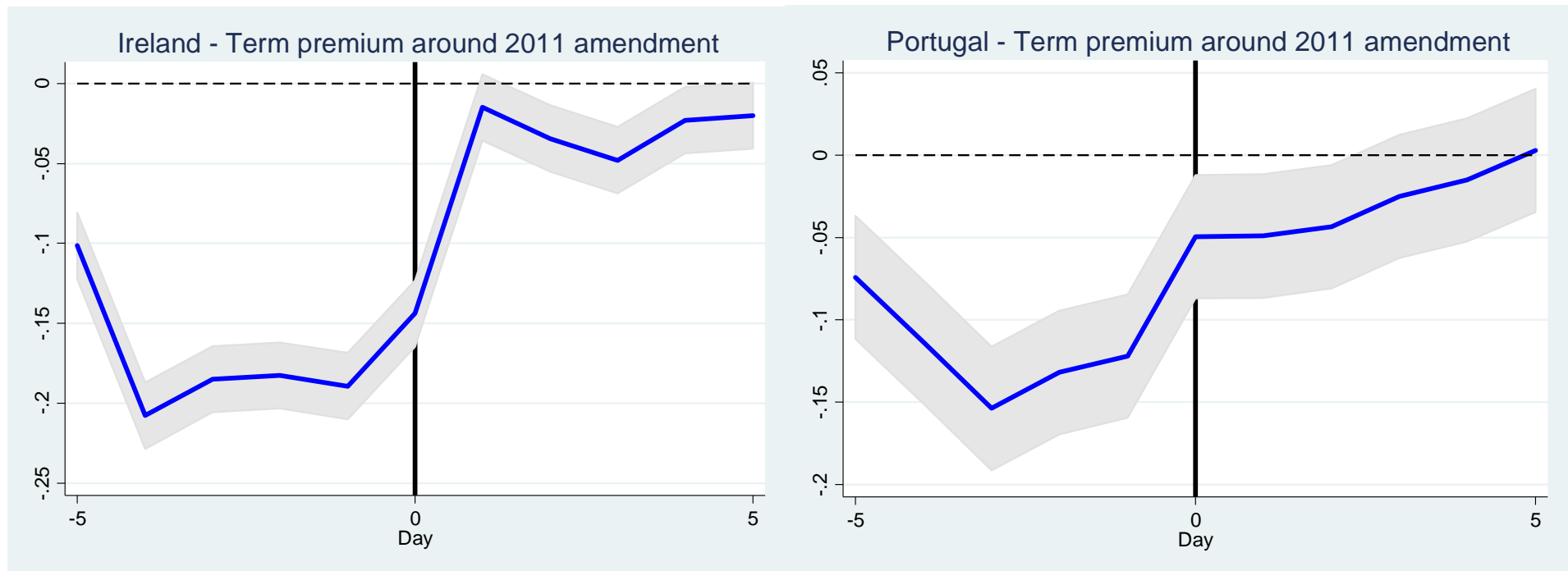
δ_m is a set of month-year fixed effects, and $j \in [-5, 5]$ sets the window of analysis

β_j^x quantifies the distance of the variable to normal times, j periods away from event x

