Euro Exit Risk

Stefan Eichler[1] and Ingmar Rövekamp[2]

April 2017

Abstract: We introduce a novel approach to identify the risk of a single country leaving the eurozone as assessed by investors of American Depositary Receipts (ADRs). As a proxy for investors' mistrust in eurozone membership, we look at the fraction of ADR returns that is explained by a country-specific eurozone exit incentive indicator. For a sample of 143 ADRs from eight eurozone countries from January 2008 to June 2015 we find that our exit risk measure is significantly higher for the GIIPS countries than for Germany, France and the Netherlands which we include as a placebo test. Next, we look at exit risk exposure in the European banking system. We find that banks with higher credit risk exposure to the respective country are more adversely affected by its exit risk. Third, we analyze the impact of eurozone exit risk on the real sector in the GIIPS countries. We find that companies from the Health Care and Telecommunications industries respond significantly negatively to increases in exit risk, while companies from the Oil and Gas industry respond significantly positively. Also, more highly indebted companies tend to respond more positively.

Keywords: European Debt Crisis; Eurozone Exit Risk; American Depositary Receipts

JEL-Classification: F31, G12, G1

[1] TU Dresden, Department of Business and Economics, Chair of International Monetary Economics and Halle Institute for Economic Research, Halle, Germany, E-Mail: stefan.eichler@tu-dresden.de

[2] TU Dresden, Department of Business and Economics, Chair of International Monetary Economics, E-Mail: ingmar.roevekamp@tu-dresden.de

1. Introduction

Eurozone exit risk is one of the most important and interesting features of the financial crisis in the eurozone. Leaving the eurozone would enable countries to implement national monetary policies that may be better suited to reduce the real burden of public debt and to restore competitiveness of the economy at least in the medium term. Eurozone exit would of course come at significant (short term) costs which perhaps best explains why we have not seen these exits in the past. Yet, the risk of eurozone exit is highly relevant for several actors in the political arena and may explain the introduction of the ECB's unconventional measures. Given its relevance, eurozone exit risk is relatively unexplored so far.

We use American Depositary Receipts (ADRs) to derive a daily indicator of eurozone exit risk. American Depositary Receipts represent ownership of a specific number of underlying shares in the home market (in our case, the GIIPS countries) on which the ADR is written. The ADR and the underlying stocks represent the same ownership rights. The only difference is the currency denomination: ADRs trade in the United States and are denominated in US dollars, the underlying share trades in the European market and is denominated in the domestic currency – the euro. In the case of eurozone exit, domestic shares would be redenominated into the new domestic currency, which would most probably be associated with a large devaluation against the US dollar. As investors anticipate this currency risk in the case of eurozone exit, euro exit risk will be priced in ADR returns. ADRs appear to be an ideal laboratory to derive eurozone exit risk since the currency redenomination and potential price loss of the underlying stock in US dollar terms associated with eurozone exit is the only systematic risk factor that affects ADR returns (apart from company specific and exchange rate specific shocks that we control for).

Using 143 ADRs from eight eurozone countries for the period 2008-2015 we find significantly higher eurozone exit risk for the five crisis countries (Greece, Ireland, Italy, Portugal and Spain) as compared to the relatively stable countries France, Germany and the

Netherlands. Moreover, exit risk of GIIPS countries shows remarkable time series variation, while exit risk in stable countries fluctuates much less. We investigate the exposure of the banking and the real sector to eurozone exit risk. We find that eurozone exit risk does not significantly affect the stock returns of domestic banks. This result suggests that ADR investors expect that the (short run) costs of eurozone exit (such as balance sheet losses, cut off from ECB refinancing) may be outweighed by the present value of the long run benefits (restructuring and recapitalization of the domestic banking sector, higher credit demand after zombie bank problem (Acharya et al. (2016)) is resolved). Analyzing cross-border spillovers of eurozone exit risk to other banking sectors we document that Portuguese bank stock returns are adversely affected by Greek exit risk and that the Spanish banking sector is affected by Portuguese exit risk. Investigating the channels of these cross country spillovers of exit risk, we find that higher credit risk exposure (taken from the 2011 EBA stress test) are associated with a larger cross country exposure to eurozone exit risk.

Moreover, we analyze the exposure of 333 stocks from different industries to domestic eurozone exit risk. We find that Health Care and Telecommunications stocks are significantly negatively affected by eurozone exit risk, while Oil and Gas stocks respond positively to eurozone exit risk. Looking at the cross section of euro exit risk exposures between individual companies, we conclude that companies with higher debt to assets ratios are less negatively exposed to eurozone exit suggesting that ADR investors expect that eurozone exit would be associated with an inflationary monetary policy that would effectively reduce the real debt burden of companies.

Several interesting papers have investigated redenomination risk/exit risk in the eurozone. Some studies attribute mispricing of sovereign bonds to eurozone exit risk arguing that sovereign bond spreads above fundamentally justified values signal exit risk (e.g. Di Cesare et al. (2012); Aizenman et al. (2013);Favero & Missale (2012); Dewachter et al. (2015)). Other contributions use survey data on eurozone exit risk taken from the electronic trading platform

INTRADE and find that exit risk is priced in sovereign bond prices (Klose & Weigert (2014), Shambaugh (2012)). Kriwoluzky et al. (2015) calibrate a structural small open economy model to construct counterfactuals without exit risk expectations for Greece. They find that sovereign and corporate bond spreads would be significantly lower in a state without exit risk expectations. While these approaches reveal interesting findings, they also bear several limitations to study eurozone exit risk. Survey data on exit risk INTRADE was only available for a short period of time and may not be representative. Mispricing of sovereign bonds may occur for several reasons other than eurozone exit risk and may therefore not be an unbiased measure for our purposes. Calibrated models enable a low frequency analysis of economic implications, but do not allow for a marked based high frequency derivation of a eurozone exit risk measure.

The closest approach to ours is Krishnamurthy et al. (2014) who use the CDS bond basis to derive an indicator of redenomination risk. They build on contractual differences between credit default swaps (CDS) and bonds. For Italy, for example, CDS do not cover losses from redenomination from euros into a new national currency and thus purely reflect default risk of the underlying bond. Yields of euro denominated bonds, on the contrary, reflect default risk and redenomination risk. Sovereign bond yields above the CDS premium would thus indicate redenomination risk. For Portugal and Spain, CDS cover both losses from default and redenomination. Consequently, the authors use the difference between CDS premiums and the yields from U.S. dollar denominated bonds (which are purely driven by default risk). Similarly, De Santis (2015) uses the differences in the premiums on euro denominated and US dollar denominated sovereign CDS and interprets widening spreads as evidence for larger redenomination risk.

We argue that this CDS based approach also has some limitations. First, it relies on contractual details of CDS, which differ, for example, between Italy on the one hand and Spain and Portugal on the other. If investors are not aware of these contractual differences, the pricing

of CDS may not result in an unbiased measure of eurozone exit risk. Second, during the eurozone crisis, CDS became increasingly illiquid for many countries such as Greece and Portugal, and therefore may not be used to study exit risk in these periods. Moreover, it is not entirely clear if claims from bonds or CDS would be redenominated into a new national currency after eurozone exit.

Our approach is based on ADRs, which are available for all GIIPS countries in the eurozone. The same pricing assumptions hold for all ADRs alike and ADRs are sufficiently liquid. Moreover, contrary to claims from bonds or CDS, where it is not clear (and may depend on contractual details) if currency redenomination occurs after eurozone exit, it is certain that domestic stocks would be traded in the new domestic currency and that ADRs would still trade in US dollars after eurozone exit. Since investors are most likely aware of currency redenomination of the ADRs' underlying stocks, the pricing of ADRs offers a unique laboratory to derive a high frequency indicator of eurozone exit risk.

Various aspects of the European debt crisis have been discussed by the literature. One strand looks at systemic sovereign risk in the eurozone, determinants of sovereign bond yield spreads or CDS returns as well as contagion between EMU member states (e.g. Ang and Longstaff (2013), Benzoni et al. (2015), Corsetti et al. (2014), Costantini et al. (2014)). Other papers focus on the bank-sovereign nexus (e.g. Acharya et al. (2014), Acharya and Steffen (2015), Engler and Große Steffen (2016), Gaballo and Zetlin-Jones (2016), Popov and van Horen (2015)). A third strand of literature relates to the effects of the measures taken in order to tackle the Euro crisis, especially the (unconventional) monetary policy conducted by the ECB (e.g. Drechsler et al. (2016), Eser and Schwaab (2016), Krishnamurthy et al. (2015)). Others focus on the real effects of the Euro crisis. For example, Meinen and Roehe (2017) document how investment in the eurozone is adversely affected by uncertainty shocks.

Our paper is also related to studies investigating the impact of financial crises on the pricing of ADRs. Several interesting studies conclude that the returns on U.S. dollar-

denominated ADRs are negatively affected by currency crises as the devaluation of the local currency depresses the dollar value of the underlying stock ((Bailey et al. 2000); Kim et al. (2000); (Bin et al. 2004)). (Pasquariello 2008) reveals that the outbreak of financial crisis is associated with a disintegration of the local capital market as the pricing dynamics of ADRs and their underlying stocks change. Another interesting strand of the literature shows how capital controls can lead to price wedges between ADRs and their underlyings with underlying studies being typically overpriced (Melvin (2003); (Levy Yeyati et al., 2004); (Auguste et al. 2006); Arquette et al. (2008); Levy Yeyati et al. (2009). Several papers use ADRs to derive exchange rate forecasts (Eichler et al. 2009) and to show that financial fragility measures affected the relative pricing of ADRs and their underlyings Eichler (2011).

We borrow from these contributions to derive a novel eurozone exit risk indicator based on the pricing of ADRs that is available in high frequency and sufficiently liquid.

The paper is organized as follows: Section 2 introduces the methodology and data and provides some descriptive evidence. Section 3 analyzes the exposure of the banking sector to eurozone exit risk. Section 4 looks at the exit risk exposure of stocks in different industries and investigates the channels establishing this risk exposure. Section 5 concludes.

2. Methodology and Data

2.1 ADR pricing and eurozone exit risk

An American Depositary Receipt (ADR) represents ownership of a specific number of underlying shares in the home market on which the ADR is written. While the underlying stock is traded on the stock exchange of the respective eurozone country and is denominated in Euro, the ADR trades in the United States and is denominated in U.S. dollars.

Since the ADR provides the same rights to the owner such as dividend claims and voting rights like the underlying stock and ADR and underlying stock can be converted into each other at a fixed conversion ratio, the exchange rate adjusted prices of both stocks should be equal:

$$P_{ADR_{i,t}} = \frac{P_{UND_{i,t}} * \gamma_i}{S_t}, \quad (1)$$

with $P_{ADR_{i,t}}$ and $P_{UND_{i,t}}$ being the prices of the ADR and its corresponding underlying stock, respectively, γ_i a fixed conversion parameter and S_t the EUR/USD exchange rate.

For a fully credible eurozone membership of the country from where the underlying originates, ADR returns are thus governed by the returns of the underlying stock and the exchange rate:

$$ret_{i,t}^{ADR} = \alpha_i + \beta_1 ret_{i,t}^{UND} + \beta_2 ret_{j,t}^{S} + \varepsilon_{i,t}. \quad (3)$$

If ADR investors do anticipate some risk that a country may leave the eurozone, ADR returns should reflect such risk. The ADR market is an ideal laboratory for testing eurozone exit risk. By controlling for the underlying stock and EUR/USD exchange rate returns, we capture any unobserved company or macro risk factors that could affect ADR investors (by influencing the value of the underlying stock or the euro) – except for country-specific eurozone exit risk. Each type of unobserved omitted variables that could influence the value of the underlying stock (such as, news on financial stability, the health of the firm, or the real economy) and that would potentially bias the estimations, are absorbed by the underlying stock returns that are control variables in the regression equation. Any omitted variables that should influence the external value of the euro (such as systemic risk in the eurozone, the ECB's or Fed's monetary policies, capital flight, macroeconomic imbalances), are absorbed in the EUR/USD returns also controlled for in the regressions.

The currency redenomination and potential price loss of the underlying stock in dollar terms associated with eurozone exit is the only systematic risk factor that affects ADR returns (after controlling for underlying stock and EUR/USD exchange rate returns). This is because any other company specific or macroeconomic shock affects the ADR and underlying stock in

the same way. Currency risk associated with eurozone exit is the only shock that can lead to a one-time price drop of the ADR stock (relative to the redenominated underlying stock price) of the same company and is thus the only systematic risk factor that may influence ADR returns after controlling for underlying stock returns.

Since eurozone exit risk is unobservable, we introduce a country-specific instability indicator in the regression, in order to test if ADR investors price eurozone exit risk in ADR stocks. This financial stability indicator aims to capture fundamental vulnerabilities that may explain why a country may leave the eurozone (such as sovereign default risk as well as fragility in the banking sector and in the real economy in the considered country). We argue that if ADR returns respond to such an indicator, eurozone exit risk is priced in ADR returns and thus ADR investors perceive such risk. On the contrary, if no eurozone exit risk is perceived, such a vulnerability indicator would not be priced in ADR returns.

In order to obtain a single variable that comprises different incentives to leave the eurozone, we calculate the first principal component out of three market based factors: the 10 years sovereign bond yield spread (relative to Germany)[3], the returns of the country's bank stock index, and the intraday volatility of the local stock index. Intraday stock market volatility is calculated using five minute ticks from Thomson Reuters Tick History. Data on bank indices are taken from Thomson Reuters Tick History. Sovereign yield spreads are taken from Thomson Reuters Eikon.