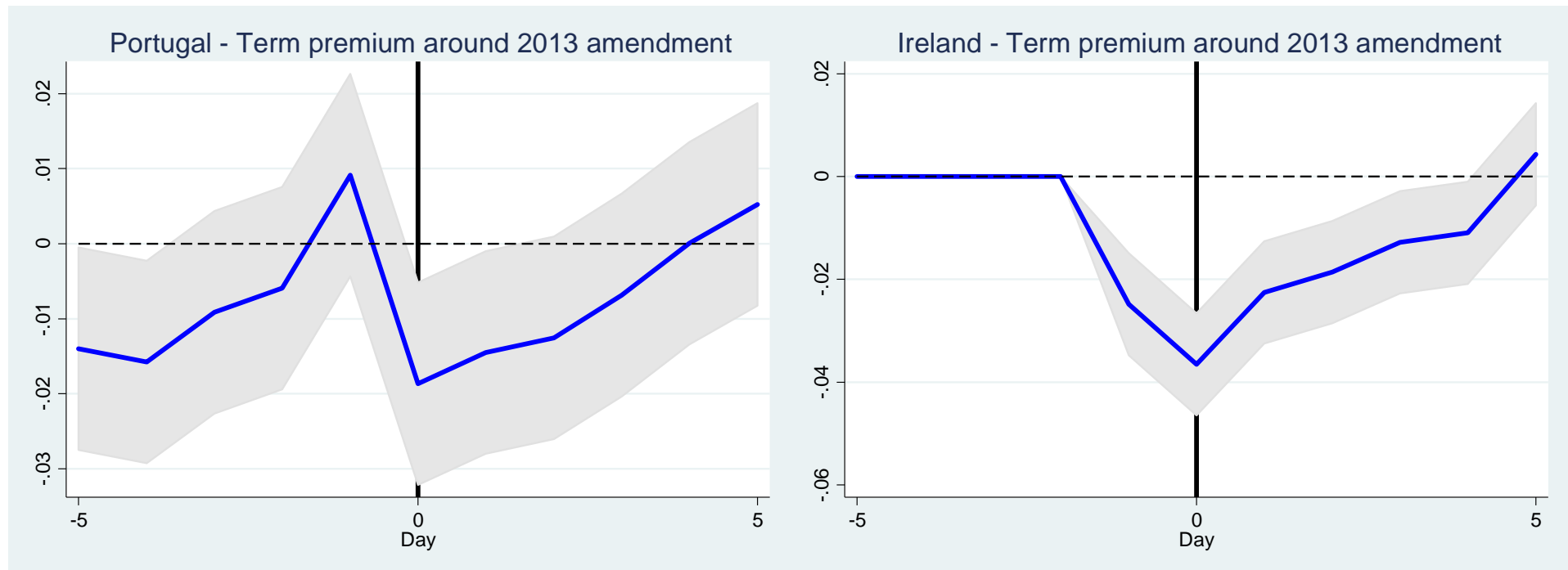
Regression-based event analysis – Program Signing



Regression-based event analysis – June 2011 Change



Regression-based event analysis – June 2013 Change



Official lending terms and market access

Literature documents the limits of official lending in preventing capital flight

We show that the extent of catalysis, as measured by bond markets dynamics, depends critically on the lending terms imposed by the official sector

At the onset of the EA programs, private capital flight accelerated

Changes in repayment profiles had substantial effects:

- The loan amendments reduced debt repayments in a 7-year window
- The effect was stronger for 3-year than for 10-year yields
- The repayment-flow management strategy followed by the EA official sector effectively affected market access conditions for sovereigns
 - Underlined by the heterogeneous effect across maturities

Official lending terms and Debt Sustainability Analysis

Debt sustainability and repayment-flow management

Official lending in the euro area crisis has intensified the debate on how to define and assess debt sustainability

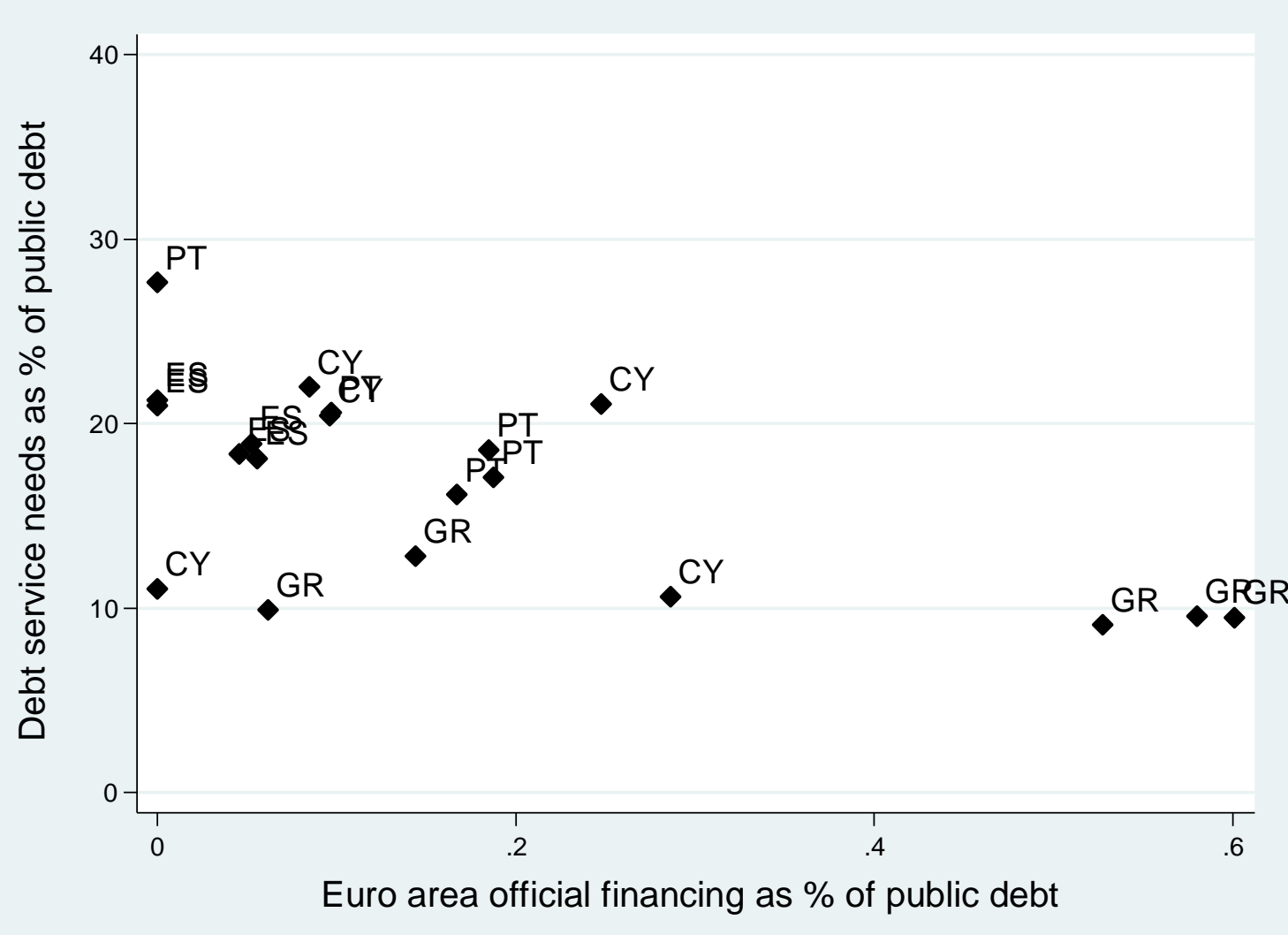
A major source of discomfort with approaches to DSA being used at the time was their heavy reliance on 'debt stock' measures (Greece – 120% by 2020)

A flourishing literature shows that flow debt-metrics are as important as stock metrics to understand sovereign risk (Cottarelli et al. (2016) look at Δ Debt, Gabriele et al. et al. (2017) look at financing needs)