We select these three market based measures for two reasons. First, these measures are available at daily frequency and thus can be used in an asset pricing framework of ADRs. Second, each of these three indicators captures an economic vulnerability that represents an incentive to leave the eurozone. Higher sovereign default risk (as indicated by higher sovereign bond spreads) indicates that the domestic government is less able to avert sovereign default

[3] For Germany, we use CDS with maturity of ten years instead.

within the eurozone but would rather opt to exit the eurozone in order to minimize the real value of its public debt. A more fragile banking sector (measured by lower bank stock returns) may also be recapitalized and restructured more effectively outside the Eurozone. Larger economic fragility (as indicated by higher intraday stock return volatility) increases the incentive to leave the Eurozone and to restore the competitiveness of the domestic economy by external devaluation (rather than the long lasting process of internal devaluation). The relationship between stock market volatility and real economic activity has been well documented by the literature (e.g. Engle et al. (2013), Errunza & Hogan (1998)).

Since we expect each of those three factors to have a distinct influence for each of the countries in our sample, we conduct the PCA for each country separately so that the eigenvectors are allowed to vary between countries. We obtain the variable $EER\ driver$ by multiplying the respective values of each of the three variables considered with the corresponding eigenvector derived from the PCA:

$$EER\ driver_{j,t} = \lambda_{SMV} * SMV_{j,t} + \lambda_{\Delta Bank_j} * \Delta Bank_{j,t} + \lambda_{\Delta SYS_j} * \Delta Sov_{j,t} \qquad (4)$$

SMV … $intraday\ stock\ market\ volatility$

$\Delta\ Bank$ … $bank\ index\ return$

$\Delta\ Sov$ … $daily\ change\ in\ the\ sovereign\ yield\ spread\ of\ 10y\ sovereign\ bonds\ vs.\ Germany$

Table 1 in the appendix shows the resulting eigenvectors as well as KMO measures and the number of observations by country. As a robustness check, we conduct the principal component analysis using a rolling window of 500 trading days. We find that the resulting principal components are almost perfectly correlated with those resulting from the time-invariant approach suggesting that the relation between returns of the bank index, stock market volatility and changes in the sovereign yield spread are fairly stable over time, at least for our sample period from 2008 to 2015. Table 2 in the appendix shows averages of the time-varying

eigenvectors and KMO measures as well as correlations with the principal components obtained by the time-invariant approach by country.[4]

2.2 First-stage regression approach

In order to derive an indicator of eurozone exit risk based on ADR data, we estimate the following equation in a rolling-regressions framework with an estimation window of 60 trading days using OLS with Huber-White-standard errors:

$$ret_{i,j,t}^{ADR} = \alpha_{i,T} + \beta_{1,i,j,T}\, ret_{i,j,t}^{UND} + \beta_{2,i,j,T}\, ret_t^S + \beta_{i,j,T}^{exit\ risk} exit\ risk\ driver_{j,t} + \sum_{l=1}^{L} \beta_{l,i,j,T} * X_{l,t} + \varepsilon_{i,j,t} \quad (5)$$

where *i* is an index for the pair of a specific ADR and its corresponding underlying stock, *j* represents the country in which the underlying stock is traded, and *T* denotes the day for which the respective rolling regressions window is estimated. $\sum_{l=1}^{L} X_{l,t}$ captures the returns of the S&P 500 and weekday dummies as control variables, $\alpha_{i,T}$ is the intercept, and $\varepsilon_{i,j,t}$the error term. Table *3* in the appendix reports the variables and their sources used in the first-stage regression.

In order to derive an indicator of eurozone exit risk, we compute the semi-partial R^2 of the exit risk driver drawn from the time series regressions in equation 5. The semi-partial R^2 is defined as the share of the total variation of the dependent variable that is explained by the variation of the respective explanatory variable that contains additional information i.e. that is orthogonal to the other explanatory variables[5]. The semi-partial R^2 indicates how much of the variation of the returns of ADR from countries that might potentially leave the eurozone can be explained by the information contained in the eurozone exit risk driver – additional to that

[4] However, there might be certain subperiods for single countries where the eigenvectors derived from the rolling window approach might not have the signs consistent with our interpretation of the eurozone exit risk driver, i.e. λ_{SMV} and $\lambda_{\Delta SYS_j}$ are not positive, respectively $\lambda_{\Delta BI_j}$ is not negative. Therefore, we opt against this more flexible approach, having shown though that the following results would not alter too much using this alternative specification.

[5] For discussions of the concept of semi-partial correlations see e.g. Fisher (1924) and Baba et al. (2004)

already contained in the return of the EUR/USD exchange rate and the return of the respective underlying of the ADR. We hypothesize that the more probable the eurozone exit of a specific country, the more important the eurozone exit risk driver will be as a pricing factor in ADR returns as identified by the semi-partial R^2.

Our panel consists of 143 ADRs from eight eurozone member countries: France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain over the period January 1st 2008 to June 30th 2015[6]. Table 4 in the Appendix lists the ADRs used in the analysis. In order to analyse eurozone exit risk we focus the GIIPS countries (Greece, Ireland, Italy, Portugal, Spain). As a placebo test, we also apply our approach the remaining stable countries (France, Germany and Netherlands) in order to check whether the patterns we observe for the crisis countries do not hold for these countries as well. We do not include ADRs from Austria, Belgium and Finland due to a limited number of ADRs and insufficient trading activity.

We identify potential pairs of ADRs and underlying stocks using information from the ADR databases of JP Morgan, the Bank of New York Mellon as well as from Thomson Reuters DATASTREAM. We consider Level I, II and Level III ADRs. We make sure that only ADRs that are being traded with satisfactory liquidity are considered. We keep all ADRs that have at least twenty observations by quarter for at least four consecutive quarters and whose mean daily trading volume exceeds 1,000 ADRs traded. We check for correct matches of ADRs with their respective underlying stock by regressing ADR returns on the return of their underlying and the USD/EUR exchange rate and making sure that the estimated coefficients are significant. We exclude extreme outliers which we define as observations with an abnormal return of more than 20 % or less than – 20 %. That yields a sample with a total of 148,844 observations. Prices of ADRs and their respective underlyings as well as the EUR/USD exchange rate and the values of the S&P 500 are taken from Thomson Reuters Tick History. In order to guarantee the most

[6] This ending of our sample period is determined by the closing of the Greek stock market closed on June 27th 2015.

synchronous match possible between prices, we consider the last value available prior to 3:00 pm UTC for each day because at that time all eurozone as well as the US stock market operate in regular mode. Only for Greece, during DST we use last prices prior to 2:00 pm UTC since otherwise an overlap of trading hours with the US stock markets would not be guaranteed.

2.3 Descriptive Evidence and Results

Figure 1 – 8 in the appendix illustrate the evolution of our eurozone exit risk measure, i.e. the semi-partial R^2 of the exit risk driver estimated within the rolling regressions framework as described in section 2.2, over the sample period from January 1st to June 30th 2015 by country[7].

The eurozone exit risk indicator shows remarkable time series variation for the crisis countries. Our indicator for the whole sample reaches its maximum for Greece in September 2012 when about 11 % of the total variation of ADR returns was explained by the Greek exit risk driver.[8] On the contrary, the eurozone exit risk indicator for Germany is only 0.2 % on average. Also for France and the Netherlands, the absolute size of the indicator is negligible and the time series variation also appears to be random. A simple pooled OLS regression approach with country dummies reveals that eurozone exit risk is significantly higher values for the GIIPS countries than for France, Germany and Netherlands (see Table 5 in the appendix). Thus, we find evidence for a systematic difference in the pricing of ADRs between crisis and non-crisis countries and attribute this to the presence of significant eurozone exit risk assessed by investors for the GIIPS-countries.

In the next section, we analyse the exposure to eurozone exit risk in the banking sector.

[7] For this analysis here and all future calculations, we calculate country-specific eurozone exit risk as the average of the measure obtained by ADR as described in 2.2 over all ADRs from the specific country.

[8] Please note that this percentage cannot be directly transformed into the probability that Greece would leave the eurozone.

3. Exposure to Eurozone Exit Risk in the banking sector

3.1 Evidence from aggregate country bank indices

In this section, we test whether eurozone exit risk, as identified by our measure extracted from the ADR market, is priced in European banks stocks. In Section 3.1 we focus on aggregate bank indices by country to study the exposure of domestic banks to domestic eurozone exit risk and to the exit risk of other countries. In Section 3.2 we analyse the determinants of the exposure to exit risk at the individual bank level.

A most reasonable expectation would be that eurozone exit will negatively affect banks. However, effects might differ between domestic banks affected by the exit risk of their home country and banks in a third country affected by the exit risk of one of the crisis countries. For the effect of exit risk on domestic banks, multiple channels are theoretically possible that might work against each other. On the one hand, credit and asset losses due to economic disruptions may occur. A sovereign default simultaneous with eurozone exit would depress the value of sovereign bond holdings. Cheap funding from the ECB would no longer be available. On the other hand, eurozone exit may also have positive implications for domestic banks, at least in the medium and long term. External devaluation may restore the competitiveness of the domestic economy, thereby improving the economic outlook and credit demand. Also, a restructuring and recapitalization of weak domestic banks may resolve structural problems in the banking sector, thereby restoring trust and the functioning of the interbank market. Since the overall effect is not clear, it remains an empirical question to test how financial markets judge the exposure of domestic banks to eurozone exit risk. Regarding the spillover effects of eurozone exit risk on banks in a third country, we argue that the balance sheet channel can be expected to be dominant over the other effects and thus expect banks from third countries to be negatively affected by eurozone exit risk of the crisis countries.

In order to evaluate the exposure of domestic banks to eurozone exit risk, we regress the domestic EUROSTOXX bank stock index returns on the ADR based eurozone exit risk

indicators derived in Section 2. Results are displayed in Table 6 and Table 7. For each of the GIIPS countries, we estimate a model including domestic eurozone exit risk as well as the exit risk indices of the other four countries. A battery of control variables accounts for banking sector, sovereign, and economic risks in the considered country, the GIIPS aggregate, and the eurozone. Control variables include the return of the stock market and the change in the sovereign yield spread of the respective country, the return of the EUR/USD exchange rate and the change in VSTOXX as proxies for systemic risk of the whole eurozone as well as the return of EUROSTOXX Bank Index and first principal components of the GIIPS countries' bank indices (return bank GIIPS) and sovereign yield spreads (Δ sovereign spread GIIPS).

We argue that if we find some evidence for the impact of one country's exit risk on the banking sector of another country, this effect might be truly attributed to exit risk of this country after having controlled for potential correlations of markets and spillover effects. For each country, we run regressions for two samples: the whole sample from January 1st to June 30th 2015 and a subsample from January 1st to the famous "whatever it takes"-speech by Mario Draghi on July 26th 2012.

We do not find evidence that eurozone exit risk has a significant positive or negative effect on bank stock returns in the considered GIIPS countries. A possible explanation for this result may be that – according to ADR investors' assessment – the costs and benefits of eurozone exit may balance each other out in the GIIPS countries considered. While current discussions typically stress the negative effects of eurozone exit (short term asset losses, disruptions in financing), investors may also see long term benefits of leaving the eurozone such as a restructured domestic banking system and a restored competitiveness of the domestic economy, which may spur credit demand and interest rate mark ups. Overall, financial markets appear to believe that the discounted value of net long term benefits of leaving the eurozone may be as large as the short term costs of euro exit.

Considering the cross country spillover effects, we find robust evidence that the Portuguese bank stock returns are adversely affected by Greek exit risk, especially during the subsample period January 2008 to July 2012. The same applies to the Spanish bank stock returns which load negatively on Portuguese exit risk. Looking at the aggregate EUROSTOXX Bank Index (which is mostly dominated by banks from Spain and Italy), we find that Spanish eurozone exit risk significantly affected returns.

These cross-country spillover effects may be explained by an indirect and a direct channel. There might be an indirect channel through financial stability. If a country leaves the eurozone, one would expect significant short term turmoil on financial markets with negative impacts on the banking system in the whole eurozone, e.g. due to asset losses or worsening of refinancing conditions. We argue that we account for such effects by including control variables that proxy for pan-eurozone systemic risk such as the EUR/USD-exchange rate, ΔVSTOXX, the return of the EUROSTOXX Banks index as well as the first principal component of returns of GIIPS countries' individual banking indices and sovereign yield spreads. Therefore, we argue that the effects we detect here should be rather attributed to a direct channel. Exit risk of one country will have an effect on the performance of a bank in another country if this bank has direct exposure to this country, either in the form of sovereign exposure or private credit exposure. In either way, the exit of the respective country would cause balance sheet losses to the bank if the exiting country introduced a new currency which then devalued sharply against the EUR.

The evidence provided in this section indicate a direct channel of eurozone exit risk of one country on stock performance of a bank in another country. Banks in Portugal might be affected by Greek exit risk and Banks in Spain by Portuguese exit risk because they have a high exposure to those countries. In order to test this hypothesis, we look at the performance of individual banks dependent on their exposure to the GIIPS countries in the next section.

3.2 Evidence from individual bank level data

In this section we investigate why banks are exposed differently to eurozone exit risk. A key finding of the previous section was that – while euro exit risk of the domestic country are not priced in domestic bank stocks – euro exit risk of other countries are significant determinants of bank stock performance. A sensible explanation for these cross-country spillovers of eurozone exit risk are bilateral asset holdings of banks. We would expect that banks with higher credit exposure to the crisis countries should be affected more severely than banks with no or low credit exposure. In order to test this empirically, we consider all banks that were subject of the 2011 EU-wide stress test that was conducted by the European Banking Authority (EBA) and that are listed on the stock market. Our sample includes 53 banks from 19 countries in the EU including non-Eurozone banks. Table 8 in the appendix provides on overview together with some balance sheet information of those banks.

The variable describing exposure we use is "Total Exposure at Default" (EAD) as provided by the EBA Stress Test Results 2011 with the information code "33021". Those include exposure "for securitisation transactions, counterparty credit risk, sovereigns, guaranteed by sovereigns, public sector entities, central banks, equities, etc." (EBA 2011). We scale this exposure variable by dividing it by "Total Assets" (information code "30029").[9]

In a different specification that we do not report here due to limitations with regard to space, we also use Sovereign Exposure (Gross Direct Long Positions, information code "34010"), but did not find any significant and robust results.