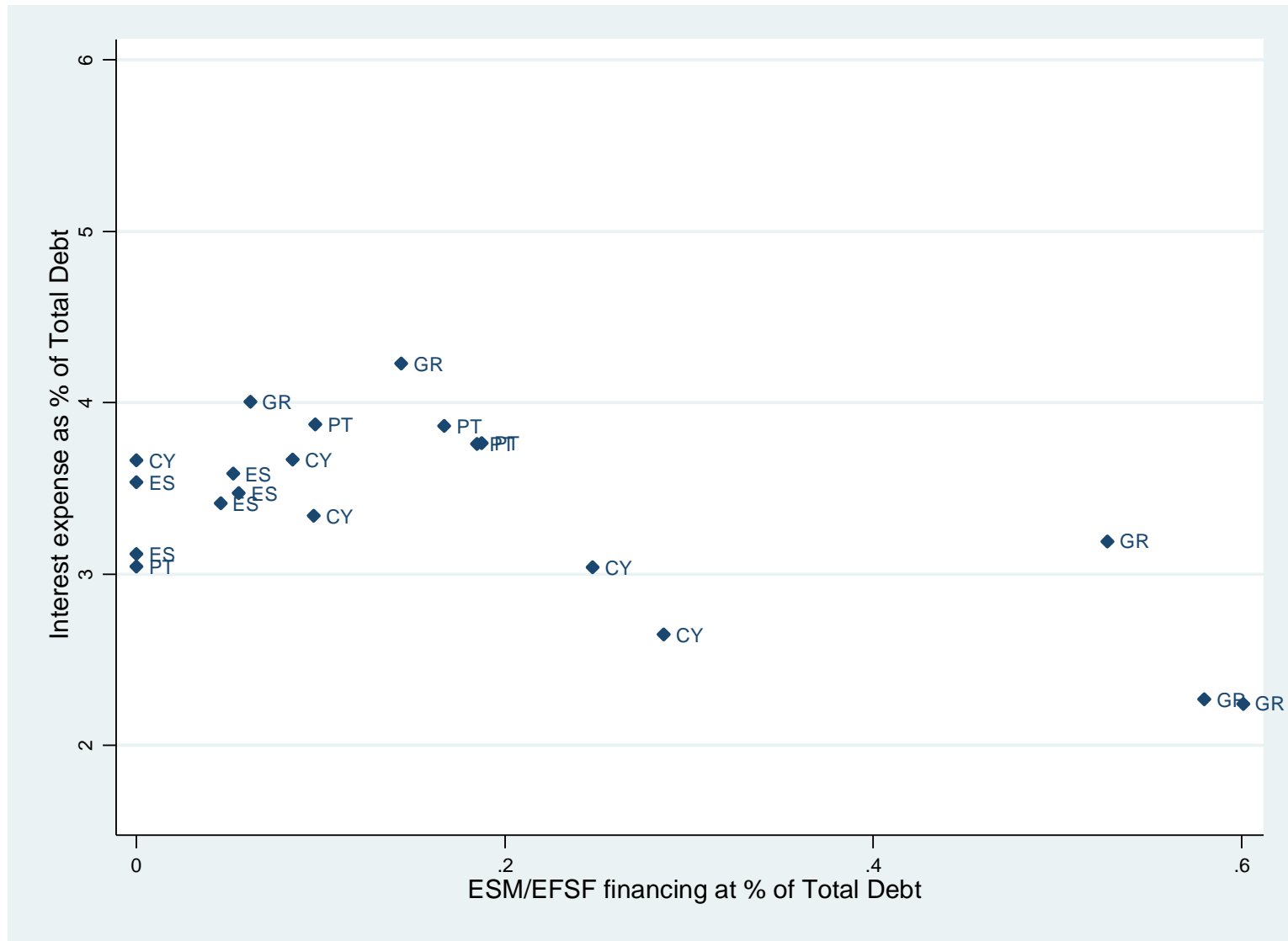
The following figures show the relation between the extent of official lending and interest payment and principal repayments for EA crisis countries - flow and stock debt-metrics moved in opposite directions

- Stock-based DSA in the presence of official lending is suboptimal
- In fact, official DSA analysis now monitors Gross Financing Needs (GFN)---the sum of primary balance, interest payments and principal repayments

Evolution of refinancing needs in EA



Evolution of interest expenses in EA



Selected Issues

Selected issues: Goals of official lending

The traditional approach builds on the idea that official lending is catalytic, and should not be deployed when a sovereign debt is not sustainable

The recent experience, however suggests that official lending can also be motivated on an additional ground:

Official support helps preventing systemic costs due to cross-border spillovers from default in one country.

Spillovers motivate self-interested solidarity, i.e., the desire to avoid losses and distress associated from a neighbour's default (see Tirole, 2016)

- Reflected in the systemic exemption allowing IMF lending in the EA
- But resulting creditors' bail-outs and debt overhang in Greece (vis-a-vis the global taxpayer) led to the demise by the IMF of the exemption and a more demanding approach regarding PSI
 - Should the euro area follow?

Selected issues: Moral Hazard & conditionality

Moral hazard is a side-effect often invoked not to deploy official lending

Official support creates incentives for governments to take on excessive risk and not to undertake (costly) policies that can minimize default:

- Protected by a safety net, countries may accumulate too much debt and, as a result, make default more likely under fundamental stress

Traditional answer: Conditionality

Lessons for the euro area?

- Long maturities of official debt may lead governments to postpone adjustment efforts, which in turn may deter on private investment
- Facilitate country ownership by creating space/time to implement structural reforms (thus reducing the hardship associated with them)
→ What factor dominates? Theoretical and empirical guidance needed

Selected issues: PSI and capital flight

IMF (2013) argues that official lending redistributes too much sovereign credit risk towards global tax-payers

Still, in the existing multilateral setting:

- Financing from official lenders is subject to an ex-ante evaluation (DSA)
- If situation deemed unsustainable, private creditors are asked to contribute in the form of a debt restructuring (PSI)

But, prospective PSI may create incentives for the private sector to stop rolling over debt and flee. The resulting capital flight would raise the country's financing gap, magnifying official lending

These perverse effects may be magnified by official sector seniority

→ EA official sector has so far lend into unclear solvency, but that may change

→ Relevant for the current debate on a European-SDRM?

Selected issues: Seniority

IMF is senior to ESM. ESM is senior to any other public or private institutions

Seniority arrangements:

- do not eliminate credit risk for official lenders (Cheng et al., 2016)
- But tilt the balance of risk against private creditors (Schlegl et al. 2016)

While protecting tax-payers, subordination of private investors may trigger capital flight. Effect may be larger for larger shares of official loans

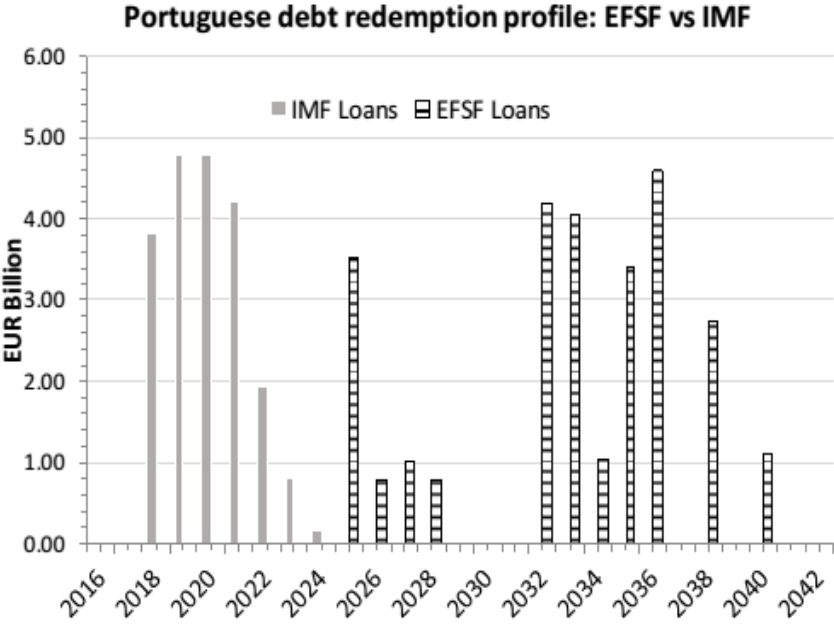
Lessons from EA official sector approach:

Back-loading official loan repayment dilutes official creditors by placing them later the in line, and can foster market access

Loans' repayment structure of official lenders, with different degrees of seniority, requires coordination

- Greece (Summer, 2015)
- Data shows that ESM repayments kick in after IMF loans are repaid

Official Debt: Redemption Profiles



Selected issues: Coordination IMF/RFAs

Going forward, official lenders (global and regional) need to coordinate

According to IMF (2017):

RFAs may bring:

- In-depth regional knowledge (but more political pressure)
- Better tailored instruments
- Legitimacy → strengthen ownership, less stigma
- Stronger incentive to go beyond catalytic lending and avoid spillovers

IMF and multilateral

- Best equipped for systemic crises
- Established policy commitment tools and surveillance capacity
- Broader representation → help with coordination across region

Something missing?

→ Coordinate repayment structures while considering seniority??

To conclude

In contrast to most of the existing literature, in this piece we show that the extent of catalysis depends critically on the approach followed by the official sector

The repayment-flow management strategy followed by the official sector in the EA was effective in affecting the conditions for market access by the sovereigns

This strategy could prove beneficial in designing future official programs...