At a first glance, descriptive evidence in Table 25 seems to support our hypothesis from before that exit risk affects those banks that have the highest credit exposure most. Credit risk

[9] "Total assets after the effects of mandatory restructuring plans publicly announced and fully committed and equity raised and fully committed by 30 April 2011" (EBA 2011). Because the credit risk exposure data we use relates to December 31st 2010, we obtain a ratio EAD/Total Assets of greater than 100% as it is the case for Italian credit risk exposure of Unione de Banche Italiane SpA,

exposure to Greece relative to total assets for the three Portuguese banks in our sample is about 2.57% on average, whereas it is only about 0.17% for all other banks that are neither from Greece, Cyprus or Portugal. Spanish banks also have a significantly higher credit risk exposure to Portugal than all other (excluding Portuguese) banks in our sample: 1.45% vs. 0.14% on average. Next, we want to test our hypothesis more analytically.

In order to investigate the relevance of bilateral asset claims (as measured using holdings of sovereign bonds and credit claims) for the exposure to Eurozone exit risk of the GIIPS countries, we conduct a two-step regressions approach. In the first step, we run time-series regressions for each of the 53 banks in our sample and each of the five GIIPS countries, where individual bank stock returns of all banks (excluding country j) are regressed on exit risk of country j:

$$ret_{i,t}^{bank} = \alpha_{i,t} + \beta_{exit\ risk,i,j}\,\Delta exit\ risk_{j,t} + \sum_{l=1}^{k} \beta_{l,i,t}\,X_{l,t} + \varepsilon_{i,t}$$

where $\sum_{l=1}^{k} X_{l,t}$ represents a set of control variables (ΔVSTOXX, return of the respective home country stock index, Δ sovereign yield spread of the respective country, first principal component of the returns of GIIPS countries' bank indices and Δ of sovereign yield spreads).

For the second-stage regression approach, we use the resulting exposures to eurozone exit risk, $\beta_{exit\ risk,i,j}$ as the dependent variable in a cross section framework. As potential determinants of bilateral eurozone exit risk exposures we consider bank-specific variables such as the credit risk exposure to the GIIPS countries and other controls such as proxies for size (log assets), risk structure (risk-weighted assets to total assets) and capital-adequacy (Tier 1 capital to risk-weighted assets):

$$\beta_{exit\ risk,i,j} = \alpha + \beta_{EAD,j}\,EAD_{ij} + \sum_{l=1}^{k} \beta_l\,X_l + \varepsilon_{i,j}$$

For each of those cross sectional regressions, we exclude the banks residing in the country j whose exit risk we use as dependent variable to avoid possible problems of endogeneity due to the link of banking sector stability and exit risk and to ensure that our results are not driven by extreme outliers. For Greece, we also exclude banks from Cyprus due to the close financial link between those two countries. Since the cross-sectional dimension is rather limited, results from those regressions have to be seen with caution, but can still provide some worthy insights.

The results from the regressions are shown in Table 9 - Table 13.We estimated a variety of different specifications, including various control variables in both, the first and the second stage. Due to limitations with respect to space, we only report results from selected specifications. Specifications (1) – (2) relate to regressions where we did not include any control variables at all in the first stage, Specifications (3) – (4) to those regressions where we included all control variables[10].

For all GIIPS countries except for Italy, we find evidence for a significant relation between the credit risk exposure as measured by EAD/Total Assets and the $\beta_{exit\ risk,j}$ we estimated in the first stage. Stock returns of banks that have higher credit risk exposure react more sensitively to exit risk of the respective country, i.e. they are more negatively affected if exit risk rises. Effects are particularly strong for the subsample from January 2008 to July 2012. Regarding the other bank-specific balance sheet characteristics we include in the second stage of those regressions, we can conclude that larger banks, i.e. banks with higher (log) total assets are affected more by eurozone exit risk. For Portuguese exit risk, bank returns respond more sensitively for less capitalized banks, i.e. banks with a lower ratio of Tier 1 Capital/Risk Weighted Assets.

[10] ΔVSTOXX, return of the respective home country stock index, Δ sovereign yield spread of the respective country, first principal component of the returns of GIIPS countries' bank indices and Δ of sovereign yield spreads

In the next step, we test whether we can attribute risk premia in bank stocks to eurozone exit risk of GIIPS countries. Therefore, we test whether the cross section of average returns of individual bank stocks can be explained by individual banks' exposure to exit risk:

$$ret_i^{bank} = \alpha + \beta_{1,j}\,\beta_{exit\ risk,i,j} + \sum_{l=1}^{k} \beta_l\, X_{l,i} + \varepsilon_i$$

The results are reported in Table 14 and Table 15 For the full sample period, we find that bank stocks with greater exposure to Irish exit risk, i.e. stocks for which we estimated a more negative $\beta_{exit\ risk,i,j}$ in the first stage, performed significantly better. The same is true for bank stocks with exposure to Italian exit risk, but this time only for the subsample period from 2008 to July 2012Investors who consider investing in European bank stocks demand risk premia when buying these stocks in order to be compensated for the risk of eurozone exit. Those results also reveal that exit risk premia of Greece, Portugal and Spain were not priced in bank stock returns.

4. Exposure to Eurozone Exit Risk in the Real Sector

4.1 Hypothesized company specific determinants of the exposure to Eurozone Exit Risk

Eurozone exit would be associated with a number of macroeconomic shocks including devaluation of the new domestic currency, disintegration of domestic capital markets, and changes in expected inflation and economic growth. Since these changes in the macroeconomic environment will affect the cash flows of companies, companies' stocks returns may be affected by exit risk. In the following, we investigate the exposure to eurozone exit risk at the individual company level and study company specific and sectoral characteristics that may determine this exposure.

Since we are not aware of existing studies investigating the impact of eurozone exit risk on the performance of single companies, we cannot lean on existing hypotheses how different companies react to exit risk. Given that the domestic currency would depreciate sharply after

exiting the eurozone, we lean on the literature investigating the impact of currency depreciations on stock performance of individual companies (e.g. Choi and Jay (1995); Forbes (2002a); Glen (2002)[11].

For our hypothesis formation with regard to the determinants of the impact of eurozone exit risk on individual company's stock performance, we follow Forbes (2002a) who lists six dimensions of company-specific variables that determine the impact of a (large) devaluation of the domestic currency on company-specific stock performance: output characteristics, foreign exposure, production structure, debt ratios, size and profitability. Depreciations of the local currency will give companies producing traded goods a relative cost advantage while this is not the case for companies producing nontraded goods. Thus the performance of companies producing traded goods should improve relative to that of companies producing nontraded goods. Second, companies with significant foreign sales would be expected to perform better following depreciations. Also, companies with a low intensity of capital relative to labor are expected to have better performance after a depreciation of the local currency. Forbes (2002a) further argues that devaluation particularly hurts companies with higher outstanding debt ratios since foreign debt would be appreciated. While Forbes (2002a) focuses on emerging market companies with high foreign debt ratios, our eurozone sample is largely populated by companies where funds are typically financed domestically. The redenomination of debt after euro exit would thus lead to a devaluation of outstanding debt. With regard to company size, Forbes (2002a) argues it is not a priori clear if larger companies are expected to be more or less affected by depreciations of the local currencies since multiple effects might counteract each other. For example, while larger companies are more likely to have access to better financing conditions, also during lending contractions and are more likely to hedge against currency risk,

[11] However, it must be kept in mind that this literature focuses mostly on emerging market economies where the drivers of a company's response to a devaluation of the local currency might be significantly different from those in eurozone membership countries.

they are also more likely to borrow heavily in foreign currencies and are therefore more exposed to negative balance sheet effects following depreciations. Also for company profitability, Forbes (2002a) does not state a clear hypothesis regarding the sign of the impact of a local currency devaluation since various effects might against each other.

4.2 Results

Our sample consists of 333 stocks from Greece, Ireland, Italy, Portugal and Spain. We include all stocks included in the DATASTREAM sector indices.[12] We begin our analysis by looking at the whole sample of stocks from the five GIIPS countries by estimating the following panel regressions with company fixed effects and robust standard errors:

$$ret_{i,j,s,t} = \alpha_i + \beta_{exit\ risk}\,\Delta\ exit\ risk_{j,t} + \sum_{l=1}^{k} \beta_l\, X_{l,j,t} + \sum_{n=1}^{m} \beta_n\, Z_{n,t} + \varepsilon_{i,j,s,t}$$

We regress the stock return of company i from country j and industry s on the change in eurozone exit risk of the respective country as well as on a set of country-specific control variables (return of the home stock market and the change in the sovereign yield spread) and a set of control variables for the whole eurozone (return of the DATASTREAM EMU sector index of the respective industry, the change in VSTOXX and the return of the EUR/USD-exchange rate).

As can be seen inTable 16, we do not find a significant impact of eurozone exit risk on individual company's stock performance if we look at the whole sample of companies. This supports our notion stated above that it is not a priori clear whether companies will be positively or negatively affected by eurozone exit risk. While the effect might be significantly positive for

[12] For the analysis in this section, we exclude Financials for several reasons. First, we already studied them in chapter 3. Second, the theoretical channels how exit risk affects companies from the real sector might be quite different from those from the financial sector as we explained in the previous section. Third, financials might act as outliers with regard to certain company-specific factors such as the ratio of total debt to total asset and therefore might have a substantial impact on the results of this analysis.

some companies, it might be significantly negative for others, so that the aggregate effect becomes insignificant.

Exposure to eurozone exit risk may be heterogeneous across different industries. Therefore, we deepen our analysis in the next step by estimating the same equation as above for each panel of stocks within the same industry. We use the FTSE/DJ Industry Classification Benchmark (ICB) in order to assign each stock to one of the nine following industries: Basic Materials, Consumer Goods, Consumer Services, Health Care, Industrials, Oil and Gas, Technology, Telecommunications and Utilities.

The results are displayed in Table 17 to Tabel 25. While for six out of the nine industries, no exposure to eurozone exit risk is detected, we find that Health Care and Telecommunications stocks are significantly negatively affected by eurozone exit risk, while Oil and Gas stocks are significantly positively affected by increases in eurozone exit risk. Companies from the Oil and Gas industry in our sample are quite different from those from the Telecommunications industry with regards to the amount of foreign sales: On average, for Oil and Gas companies the Foreign Sales to Total Sales ratio equals 55.1% (the highest value across all industries), while this ratio is only 26.93% for companies from the Telecommunications industry. Also, 75% of all Oil and Gas companies are classified as primarily producing tradable goods following the Forbes (2002b) classification (compared to 47.95% for all companies across industries) while this is not the case for a single company from the Telecommunications industry. This evidence seems to support our hypotheses stated above. In general, one might expect the Oil and Gas industry to be one of the major winner industries in the case of a eurozone exit since it exports mostly commodities denominated in U.S. dollars which would result in increased local currency revenues after the deprecation of the newly introduced currency following eurozone exit. On the other hand, the Telecommunications industry is a key example of an industry with low foreign exposure and thus limited potential for economic gains following eurozone exit. Given the only limited upside of the domestic currency value of cash flows in the Telecommunication

industry, devaluation of the new domestic currency would lead to a depression of the euro/dollar value of the cash flows, which would explain why rising exit risk significantly lowers returns of those stocks. With regards to the Health Care industry, the fact that stocks respond significantly negatively to increases in exit risk cannot be explained by its foreign exposure which is about the same magnitude than for all other companies This industry, however is special with regards to two other measures: it is (after Technology) the most labour-intense industry with a ratio of Total Assets/Total Employees of 299.15 U.S. dollars compared to 916.21 U.S. dollars on average over all other industries and it has a lower ratio of total debt to total assets (27.34% compared to 31.36% over all other industries). A potential explanation for the negative exposure to euro exit risk may be a disproportionately high reliance on public funding in the Health industry. As disruptions in sovereign solvency are likely after eurozone exit, companies in the Heath Care industry may be also be hit by disruptions in revenues. Of course, it might be industry-specific factors other than those we can measure directly by the data we have that explain while companies from the Health Care industry respond negatively to increases in eurozone exit risk.

In the next step, we aim to explain the company specific exposure to eurozone exit risk by company-specific factors, even after controlling for industry membership. Therefore, we follow a two-stage estimation strategy similar to that we used for the stocks of European banks in Section 3.2. In the first step, we regress the return of stock i from country j and sector s on the change in the home country's exit risk together with the same set of control variables as stated above (return of the home stock market, change in the sovereign yield spread, return of the DATASTREAM EMU sector index of the respective industry, change in VSTOXX and the return of the EUR/USD-exchange rate).

$$ret_{i,j,s,t} = \alpha_{i,j,s} + \beta_{exit\ risk,i,j,s}\,\Delta exit\ risk_{j,t} + \sum_{l=1}^{k} \beta_{l,i,j,s}\,X_{l,j,t} + \sum_{n=1}^{m} \beta_{n,i,j,s}\,Z_{n,t} + \varepsilon_{i,j,s,t}$$

By running these time-series regressions for each of the 415 stocks in our sample, we obtain one estimate of $\beta_{exit\ risk,i,j,s}$ for each stock. In the next step, we explain the cross-section of estimated $\beta_{exit\ risk,i,j,s}$ by a set of company-specific variables using country and industry fixed effects:

$$\beta_{exit\ risk,i,j,s} = \mu_j + \gamma_s + \sum_{l=1}^{k} \beta_l X_{l,i} + \varepsilon_{i,j,s}$$

We check whether the six variables suggested by Forbes (2002a) have explanatory power for the impact of eurozone exit risk on individual company's stock performance even with respect to within-industry and within-country heterogeneity. The results are summarized in Table 26. Descriptive evidence and sources of the company-specific variables used are displayed in Table 27.

After controlling for country and industry fixed effects, we find that the ratio of total debt to total assets is the only variable that can explain why companies respond differently to eurozone exit risk. Companies which are more heavily indebted respond less negatively, respectively more positively, to increased eurozone exit risk of their home country. As the majority of debt in eurozone countries is originated in euros, redenomination of the company debt into the new national currency after eurozone exit and the subsequent inflationary environment would effectively reduce the debt burden of companies. Highly indebted companies may therefore benefit most from eurozone exit.

5. Conclusion

We introduce a novel approach to identify the risk of a single country leaving the eurozone as assessed by investors of American Depositary Receipts (ADRs). As a proxy for investors' mistrust in eurozone membership, we look at the fraction of ADR returns that is explained by the first principal component of the underlying country's sovereign yield spread, returns of its bank index and volatility of its stock indices. We believe that our approach to identify eurozone

exit risk is superior to yet existing approaches because it is less restricted with respect to its applicability and because doubts with regard to liquidity should be of minor concern.

Our dataset consists of 143 ADRs from eight eurozone countries: France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain over the time period from January 2008 to June 2015. We find that our exit risk measure is significantly higher over the whole sample period for the GIIPS countries than for the non-GIIPS countries which we include as a placebo test.

Next, we study how stocks of European banks were affected by eurozone exit risk. We find that banks with higher credit risk exposure to the respective country are more adversely affected by its exit risk. We also find evidence for significant risk premia in returns of European bank stocks with respect to the exit risk of Greece, Ireland and Italy.

Third, we look at the impact of eurozone exit risk on the real sector in the GIIPS countries. We find that companies from the Health Care and Telecommunications industries respond significantly negatively to increases in exit risk, while companies from the Oil and Gas industry respond significantly positively. Also, more highly indebted companies tend to respond more positively.

Appendix:

Table 1: Resulting eigenvectors from the principal component analysis

Country	λ_{SMV_j}	$\lambda_{\Delta Bank_j}$	$\lambda_{\Delta Sov}$	KMO	Observations
France	0.43	-0.68	0.59	0.52	2,034
Germany[13]	0.38	-0.68	0.63	0.52	1,927
Greece	0.54	-0.67	0.52	0.52	1,945
Ireland	0.29	-0.69	0.67	0.51	1,942
Italy	0.31	-0.68	0.66	0.52	1,981
Netherlands	0.54	-0.68	0.50	0.52	2,023
Portugal	0.39	-0.69	0.61	0.51	2,032
Spain	0.31	-0.69	0.65	0.51	1,994

Table 2: Averages of resulting eigenvectors from the principal component analysis using a rolling window of 500 trading days

Country	$\emptyset\ \lambda_{SMV_{j,t}}$	$\emptyset\ \lambda_{\Delta Bank_{j,t}}$	$\emptyset\ \lambda_{\Delta Sov}$	$\emptyset\ KMO_t$	ρ[14]
France	0.40	-0.68	0.59	0.52	0.94
Germany[11]	0.42	-0.68	0.56	0.51	0.82
Greece	0.40	-0.49	0.59	0.51	0.71
Ireland	0.21	-0.67	0.65	0.51	0.95
Italy	0.33	-0.67	0.65	0.54	0.93
Netherlands	0.44	-0.68	0.55	0.51	0.92
Portugal	0.41	-0.67	0.61	0.52	0.83
Spain	0.30	-0.68	0.64	0.52	0.92

Table 3: Variables used in the first-stage regressions and their sources

Variable	Description	Source
$ret_{i,j,t}^{ADR}$	Daily log return of American Depositary Receipt.	Thomson Reuters Tick History
$ret_{i,j,t}^{UND}$	Daily log return of the underlying stock.	Thomson Reuters Tick History
ret_t^S	Daily log return of the EUR/USD exchange rate.	Thomson Reuters Tick History
$exit\ risk\ driver_{j,t}$	Country specific market-based measure of eurozone exit risk. Calculated using PCA as described in 2.1..	Own calculation.
$ret_t^{S\&P\ 500}$	Daily log return of the S&P 500.	Thomson Reuters Tick History

[13] Since the sovereign yield spread is zero by definition for Germany, for use data from CDS with ten years maturity instead.

[14] Correlation between the principal components resulting from the time-invariant approach used for further analysis in the paper and the principal components resulting from a rolling window of 500 trading days.

Table 4: ADRs in our sample by country

Name_ADR	First day	Last day
France		
Air France-KLM SA 1:1	02/11/2008	06/30/2015
Air Liquide SA 5:1	10/28/2008	06/30/2015
Airbus Group SAS 4:1	01/03/2014	06/30/2015
Alcatel-Lucent SA 1:1	01/03/2009	06/30/2015
Alstom SA 10:1	01/06/2011	06/30/2015
Arkema SA 1:1	07/07/2010	06/30/2015
AXA SA 1:1	01/03/2008	06/30/2015
BNP Paribas SA 2:1	10/28/2008	06/30/2015
CAP Gemini SA 2:1	10/28/2008	06/30/2015
Carrefour SA 5:1	01/14/2009	27/05/2011
CGG SA 1:1	02/06/2013	06/30/2015
Compagnie de St. Gobain SA 5:1	10/03/2014	06/30/2015
Crédit Agricole SA 2:1	01/09/2009	06/30/2015
Danone SA 5:1	05/06/2009	06/30/2015
Dassault Systèmes SA 1:1	10/28/2008	06/30/2015
DBV Technologies SA 1:1	10/23/2014	06/30/2015
Électricité de France SA 5:1	07/01/2009	06/30/2015
Essilor International SA 2:1	10/28/2008	06/30/2015
Hermes International 10:1	01/04/2011	06/30/2015
Ingenico Group 5:1	04/04/2014	06/30/2015
Ipsen Group 4:1	04/24/2012	06/30/2015
Kering SA 10:1	04/23/2013	06/30/2015
L'Oreal SA 5:1	10/28/2008	06/30/2015
Lafarge SA 4:1	10/28/2008	06/30/2015
LVMH SE 5:1	10/28/2008	06/30/2015
Michelin SCA 5:1	01/08/2009	06/30/2015
Orange SA 1:1	07/02/2013	06/30/2015
Pernod-Ricard SA 5:1	04/11/2012	06/30/2015
Publicis Groupe SA 4:1	10/28/2008	06/30/2015
Renault SA 1:1	01/05/2015	06/30/2015
Safran SA 1:1	07/01/2011	06/30/2015
Sanofi SA 2:1	01/03/2008	06/30/2015
Schneider Electric SA 5:1	01/07/2009	06/30/2015
SCOR SE 10:1	01/05/2009	06/30/2015
Société Générale SA 5:1	10/28/2008	06/30/2015
Sodexo SA 5:1	01/07/2009	06/30/2015
STMicroelectronics N.V. 1:1	01/03/2008	06/30/2015
Suez Environnement SA 2:1	01/06/2009	06/30/2015
Technip SA 4:1	10/28/2008	06/30/2015
Total SA 1:1	01/03/2008	06/30/2015
Ubisoft Entertainment SA 5:1	10/01/2013	06/30/2015
Valeo SA 2:1	10/28/2008	06/30/2015
Vallourec SA 5:1	10/12/2011	06/30/2015
Veolia Environnement SA 1:1	01/03/2008	06/30/2015
Vinci SA 4:1	10/28/2008	06/30/2015
Vivendi SA 1:1	01/05/2009	06/30/2015
Germany		
Adidas AG 2:1	10/28/2008	06/30/2015
AIXTRON SE 1:1	01/03/2008	06/30/2015
Allianz SE 10:1	10/27/2009	06/30/2015
BASF SE 1:1	10/28/2008	06/30/2015
Bayer AG 1:1	10/28/2008	06/30/2015
BMW AG 3:1	01/05/2009	06/30/2015
Celesio AG 5:1	01/05/2009	06/26/2013
Commerzbank AG 1:1	10/28/2008	06/30/2015
Continental AG 5:1	01/07/2014	06/30/2015
Daimler AG 1:1	04/04/2011	06/30/2015
Deutsche Lufthansa AG 1:1	10/28/2008	06/30/2015

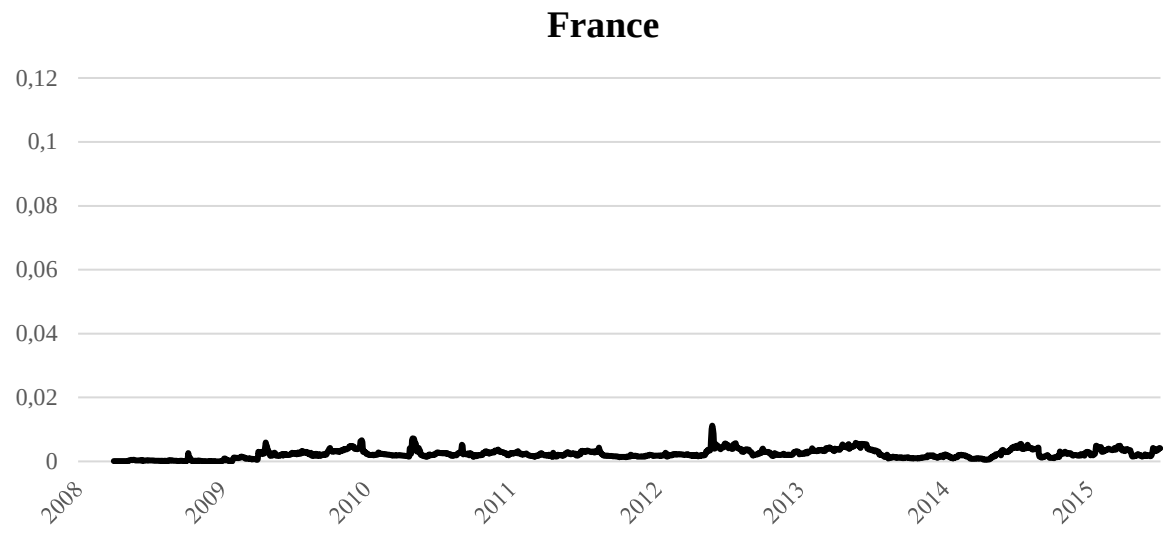
Table 4 (continued): ADRs in our sample by country

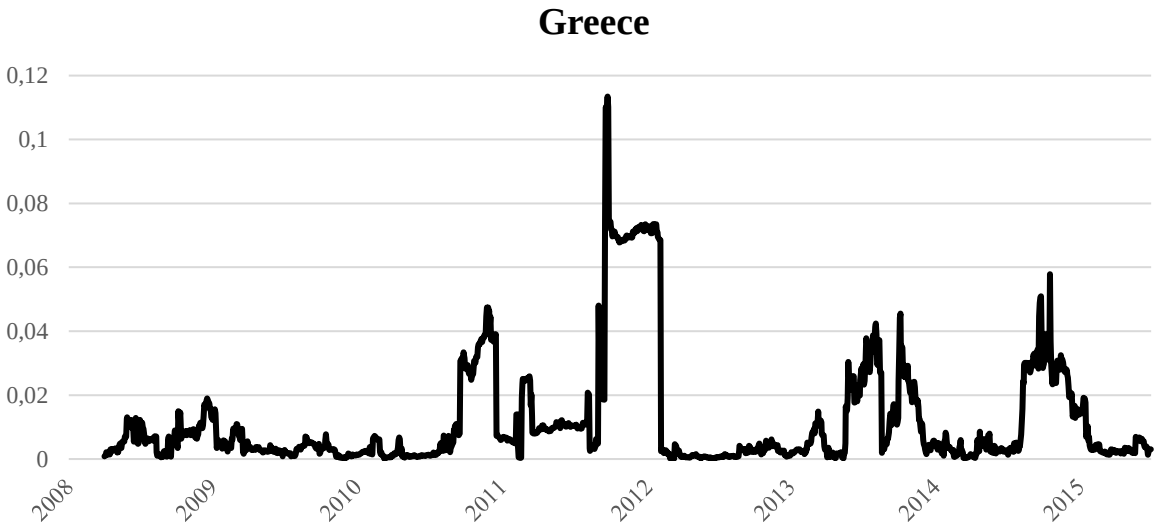
Deutsche Post AG 1:1	01/05/2010	06/30/2015
Deutsche Telekom AG 1:1	07/01/2010	06/30/2015
Deutsche Börse AG 10:1	01/07/2009	06/30/2015
E.ON SE 1:1	10/28/2008	06/30/2015
Fresenius Medical Care AG & Co. KGaA 2:1	01/03/2009	06/30/2015
Fuchs Petrolub SE 4:1	04/01/2014	06/30/2015
GEA Group AG 1:1	04/04/2012	06/30/2015
Hannover Rück SE 2:1	10/28/2008	06/30/2015
HeidelbergCement AG 5:1	01/10/2012	06/30/2015
Henkel AG & Co. KGaA 1:1	10/28/2008	06/30/2015
Infineon Technologies AG 1:1	04/27/2009	06/30/2015
K + S AG 2:1	10/01/2010	06/30/2015
Linde AG 10:1	04/01/2010	06/30/2015
MAN SE 10:1	10/08/2009	09/29/2011
Merck KGaA 3:1	10/29/2008	06/30/2015
Metro Group 5:1	10/01/2013	06/30/2015
Munich Re AG 10:1	10/29/2008	06/30/2015
Porsche AG 10:1	10/07/2009	06/30/2015
ProSiebenSat.1 Media SE 4:1	07/22/2014	06/30/2015
Rheinmetall AG 5:1	04/02/2014	06/26/2015
RWE AG 1:1	10/28/2008	06/30/2015
Salzgitter AG 10:1	04/07/2010	06/14/2013
SAP SE 1:1	01/03/2008	06/30/2015
Siemens AG 1:1	01/03/2008	06/30/2015
Symrise AG 4:1	01/16/2009	06/30/2015
Greece		
Alpha Bank AE 4:1	10/30/2008	06/30/2015
Coca-Cola Hellenic 1:1	01/03/2008	03/28/2013
Eurobank Ergasias SA 2:1	04/14/2014	06/30/2015
Hellenic Telecommunications Organization SA 2:1	01/03/2008	06/30/2015
National Bank of Greece 1:1	01/03/2008	06/30/2015
Piraeus Bank SA 1:2	01/17/2014	06/30/2015
Ireland		
Allied Irish Banks plc 1:10	08/29/2011	08/14/2014
Bank of Ireland plc 1:40	01/03/2008	02/13/2015
C&C Group plc 1:3	07/02/2012	06/30/2015
CRH plc 1:1	01/03/2008	06/30/2015
Ryanair plc 1:5	01/03/2008	06/30/2015
Smurfit Kappa Group plc 1:2	07/03/2014	06/30/2015
Italy		
Atlantia S.p.A. 2:1	01/25/2011	06/30/2015
Danieli S.p.A. 1:1	04/08/2013	06/19/2015
Enel S.p.A. 1:1	10/28/2008	06/30/2015
Eni S.p.A. 1:2	01/03/2008	06/30/2015
Finmeccanica S.p.A. 2:1	04/16/2010	06/30/2015
GTECH S.p.A. 1:1	10/22/2013	09/18/2014
Intesa Sanpaola S.p.A. 1:6	10/28/2008	06/30/2015
Italcementi S.p.A. 1:1	10/28/2008	06/30/2015
Luxottica S.p.A. 1:1	01/03/2008	06/30/2015
Mediaset S.p.A. 1:3	10/28/2008	12/30/2010
Mediolanum S.p.A. 2:1	10/11/2013	06/30/2015
Saipem S.p.A. 2:1	04/01/2010	12/22/2014
Telecom Italia S.p.A. 1:10	01/03/2008	06/30/2015
Terna S.p.A. 1:3	04/08/2013	06/30/2015
Netherlands		
AEGON NV 1:1	01/03/2008	06/30/2015
Koninklijke Ahold NV 1:1	10/28/2008	06/30/2015
Akzo Nobel NV 3:1	10/28/2008	06/30/2015
Aperam SA 1:1	01/31/2011	06/30/2015
ArcelorMittal SA 1:1	01/03/2008	06/30/2015