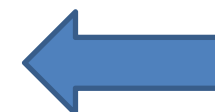
In a companion paper we model the endogenous relation of market access and debt sustainability to the terms of official support

- The calibrated model does a good job in fitting the dynamics of debt, creditor composition and market spreads in Portugal during the crisis
- Still, we also shows that, even absent moral hazard, there are limits for what repayment–flow management can do for debt sustainability

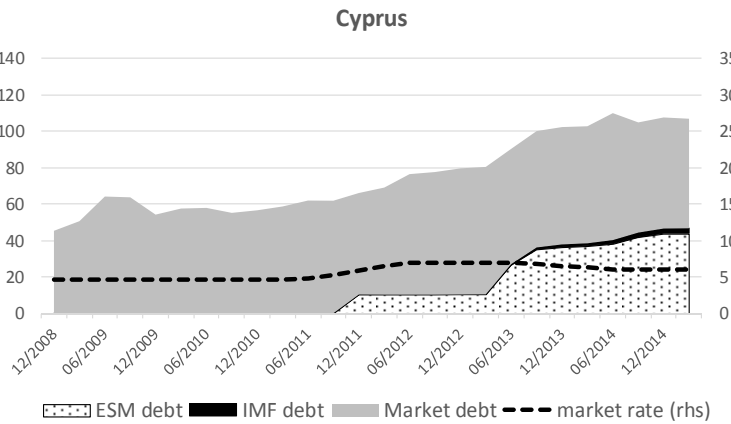
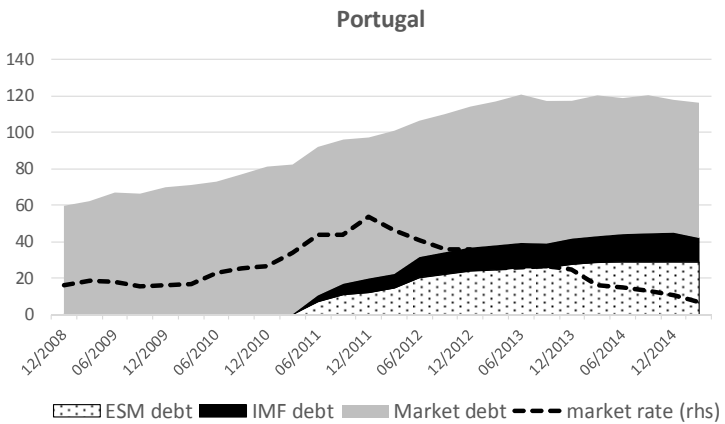
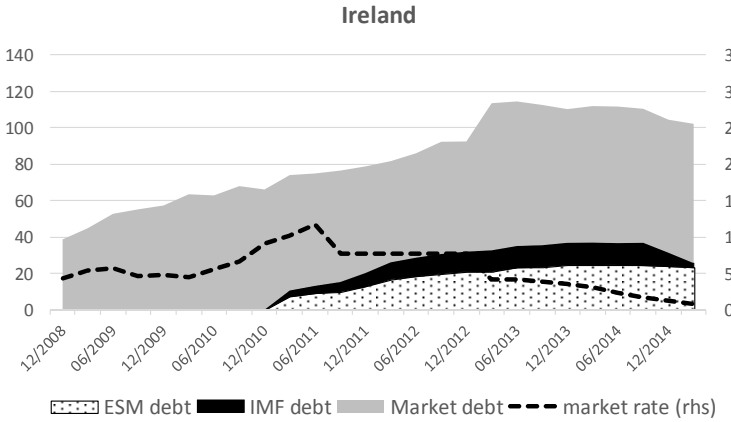
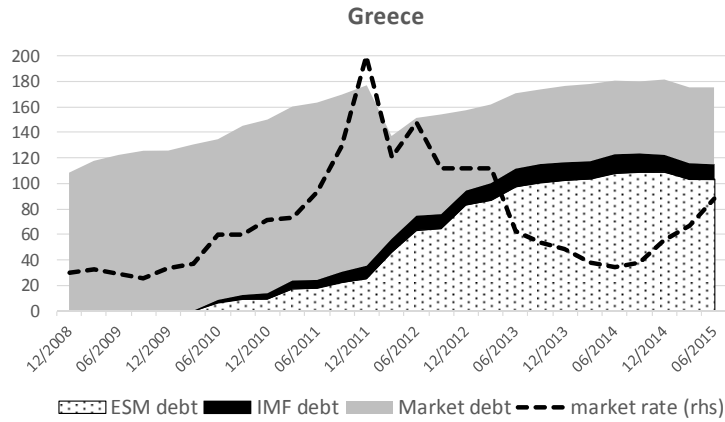
Interests and Maturities by Creditor. Selected dates