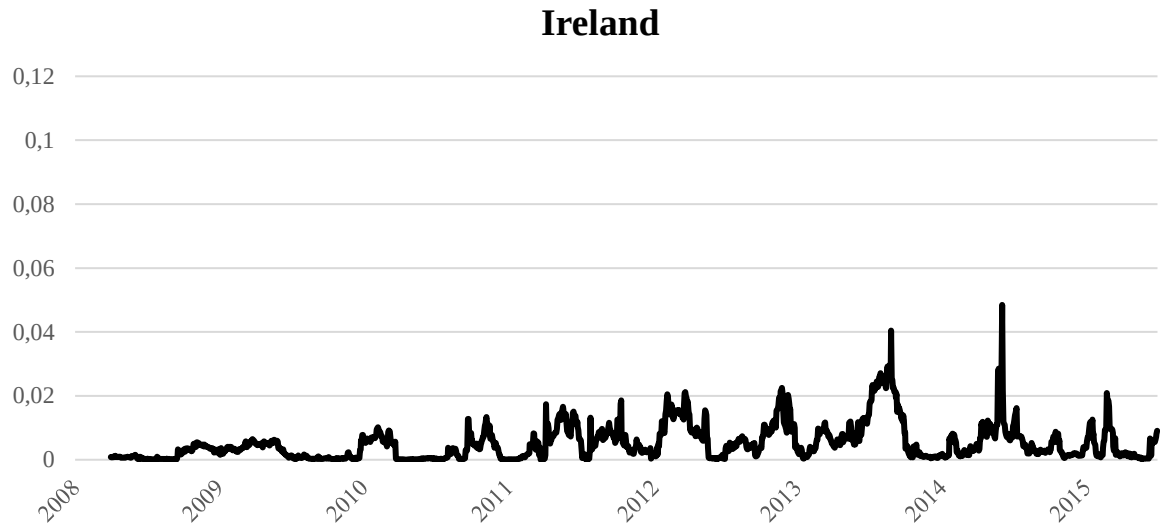
Table 4 (continued): ADRs in our sample by country

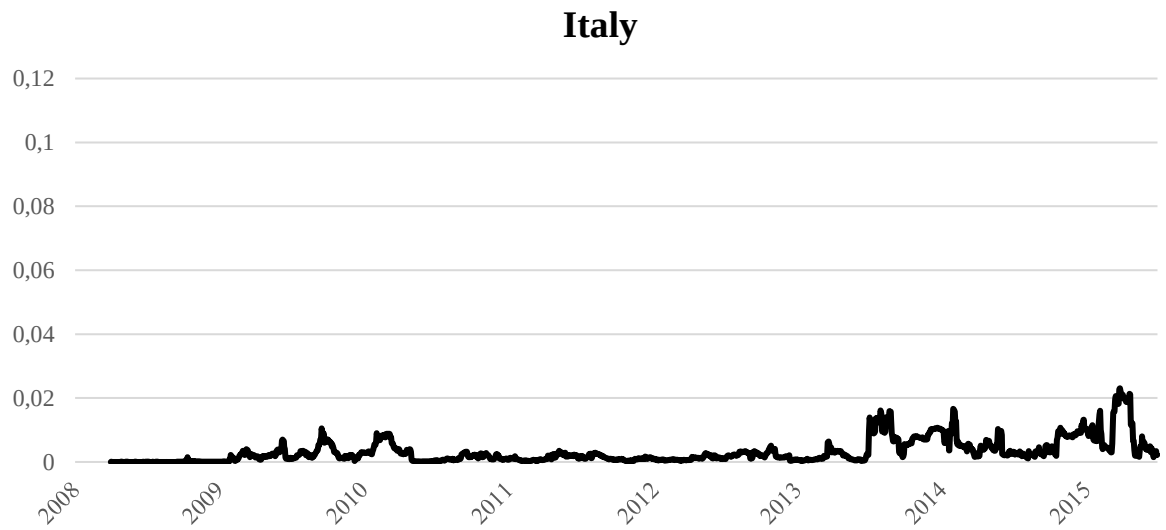
ASML Holding NV 1:1	01/03/2008	06/30/2015
Gemalto NV 2:1	05/06/2013	06/30/2015
Heineken NV 2:1	01/03/2013	06/30/2015
ING Groep NV 1:1	01/03/2008	06/30/2015
Koninklijke Philips NV 1:1	01/03/2008	06/30/2015
PostNL NV 1:1	01/04/2012	06/30/2015
Koninklijke DSM NV 4:1	10/28/2008	06/30/2015
Royal Dutch Shell plc 1:2	01/03/2008	06/30/2015
Royal KPN NV 1:1	10/28/2008	06/30/2015
TNT Express NV 1:1	07/07/2011	06/30/2015
Unilever NV 1:1	01/03/2008	06/30/2015
Wolters Kluwer NV 1:1	10/28/2008	06/30/2015
Portugal		
Energias de Portugal SGPS SA 10:1	10/28/2008	06/30/2015
Galp Energie SGPS SA 2:1	01/05/2015	06/30/2015
Jerónimo Martins SGPS SA 1:2	07/03/2013	12/19/2014
Pharol SGPS SA 1:1	01/03/2008	06/30/2015
Spain		
Abengoa SA 2:1	10/21/2013	06/30/2015
Amadeus IT Group SA 1:1	04/02/2012	06/30/2015
Banco Santander SA 1:1	01/03/2008	06/30/2015
BBVA SA 1:1	01/05/2010	06/30/2015
Enagás SA 2:1	04/02/2012	06/30/2015
Gas Natural SDG SA 5:1	01/05/2015	06/30/2015
Grifols SA 1:1	06/03/2011	06/30/2015
Iberdrola SA 1:4	10/28/2008	06/30/2015
Indra Sistemas SA 2:1	04/11/2011	06/30/2015
Inditex SA 2:1	07/01/2010	06/30/2015
PRISA SA 1:1	01/04/2011	09/22/2014
Red Eléctrica de España SA 5:1	10/01/2012	06/30/2015
Repsol SA 1:1	04/01/2011	06/30/2015
Telefónica SA 1:1	01/03/2008	06/30/2015

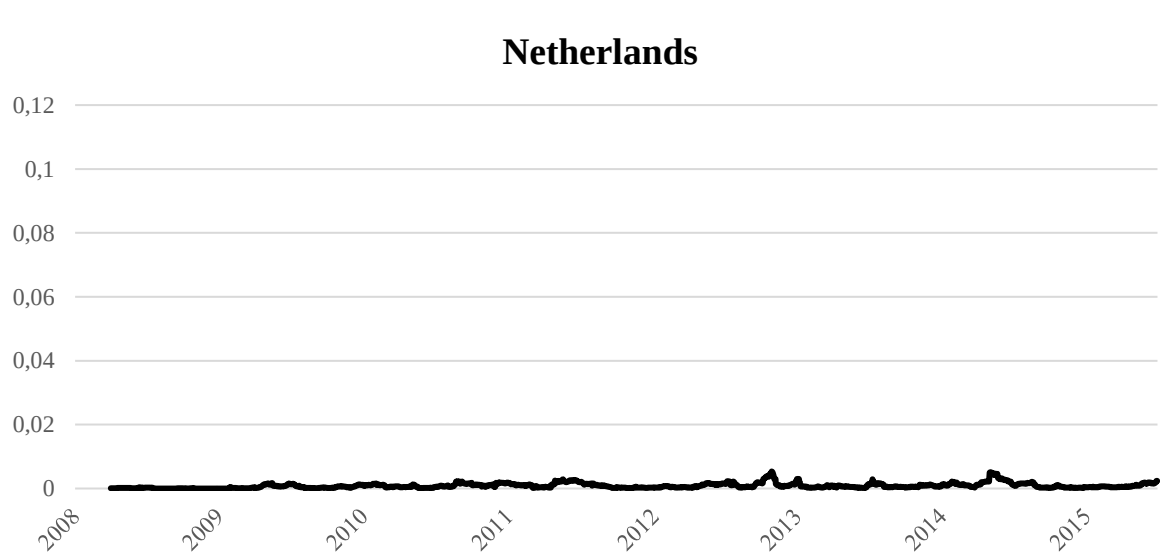
Figure 1 - 8: Eurozone Exit risk by country






Ireland
0,12
0,1
0,08
0,06
0,04
0,02
0
2008
2009
2010
2011
2012
2013
2014
2015


Italy
0,12
0,1
0,08
0,06
0,04
0,02
0
2008
2009
2010
2011
2012
2013
2014
2015


Netherlands
0,12
0,1
0,08
0,06
0,04
0,02
0
2008
2009
2010
2011
2012
2013
2014
2015

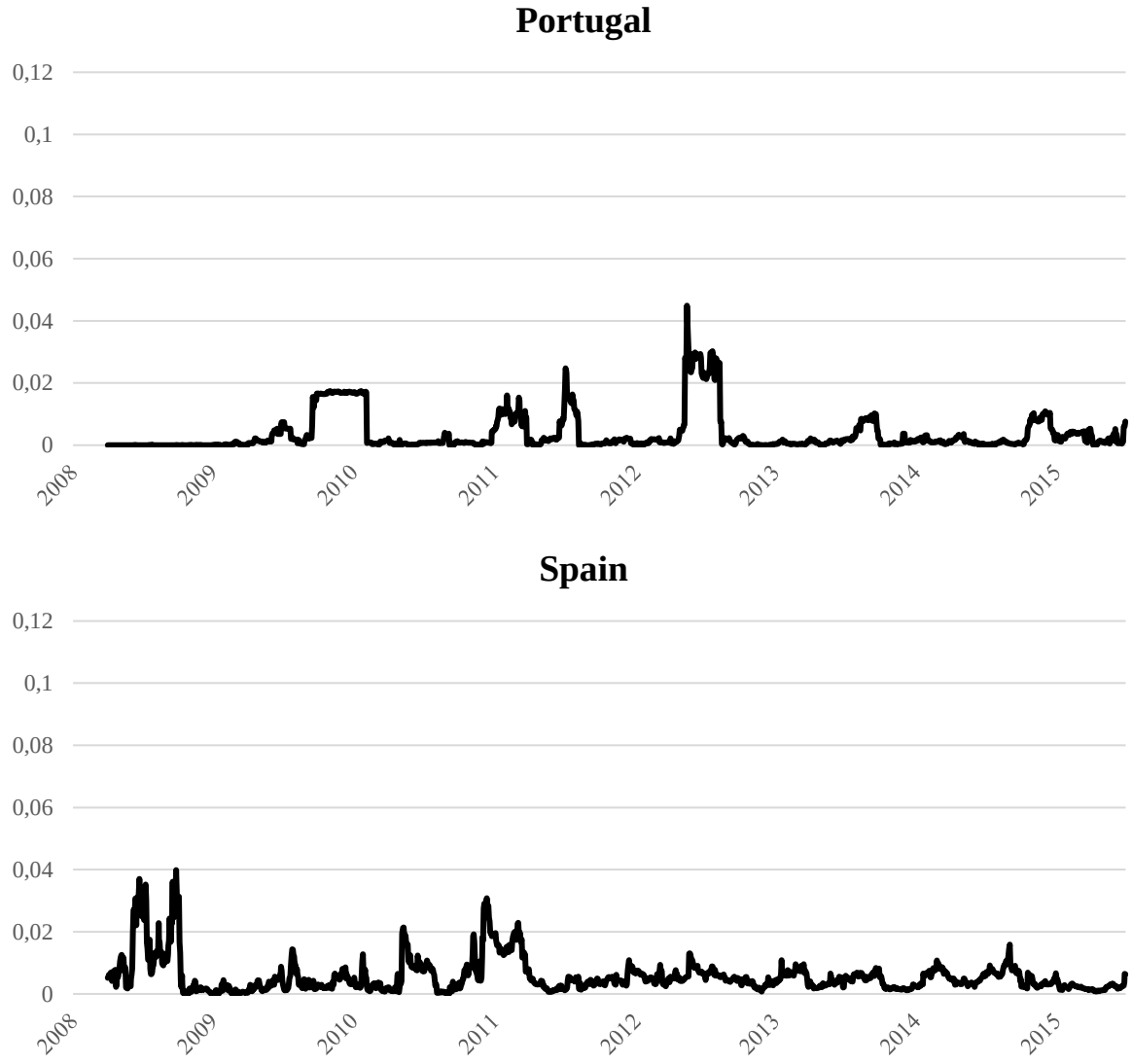

Portugal
0,12
0,1
0,08
0,06
0,04
0,02
0
2008
2009
2010
2011
2012
2013
2014
2015
Spain
0,12
0,1
0,08
0,06
0,04
0,02
0
2008
2009
2010
2011
2012
2013
2014
2015