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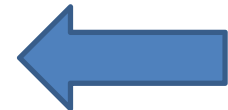
Sources: International Monetary Fund, European Commission, European Financial Stability Facility, European Stability Mechanism and Bloomberg. * Refers to 4 years maturity



Official Debt: incremental EA engagement

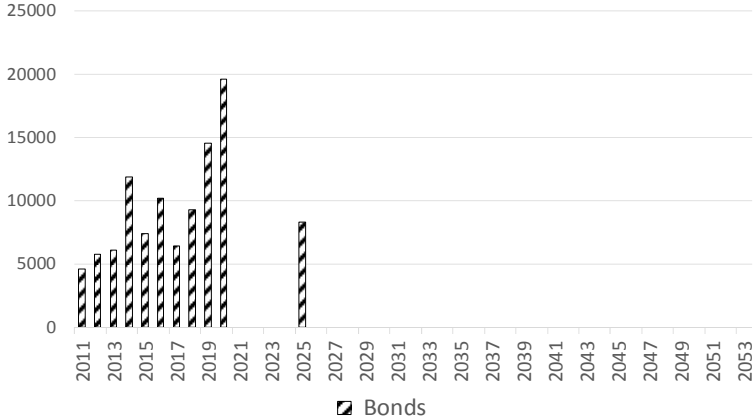


Sources: European Commission, European Stability Mechanism, various countries Central Banks and Bloomberg. Debt is measured as percentage of GDP. The market rate, measured on the right hand side axis refers to the spread on the benchmark 10 year sovereign bond

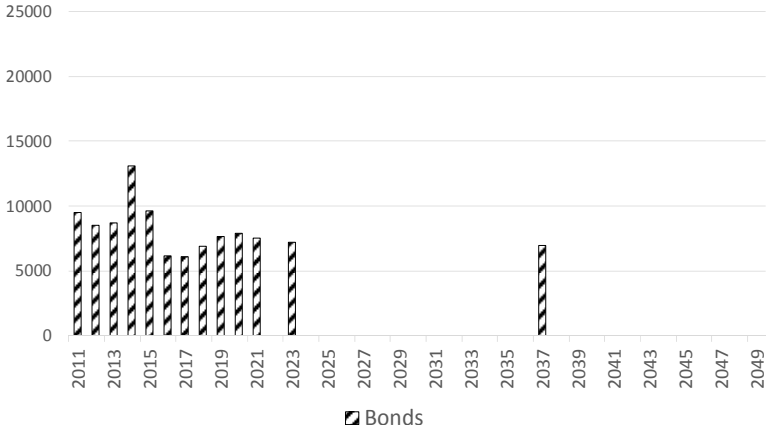


Repayment flows

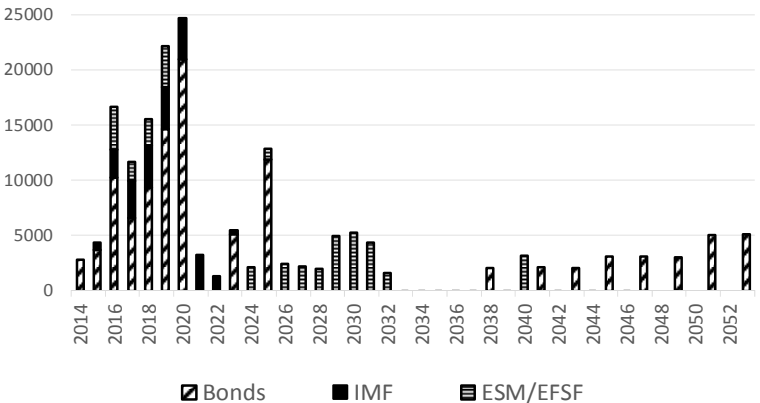
Irish debt repayment profile - December 2010



Portuguese debt repayment profile - December 2010



Irish debt repayment profile - December 2013



Portuguese debt repayment profile - December 2013