Table 5: Results from pooled OLS with country dummies using robust standard errors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Greece	0.00951***					0.01010***				
	(0.000452)					(0.000452)				
Ireland		0.00270***				0.00357***				
		(0.000184)				(0.000183)				
Italy			0.00078***			0.00168***				
			(0.000108)			(0.000105)				
Portugal				0.00064***		0.00160***				
				(0.000154)		(0.000153)				
Spain					0.00215***	0.00295***				
					(8.66e-05)	(8.37e-05)				
GIIPS							0.00354***			
							(0.000117)			
France								-0.00080***		
								(4.62e-05)		
Germany									-0.00121***	
									(4.56e-05)	
Netherlands										-0.00249***
										(3.61e-05)
Constant	0.00267***	0.00294***	0.00298***	0.00304***	0.00288***	0.00208***	0.00237***	0.00332***	0.00336***	0.00340***
	(1.96e-05)	(2.66e-05)	(2.73e-05)	(2.69e-05)	(2.79e-05)	(1.69e-05)	(1.74e-05)	(3.72e-05)	(3.42e-05)	(3.07e-05)
Observations	167,469	167,469	167,469	167,469	167,469	167,469	167,469	167,469	167,469	167,469
R^2	0.030	0.002	0.000	0.000	0.003	0.040	0.016	0.001	0.002	0.006
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Results are obtained by regressing the eurozone exit risk measures by ADR on country dummies using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Regressions of the return of selected Bank Indices. Full sample: 01/01/2008 – 06/30/2015

	Greece	**Ireland**	**Italy**	**Portugal**	**Spain**	**EUROSTOXX Banks**
Δ Exit risk Greece	-0.1072	-0.1888	-0.0503	-0.1858*	-0.0237	0.1162
	(0.2333)	(0.2265)	(0.0646)	(0.1030)	(0.0703)	(0.0926)
Δ Exit risk Ireland	0.6041	-0.1055	0.0255	0.0427	0.0333	-0.1771
	(0.5629)	(0.3413)	(0.0950)	(0.3218)	(0.0797)	(0.1221)
Δ Exit risk Italy	4.4455	0.0639	0.0503	-0.7358	0.2850	-0.0430
	(5.3941)	(0.5551)	(0.1759)	(0.5121)	(0.1787)	(0.3115)
Δ Exit risk Portugal	0.2672	-0.4120	-0.0594	-0.4177	-0.3724**	-0.1022
	(0.8875)	(0.4450)	(0.1533)	(0.3450)	(0.1759)	(0.2371)
Δ Exit risk Spain	-0.4990	0.8677	0.0408	-0.1270	0.0380	-0.5404**
	(0.4775)	(0.5801)	(0.1211)	(0.3622)	(0.1638)	(0.2350)
Return stock market	1.7089***	1.7702***	1.0752***	1.4313***	1.0129***	0.4284***
	(0.0557)	(0.0886)	(0.0310)	(0.0883)	(0.0310)	(0.0699)
Δ Sovereign spread	0.0014	-0.0195	-0.0161***	-0.0054	-0.0040	
	(0.0013)	(0.0128)	(0.0040)	(0.0058)	(0.0031)	
Return exchange rate	-0.0147	0.3269**	-0.0008	-0.0295	0.0260	0.0144
	(0.1098)	(0.1645)	(0.0354)	(0.0799)	(0.0331)	(0.0491)
Δ VSTOXX	0.0025***	0.0039***	0.0010***	0.0028***	0.0004**	0.0001
	(0.0007)	(0.0006)	(0.0002)	(0.0004)	(0.0002)	(0.0003)
Return EUROSTOXX Banks	0.2473*	0.3679***	0.1892***	0.1515***	0.2223***	
	(0.1497)	(0.0829)	(0.0230)	(0.0487)	(0.0224)	
Return bank GIIPS	-0.0022	-0.0000	0.0008**	0.0018**	0.0008***	0.0087***
	(0.0016)	(0.0010)	(0.0003)	(0.0008)	(0.0003)	(0.0006)
Δ Sovereign spread GIIPS	-0.0001	0.0003	0.0004*	-0.0019***	0.0006***	-0.0015***
	(0.0007)	(0.0007)	(0.0002)	(0.0006)	(0.0002)	0.0087***
Constant	0.0012	-0.0007	0.0001	-0.0015***	0.0001	-0.0004
	(0.0018)	(0.0008)	(0.0002)	(0.0005)	(0.0002)	(0.0003)
Observations	1,404	1,407	1,408	1,404	1,408	1,413
R^2	0.25	0.56	0.90	0.57	0.92	0.80
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00

Results are obtained by regressing the return of the respective bank indices on the change in eurozone exit risk by country and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 7: Regressions of the return of selected Bank Indices. Subsample: 01/01/2008 – 07/26/2012

	Greece	**Ireland**	**Italy**	**Portugal**	**Spain**	**EUROSTOXX Banks**
Δ Exit risk Greece	-0.0414	-0.2064	-0.0544	-0.1975***	-0.0007	0.1673
	(0.2524)	(0.3088)	(0.0812)	(0.0724)	(0.0908)	(0.1231)
Δ Exit risk Ireland	1.5265	-0.0247	0.0201	-0.0622	-0.0095	-0.4691
	(0.9996)	(1.0397)	(0.3114)	(0.6150)	(0.2335)	(0.4174)
Δ Exit risk Italy	-0.5909	-2.3202	0.6005	1.0241	0.1662	-0.6619
	(1.1714)	(2.8218)	(0.6600)	(1.1621)	(0.6678)	(1.3363)
Δ Exit risk Portugal	1.1179	-0.6772	-0.0239	-0.5320	-0.5018***	-0.2195
	(0.8145)	(0.5757)	(0.2077)	(0.4528)	(0.1852)	(0.3118)
Δ Exit risk Spain	-0.1953	1.0050	0.0989	-0.0915	-0.0131	-0.6792***
	(0.2611)	(0.6428)	(0.1287)	(0.3017)	(0.1781)	(0.2598)
Return stock market	1.6236***	1.8564***	1.0379***	1.0879***	1.0055***	0.3096***
	(0.0534)	(0.1030)	(0.0395)	(0.0919)	(0.0380)	(0.0765)
Δ Sovereign spread	0.0021*	-0.0242	-0.0157***	-0.0009	-0.0044	
	(0.0011)	(0.0148)	(0.0045)	(0.0074)	(0.0038)	
Return exchange rate	0.0767	0.2903	-0.0357	0.0101	-0.0005	-0.0293
	(0.0871)	(0.2363)	(0.0478)	(0.0870)	(0.0457)	(0.0674)
Δ VSTOXX	0.0014***	0.0042***	0.0009***	0.0020***	0.0004*	-0.0000
	(0.0004)	(0.0007)	(0.0002)	(0.0005)	(0.0002)	(0.0004)
Return EUROSTOXX Banks	0.0663	0.3791***	0.1818***	0.1155**	0.2075***	0.0103***
	(0.0607)	(0.1089)	(0.0274)	(0.0526)	(0.0276)	(0.0006)
Return bank GIIPS	-0.0006	-0.0006	0.0013***	0.0024***	0.0013***	-0.0015***
	(0.0008)	(0.0018)	(0.0005)	(0.0009)	(0.0004)	(0.0003)
Δ Sovereign spread GIIPS	-0.0007	0.0003	0.0003	-0.0021***	0.0005**	-0.0293
	(0.0006)	(0.0010)	(0.0003)	(0.0007)	(0.0002)	(0.0674)
Constant	0.0002	-0.0012	-0.0001	-0.0012*	0.0003	-0.0002
	(0.0007)	(0.0012)	(0.0003)	(0.0007)	(0.0003)	(0.0004)
Observations	798	799	800	796	800	801
R^2	0.80	0.58	0.90	0.57	0.92	0.81
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00

Results are obtained by regressing the return of the respective bank indices on the change in eurozone exit risk by country and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 8: List of Banks in our Sample

Bank	EBA Code	Total assets	RWA (%)	Tier 1 (%)	EAD (%)				
					GR	IE	IT	PT	ES
GIIPS									
Eurobank Ergasias SA	gr030	85,885	55.85	8.96	61.72	0.14	0.30	0.08	0.22
National Bank of Greece SA	gr031	118,832	57.48	11.94	58.05	0.03	0.04	0.02	0.00
Alpha Bank AE	gr032	66,798	73.30	10.77	69.12	0.04	0.03	0.02	0.02
Piraeus Bank SA	gr033	57,680	65.86	8.00	59.61	0.01	0.03	0.00	0.00
Agricultural Bank of Greece SA	gr034	31,221	40.47	6.27	80.82	0.01	0.03	0.00	0.00
TT Hellenic Postbank SA	gr035	16,783	39.40	18.50	86.42	0.00	0.00	0.00	0.00
Allied Irish Banks, plc	ie037	131,311	75.22	3.71	0.04	65.43	1.14	0.42	2.31
Bank of Ireland Group	ie038	156,712	53.52	8.39	0.12	43.96	0.57	0.24	1.25
Intesa Sanpaolo SpA	it040	576,962	57.57	7.88	0.16	0.21	72.47	0.27	1.14
UniCredit SpA	it041	929,488	48.94	7.85	0.00	0.00	41.12	0.00	0.00
Banca Monte dei Paschi de Siena SpA	it042	244,279	44.72	5.77	0.00	0.00	84.06	0.00	0.00
Banco Popolare Sc	it043	140,043	67.75	5.77	0.00	0.00	87.53	0.00	0.00
Unione de Banche Italiane SpA	it044	130,559	72.27	6.95	0.00	0.00	102.08	0.00	0.00
Banco Comercial Portugues SA	pt054	100,010	59.56	5.91	6.33	1.45	0.08	67.96	0.94
Banco Espirito Santo SA	pt055	85,644	83.04	6.35	0.00	0.00	0.00	65.22	8.00
Banco BPI SA	pt056	43,826	59.41	8.19	1.38	0.87	2.73	75.88	8.27
Banco Santander SA	es059	1,223,267	48.58	7.07	0.00	0.00	0.00	3.66	29.06
Banco Bilbao Vizcaya Argentaria SA	es060	540,936	57.92	7.96	0.00	0.32	0.11	1.69	70.01
Bankia SA	es061	327,930	61.14	6.91	0.00	0.00	0.00	0.00	84.93
Banco Popular Español SA	es064	129,183	73.17	7.09	0.00	0.00	0.00	6.29	93.65
Banco de Sabadell SA	es065	96,703	58.41	6.21	0.00	0.00	0.00	0.00	90.84
Bankinter SA	es069	53,476	57.90	6.20	0.00	0.00	0.00	0.00	93.95
Banca Civica SA	es071	71,055	64.87	8.00	0.00	0.00	0.00	0.00	93.65
Caja de Ahorros de Mediterraneo	es083	72,034	66.98	3.82	0.00	0.00	0.00	0.00	92.11
Averages GIIPS		226,276	60.14	7.69	17.66	4.69	16.35	9.24	27.93
Non GIIPS Eurozone									
Erste Group Bank AG	at001	205,938	58.53	8.72	0.46	0.15	1.01	0.12	0.44
Dexia SA	be004	548,135	25.69	12.07	0.91	0.00	9.11	1.03	6.07
KBC Groep NV	be005	276,723	40.45	10.46	0.20	6.59	2.20	0.08	1.05
Cyprus Popular Bank Public Co. Ltd.	cy006	42,580	64.88	7.29	43.88	0.23	1.12	0.51	0.64
Bank of Cyprus PCL	cy007	41,996	62.57	8.12	26.77	0.12	0.64	0.00	0.21
BNP Paribas SA	fr013	1,998,157	30.09	9.21	0.43	0.39	6.98	0.41	1.72
Crédit Agricole SA	fr014	1,503,621	37.35	8.24	1.80	0.45	5.56	0.21	0.99
Société Générale SA	fr016	1,051,323	32.71	8.09	0.63	0.44	1.99	0.12	1.29
Deutsche Bank AG	de017	1,905,630	18.19	8.76	0.19	0.96	2.14	0.22	1.69
Commerzbank AG	de018	771,201	34.69	9.99	0.59	0.01	2.49	0.56	2.52
Landesbank Berlin Holding AG	de027	133,861	26.34	14.64	0.37	0.91	2.58	0.21	2.85
Bank of Valetta plc	mt046	6,382	52.75	10.53	0.00	0.00	0.00	0.00	0.00
ING Groep NV	nl047	933,073	34.41	9.62	0.00	0.00	0.00	0.00	0.00
SNS Reaal Groep NV	nl050	78,918	26.99	8.36	0.00	0.00	0.19	0.00	0.67
Averages Non GIIPS Eurozone		730,089	37.92	9.51	5.86	0.79	2.77	0.27	1.55
Non Eurozone									
Danske Bank A/S	dk008	402,555	36.25	9.99	0.00	3.31	0.00	0.00	0.00
Jyske Bank A/S	dk009	32,752	43.02	12.06	0.19	0.00	0.00	0.00	0.00
Sydbank A/S	dk010	20,238	48.87	12.45	0.00	0.00	0.00	0.00	0.00
OTP Bank Nyrt	hu036	35,190	76.27	12.33	0.00	0.00	0.00	0.00	0.00
DNB ASA	no051	209,954	56.10	8.27	0.00	0.00	0.00	0.00	0.00
PKO Bank Polski SA	pl052	35,540	100.0	11.82	0.00	0.1	0.24	0.00	0.00
Nova Kreditna Banka Maribor dd	si058	0	-	7.40	-	-	-	-	-
Nordea Bank AB	se084	542,853	39.56	8.90	0.04	0.17	0.05	0.01	0.09
Skandinaviska Enskilda Banken AB	se085	212,240	40.82	11.09	0.03	0.20	0.08	0.03	0.38
Svenska Handelsbanken AB	se086	240,202	44.28	7.72	0.00	0.00	0.00	0.00	0.00
Swedbank AB	se087	191,365	44.08	8.72	0.00	0.01	0.00	0.00	0.00
Royal Bank of Scotland Group plc	gb088	607,351	100.0	9.71	0.58	10.58	1.74	0.28	3.84
HSBC Holdings plc	gb089	1,783,199	46.30	10.53	0.24	0.00	0.00	0.00	0.54
Barclays plc	gb090	1,725,709	26.72	10.03	0.01	0.24	1.52	0.73	2.55
Lloyds Banking Group plc	gb091	1,006,082	46.93	10.16	0.00	0.00	0.00	0.00	0.00
Averages Non Eurozone		432,793	53.55	10.13	0.07	0.94	0.33	0.07	0.52

Table 9: Results for the Cross Section of Estimated Betas: Greece

Greece	**Full Sample**				**Subsample**			
	(1)	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Credit Exposure/Assets	-4.317***	-3.916**	-3.454***	-3.203**	-4.646***	-4.187**	-5.112***	-4.510***
	(1.213)	(1.783)	(0.938)	(1.495)	(1.389)	(1.706)	(0.989)	(1.425)
Log(Total Assets)		-0.0552*		-0.0254		-0.0490		-0.0235
		(0.0276)		(0.0271)		(0.0311)		(0.0324)
RWA/Total Assets		-0.204		-0.226		0.00700		0.00771
		(0.223)		(0.206)		(0.225)		(0.152)
Tier 1/RWA		1.591		1.101		2.108		2.586
		(3.713)		(3.184)		(3.821)		(3.099)
Constant	-0.118***	0.530	0.0247	0.359	-0.101**	0.319	0.0562	0.118
	(0.0432)	(0.406)	(0.0365)	(0.389)	(0.0434)	(0.428)	(0.0371)	(0.416)
Observations	44	44	44	44	43	43	43	43
R^2	0.024	0.112	0.021	0.075	0.028	0.113	0.046	0.121
Prob > F	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00

Table 10: Results for the Cross Section of Estimated Betas: Ireland

Ireland	**Full Sample**				**Subsample**			
	(1)	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Credit Exposure/Assets	-3.435***	-2.234*	-0.931	-0.230	-5.030***	-3.679	-5.547**	-5.955
	(1.026)	(1.282)	(1.207)	(1.923)	(1.637)	(2.848)	(2.465)	(4.152)
Log(Total Assets)		-0.0671**		-0.0109		-0.116**		-0.0236
		(0.0321)		(0.0621)		(0.0524)		(0.0813)
RWA/Total Assets		0.121		-0.266		0.302		0.158
		(0.239)		(0.518)		(0.421)		(0.713)
Tier 1/RWA		-4.401		-0.200		-4.023		2.744
		(3.145)		(4.505)		(3.788)		(4.721)
Constant	-0.162***	0.979**	0.0135	0.299	-0.422***	1.188	-0.0649	-0.102
	(0.0603)	(0.454)	(0.0710)	(1.141)	(0.0793)	(0.864)	(0.0948)	(1.481)
Observations	50	50	50	50	48	48	48	48
R^2	0.023	0.155	0.001	0.009	0.031	0.203	0.027	0.046
Prob > F	0.00	0.00	0.44	0.76	0.00	0.01	0.03	0.31

Results are obtained by regressing the bank-specific estimated $\beta_{exit\ risk,i,j}$ (as explained in section 3.2) on credit exposure of the respective bank to the respective country and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Results for the Cross Section of Estimated Betas: Italy

Italy	**Full Sample**				**Subsample**			
	(1)	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Credit Exposure/Assets	8.848	-3.746	9.176	-1.573	15.79	-3.980	18.03	1.675
	(13.15)	(10.96)	(13.45)	(10.75)	(18.95)	(17.99)	(18.15)	(16.01)
Log(Total Assets)		0.120		0.0878		0.313		0.428*
		(0.160)		(0.160)		(0.254)		(0.242)
RWA/Total Assets		-1.878		-1.318		-2.641		-0.240
		(1.270)		(1.151)		(2.291)		(2.036)
Tier 1/RWA		11.13		17.60*		6.368		12.88
		(9.593)		(9.329)		(13.74)		(12.72)
Constant	-0.763*	-2.124	-0.343	-2.216	-0.650	-3.476	0.323	-5.742*
	(0.393)	(2.657)	(0.451)	(2.597)	(0.558)	(3.999)	(0.626)	(3.285)
Observations	47	47	47	47	45	45	45	45
R^2	0.006	0.060	0.005	0.055	0.010	0.062	0.011	0.045
Prob > F	0.51	0.47	0.50	0.41	0.41	0.49	0.33	0.30

Table 12: Results for the Cross Section of Estimated Betas: Portugal

Portugal	**Full Sample**				**Subsample**			
	(1)	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Credit Exposure/Assets	-7.347*	-2.304	-3.637	0.206	-12.20***	-5.841	-9.900***	-4.405
	(3.674)	(3.469)	(3.607)	(3.842)	(3.825)	(4.212)	(3.679)	(4.258)
Log(Total Assets)		-0.104**		-0.0509		-0.128**		-0.0789
		(0.0485)		(0.0616)		(0.0597)		(0.0689)
RWA/Total Assets		-0.574		-0.325		-0.824		-0.828
		(0.372)		(0.504)		(0.612)		(0.665)
Tier 1/RWA		5.384**		6.282**		6.601**		6.841*
		(2.309)		(2.771)		(3.155)		(3.598)
Constant	-0.369***	0.693	0.0588	0.266	-0.337***	1.027	0.101	0.852
	(0.0841)	(0.777)	(0.0914)	(1.053)	(0.110)	(1.001)	(0.109)	(1.176)
Observations	49	49	49	49	47	47	47	47
R^2	0.020	0.190	0.004	0.118	0.035	0.208	0.024	0.176
Prob > F	0.05	0.00	0.32	0.01	0.00	0.00	0.01	0.00

Results are obtained by regressing the bank-specific estimated $\beta_{exit\ risk,i,j}$ (as explained in section 3.2) on credit exposure of the respective bank to the respective country and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 13: Results for the Cross Section of Estimated Betas: Spain

Spain	**Full Sample**				**Subsample**			
	(1)	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Credit Exposure/Assets	-7.347*	-2.304	-3.637	0.206	-12.20***	-5.841	-9.900***	-4.405
	(3.674)	(3.469)	(3.607)	(3.842)	(3.825)	(4.212)	(3.679)	(4.258)
Log(Total Assets)		-0.104**		-0.0509		-0.128**		-0.0789
		(0.0485)		(0.0616)		(0.0597)		(0.0689)
RWA/Total Assets		-0.574		-0.325		-0.824		-0.828
		(0.372)		(0.504)		(0.612)		(0.665)
Tier 1/RWA		5.384**		6.282**		6.601**		6.841*
		(2.309)		(2.771)		(3.155)		(3.598)
Constant	-0.369***	0.693	0.0588	0.266	-0.337***	1.027	0.101	0.852
	(0.0841)	(0.777)	(0.0914)	(1.053)	(0.110)	(1.001)	(0.109)	(1.176)
Observations	49	49	49	49	47	47	47	47
R^2	0.020	0.190	0.004	0.118	0.035	0.208	0.024	0.176
Prob > F	0.05	0.00	0.32	0.01	0.00	0.00	0.01	0.00

Results are obtained by regressing the bank-specific estimated $\beta_{exit\ risk,i,j}$ (as explained in section 3.2) on credit exposure of the respective bank to the respective country and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 14: Results for the Cross Section of Bank Stock Returns: Full sample

Full sample	**exit risk$_{Greece}$**		**exit risk$_{Ireland}$**		**exit risk$_{Italy}$**		**exit risk$_{Portugal}$**		**exit risk$_{Spain}$**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
$\beta_{\text{exit risk}}$	-0.001	-0.001	-0.001**	-0.000**	-0.000	-0.000	-0.000	-0.000	0.001	0.000
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Return stock market	0.546	0.493	1.004***	0.987***	0.893***	0.872***	0.872***	0.881***	0.954***	0.896***
	(0.488)	(0.520)	(0.137)	(0.125)	(0.128)	(0.131)	(0.133)	(0.122)	(0.135)	(0.153)
Δ Sovereign spread	-0.010	-0.015	-0.031	-0.046***	-0.063***	-0.061***	-0.054***	-0.050***	-0.067***	-0.067***
	(0.075)	(0.076)	(0.021)	(0.017)	(0.016)	(0.014)	(0.014)	(0.015)	(0.015)	(0.021)
Log(Total Assets)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RWA/Total Assets	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tier 1/RWA	0.014	0.014	-0.003	0.001	0.006	0.006	0.006	0.007	0.006	0.006
	(0.011)	(0.011)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Constant	-0.003	-0.003	-0.001	-0.002	-0.002	-0.002	-0.003	-0.003*	-0.003*	-0.003*
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	44	44	50	50	47	47	49	49	44	44
R^2	0.267	0.272	0.660	0.612	0.522	0.526	0.514	0.518	0.587	0.571
Prob > F	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Results are obtained by regressing bank stock returns on the bank-specific estimated $\beta_{exit\ risk,i,j}$ (as explained in section 3.2) and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 15: Results for the Cross Section of Bank Stock Returns: Subsample

Subsample	**exit risk$_{Greece}$**		**exit risk$_{Ireland}$**		**exit risk$_{Italy}$**		**exit risk$_{Portugal}$**		**exit risk$_{Spain}$**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
$\beta_{\text{exit risk}}$	-0.001	-0.001	0.000	0.000	-0.000*	-0.000**	0.000	0.000	-0.000	0.000
	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return stock market	0.817	0.826	0.953***	0.972***	0.911***	0.816***	0.870***	0.857***	0.793***	0.765***
	(0.526)	(0.544)	(0.175)	(0.178)	(0.221)	(0.227)	(0.217)	(0.222)	(0.201)	(0.221)
Δ Sovereign spread	-0.178	-0.157	-0.043**	-0.040**	-0.053*	-0.053**	-0.053**	-0.047*	-0.053**	-0.055**
	(0.115)	(0.101)	(0.021)	(0.020)	(0.026)	(0.026)	(0.023)	(0.027)	(0.025)	(0.027)
Log(Total Assets)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RWA/Total Assets	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tier 1/RWA	0.000	0.003	0.004	0.003	0.011	0.012	0.008	0.010	0.014	0.014
	(0.016)	(0.018)	(0.004)	(0.004)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)
Constant	0.000	-0.000	-0.001	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003	-0.003
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	43	43	48	48	45	45	47	47	42	42
R^2	0.399	0.385	0.642	0.638	0.516	0.533	0.475	0.469	0.544	0.554
Prob > F	0.00	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Results are obtained by regressing bank stock returns on the bank-specific estimated $\beta_{exit\ risk,i,j}$ (as explained in section 3.2) and a set of control variables using robust standard errors. *** p<0.01, ** p<0.05, * p<0.1

Table 16: Results for the Panel of Individual Stocks' Returns:

	Full sample			Subsample		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.029	0.017	0.015	-0.011	0.012	0.010
	(0.024)	(0.025)	(0.025)	(0.033)	(0.034)	(0.034)
Return stock market		0.347***	0.282***		0.323***	0.262***
		(0.011)	(0.011)		(0.011)	(0.011)
Δ Sovereign spread		-0.009***	-0.010***		-0.009***	-0.011***
		(0.001)	(0.001)		(0.001)	(0.001)
Return industry index		0.197***	0.242***		0.207***	0.2343***
		(0.008)	(0.011)		(0.008)	(0.011)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.220***			-0.173***
			(0.013)			(0.014)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	351,451	334,915	334,433	203,831	188,173	188,874
Number of stocks	333	333	333	312	312	312
R^2	0.000	0.136	0.140	0.000	0.160	0.164
Prob > F	0.24	0.00	0.00	0.73	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 17: Results for the Panel of Individual Stocks' Returns: Basic Materials

Basic Materials	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	0.011	0.026	0.031	0.054	0.053	0.047
	(0.059)	(0.059)	(0.059)	(0.076)	(0.078)	(0.077)
Return stock market		0.370***	0.301***		0.350***	0.275***
		(0.032)	(0.032)		(0.034)	(0.035)
Δ Sovereign spread		-0.009***	-0.011***		-0.010***	-0.012***
		(0.002)	(0.002)		(0.002)	(0.002)
Return industry index		0.137***	0.158***		0.147***	0.158***
		(0.020)	(0.025)		(0.021)	(0.027)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.166***			-0.127***
			(0.036)			(0.038)
Constant	-0.001***	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	27,754	26,373	26,338	16,882	15,562	15,562
Number of stocks	28	28	28	28	28	28
R^2	0.000	0.113	0.117	0.000	0.137	0.141
Prob > F	0.85	0.00	0.00	0.48	0.00	0.00

Table 18: Results for the Panel of Individual Stocks' Returns: Consumer Goods

Consumer Goods	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	0.012	0.066	0.063	0.065	0.111	0.105
	(0.052)	(0.055)	(0.056)	(0.075)	(0.080)	(0.081)
Return stock market		0.314***	0.240***		0.319***	0.241***
		(0.019)	(0.019)		(0.021)	(0.021)
Δ Sovereign spread		-0.006***	-0.007***		-0.006***	-0.007***
		(0.001)	(0.001)		(0.002)	(0.002)
Return industry index		0.153***	0.160***		0.150***	0.146***
		(0.014)	(0.016)		(0.015)	(0.017)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.127***			-0.067**
			(0.025)			(0.031)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	57,453	54,809	54,731	32,513	30,035	30,035
Number of stocks	63	63	63	59	59	59
R^2	0.000	0.087	0.091	0.000	0.104	0.107
Prob > F	0.82	0.00	0.00	0.39	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 19: Results for the Panel of Individual Stocks' Returns: Consumer Services

Consumer Services	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	0.003	0.047	0.049	-0.002	0.021	0.027
	(0.061)	(0.062)	(0.063)	(0.103)	(0.107)	(0.108)
Return stock market		0.339***	0.253***		0.300***	0.237***
		(0.030)	(0.030)		(0.031)	(0.031)
Δ Sovereign spread		-0.007***	-0.008***		-0.006**	-0.008***
		(0.002)	(0.002)		(0.002)	(0.002)
Return industry index		0.230***	0.356***		0.254***	0.345***
		(0.016)	(0.026)		(0.017)	(0.029)
Δ VSTOXX			-0.001***			-0.000***
			(0.000)			(0.000)
Return exchange rate			-0.349***			-0.284***
			(0.038)			(0.043)
Constant	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	55,379	52,880	52,794	31,402	29,056	29,056
Number of stocks	57	57	57	51	51	51
R^2	0.000	0.119	0.125	0.000	0.143	0.148
Prob > F	0.96	0.00	0.00	0.99	0.00	0.00

Table 20: Results for the Panel of Individual Stocks' Returns: Health Care

Health Care	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.331**	-0.353**	-0.351***	-0.316**	-0.381***	-0.388***
	(0.118)	(0.117)	(0.114)	(0.129)	(0.125)	(0.123)
Return stock market		0.343***	0.285***		0.330***	0.261***
		(0.029)	(0.028)		(0.033)	(0.031)
Δ Sovereign spread		-0.008**	-0.009**		-0.010**	-0.011***
		(0.004)	(0.003)		(0.004)	(0.003)
Return industry index		0.147***	0.172***		0.158***	0.157***
		(0.018)	(0.036)		(0.019)	(0.033)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.164**			-0.098
			(0.062)			(0.061)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	18,175	17,307	17,281	10,654	9,827	9,827
Number of stocks	14	14	14	14	14	14
R^2	0.001	0.114	0.118	0.001	0.134	0.138
Prob > F	0.01	0.00	0.00	0.03	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 21: Results for the Panel of Individual Stocks' Returns: Industrials

Industrials	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.027	0.023	0.019	-0.011	0.015	0.017
	(0.045)	(0.044)	(0.044)	(0.055)	(0.053)	(0.053)
Return stock market		0.315***	0.249***		0.271***	0.215***
		(0.021)	(0.022)		(0.022)	(0.022)
Δ Sovereign spread		-0.012***	-0.013***		-0.012***	-0.015***
		(0.001)	(0.001)		(0.002)	(0.002)
Return industry index		0.234***	0.317***		0.258***	0.325***
		(0.014)	(0.017)		(0.014)	(0.017)
Δ VSTOXX			-0.000***			-0.000***
			(0.000)			(0.000)
Return exchange rate			-0.297***			-0.276***
			(0.021)			(0.022)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	105,369	100,326	100,182	61,441	56,644	56,644
Number of stocks	99	99	99	91	91	91
R^2	0.000	0.152	0.157	0.000	0.181	0.186
Prob > F	0.55	0.00	0.00	0.84	0.00	0.00

Table 22: Results for the Panel of Individual Stocks' Returns: Oil and Gas

Oil and Gas	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	0.117	0.200*	0.197*	0.215***	0.276***	0.271***
	(0.103)	(0.106)	(0.109)	(0.068)	(0.081)	(0.082)
Return stock market		0.461***	0.361***		0.403***	0.305***
		(0.068)	(0.076)		(0.062)	(0.069)
Δ Sovereign spread		-0.004	-0.006*		-0.005	-0.007*
		(0.003)	(0.003)		(0.004)	(0.003)
Return industry index		0.249***	0.284***		0.284***	0.297***
		(0.047)	(0.050)		(0.045)	(0.050)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.223***			-0.156***
			(0.035)			(0.042)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	21,395	20,382	20,355	12,547	11,586	11,586
Number of stocks	16	16	16	15	15	15
R^2	0.000	0.238	0.245	0.000	0.288	0.295
Prob > F	0.24	0.00	0.00	0.01	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 23: Results for the Panel of Individual Stocks' Returns: Technology

Technology	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.055	0.005	0.003	-0.049	-0.015	-0.023
	(0.047)	(0.049)	(0.049)	(0.104)	(0.109)	(0.110)
Return stock market		0.340***	0.284***		0.318***	0.265***
		(0.039)	(0.043)		(0.039)	(0.040)
Δ Sovereign spread		-0.015***	-0.016***		-0.013***	-0.015***
		(0.003)	(0.003)		(0.003)	(0.003)
Return industry index		0.127***	0.133***		0.142***	0.145***
		(0.013)	(0.017)		(0.013)	(0.018)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.101***			-0.084*
			(0.033)			(0.044)
Constant	-0.001***	-0.001***	-0.001***	-0.002***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	20,912	19,956	19,927	11,839	10,928	10,928
Number of stocks	26	26	26	25	25	25
R^2	0.000	0.092	0.094	0.000	0.111	0.113
Prob > F	0.26	0.00	0.00	0.65	0.00	0.00

Table 24: Results for the Panel of Individual Stocks' Returns: Telecommunications

Telecommunications	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.240**	-0.188*	-0.201**	-0.311*	-0.278	-0.288*
	(0.066)	(0.086)	(0.076)	(0.137)	(0.144)	(0.132)
Return stock market		0.433***	0.331***		0.433***	0.326***
		(0.048)	(0.063)		(0.047)	(0.062)
Δ Sovereign spread		-0.009**	-0.010**		-0.007*	-0.009**
		(0.003)	(0.003)		(0.003)	(0.003)
Return industry index		0.263**	0.355**		0.244**	0.309**
		(0.073)	(0.109)		(0.065)	(0.100)
Δ VSTOXX			-0.001**			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.307**			-0.230
			(0.113)			(0.114)
Constant	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	9,653	9,189	9,179	5,785	5,345	5,351
Number of stocks	6	6	6	6	6	6
R^2	0.000	0.243	0.251	0.001	0.280	0.288
Prob > F	0.02	0.00	0.00	0.06	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 25: Results for the Panel of Individual Stocks' Returns: Utilities

Utilities	**Full sample**			**Subsample**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Δ Exit Risk	-0.043	-0.007	-0.013	-0.098	-0.085	-0.087
	(0.075)	(0.079)	(0.080)	(0.104)	(0.108)	(0.109)
Return stock market		0.382***	0.305***		0.352***	0.271***
		(0.036)	(0.039)		(0.040)	(0.041)
Δ Sovereign spread		-0.008***	-0.009***		-0.006***	-0.008***
		(0.002)	(0.002)		(0.002)	(0.002)
Return industry index		0.188***	0.262***		0.191***	0.245***
		(0.018)	(0.028)		(0.019)	(0.029)
Δ VSTOXX			-0.001***			-0.001***
			(0.000)			(0.000)
Return exchange rate			-0.267***			-0.236***
			(0.034)			(0.038)
Constant	-0.000***	0.000***	0.000***	-0.001***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	35,361	33,693	33,646	20,768	19,190	19,190
Number of stocks	24	24	24	23	23	23
R^2	0.000	0.222	0.229	0.000	0.244	0.253
Prob > F	0.57	0.00	0.00	0.36	0.00	0.00

Results are obtained by regressing the return of the respective stock on the change in eurozone exit risk of the respective country and a set of control variables using stock fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 26: Results for the Cross Section of Estimated Betas of Individuals Stocks: Full Sample

	Full sample						
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Tradables	0.081						0.076
	(0.099)						(0.109)
Foreign sales/Total sales		0.001					0.001
		(0.001)					(0.001)
Total assets/Employees			0.000				0.000
			(0.000)				(0.000)
Total debt/Total assets				0.006**			0.005*
				(0.003)			(0.003)
Log(total assets)					0.027		0.003
					(0.021)		(0.024)
Return on assets						0.002	0.002
						(0.005)	(0.005)
Constant	0.194	0.239	0.268*	0.056	-0.044	0.270*	-0.050
	(0.152)	(0.154)	(0.141)	(0.143)	(0.303)	(0.142)	(0.309)
Country FE	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES
Observations	333	326	331	332	332	332	326
R^2	0.046	0.059	0.044	0.066	0.047	0.044	0.077
Prob > F	0.06	0.01	0.07	0.03	0.05	0.05	0.05

Results are obtained by regressing the stock-specific estimated $\beta_{exit\ risk,i,j,s}$ (as explained in section 4.2) on company-specific variables using country and industry fixed effects and robust standard errors.
*** p<0.01, ** p<0.05, * p<0.1

Table 27: Sources and Descriptive Statistics of Company-Specific Variables

Variable	Worldscope Code	Mean	Std. Dev.	Min	Max
Tradables (Dummy)[15]	WC07021 (SIC-code)	0.49	0.50	0	1
Foreign sales/Total sales (%)	WC08731	38.63	32.30	0	105.56
Total assets/Employees	WC08406	890.11	2,727.60	15.25	44,634.63
Total debt/Total assets (%)	WC03255/ WC02999	31.19	16.85	0	76.14
Log(total assets)	WC02999	13.41	2.00	9.28	18.86
Return on assets (%)	WC08326	3.21	6.02	-44.15	33.49

[15] Dummy variable classifying a company as producing either tradable goods (=1) or nontradable goods (=0). Classified according to their two-digit SIC code following Forbes 2002b.

Literature

Acharya, Viral V.; Drechsler, Itamar; Schnabl, Philipp (2014): A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk. In: *The Journal of Finance* 69 (6), p. 2689–2739.

Acharya, Viral V.; Eisert, Tim; Eufinger, Christian; Hirsch, Christian W. (2016): Whatever It Takes: The Real Effects of Unconventional Monetary Policy, 25.10.2016.

Acharya, Viral V.; Steffen, Sascha (2015): The "greatest" carry trade ever? Understanding eurozone bank risks. In: *Journal of Financial Economics* 115 (2), p. 215–236.

Aizenman, Joshua; Hutchison, Michael; Jinjarak, Yothin (2013): What is the risk of European sovereign debt defaults? Fiscal space, CDS spreads and market pricing of risk. In: *Journal of International Money and Finance* 34 (C), p. 37–59.

Ang, Andrew; Longstaff, Francis A. (2013): Systemic sovereign credit risk: Lessons from the U.S. and Europe. In: *Aggregate Implications of Local Public Finance* 60 (5), p. 493–510.

Arquette, Gregory C.; Brown Jr., William O.; Burdekin, Richard C.K. (2008): US ADR and Hong Kong H-share discounts of Shanghai-listed firms. In: *Journal of Banking & Finance* 32 (9), p. 1916–1927.

Auguste, Sebastian; Dominguez, Kathryn M.E.; Kamil, Herman; Tesar, Linda L. (2006): Cross-border trading as a mechanism for implicit capital flight: ADRs and the Argentine crisis. In: *Journal of Monetary Economics* 53 (7), p. 1259–1295.

Baba, Kunihiro; Shibata, Ritei; Sibuya, Masaaki (2004): Partial correlation and conditional correlation as measure of conditional independence 46 (4), p. 657–664.

Bailey, Warren; Chan, Kalok; Chung, Y. Peter (2000): Depositary Receipts, Country Funds, and the Peso Crash: The Intraday Evidence. In: *The Journal of Finance* 55 (6), p. 2693–2717.

Benzoni, Luca; Collin-Dufresne, Pierre; Goldstein, Robert S.; Helwege, Jean (2015): Modeling Credit Contagion via the Updating of Fragile Beliefs. In: *Review of Financial Studies* 28 (7), p. 1960–2008.

Bin, Feng-Shun; Blenman, Lloyd P.; Chen, Dar-Hsin (2004): Valuation impact of currency crises: Evidence from the ADR market. In: *International Financial Crisis: Contagion, Risk Premia and Equity Market Impact* 13 (4), p. 411–432.

Choi, Jongmoo Jay; Jay (1995): Exchange Risk Sensitivity and Its Determinants: A Firm and Industry Analysis of U.S. Multinationals. In: *Financial Management* 24 (3).

Corsetti, Giancarlo; Kuester, Keith; Meier, André; Müller, Gernot J. (2014): Sovereign risk and belief-driven fluctuations in the euro area. In: *Carnegie-Rochester-NYU Conference Series on "Fiscal Policy in the Presence of Debt Crises" held at the Stern School of Business, New York University on April 19-20, 2013* 61, p. 53–73.

Costantini, Mauro; Fragetta, Matteo; Melina, Giovanni (2014): Determinants of sovereign bond yield spreads in the EMU: An optimal currency area perspective. In: *European Economic Review* 70, p. 337–349.

De Santis, Roberto A. (2015): A Measure of Redenomination Risk, 20.06.2015.

Dewachter, Hans; Iania, Leonardo; Lyrio, Marco; Sola Perea, Maite de (2015): A macro-financial analysis of the euro area sovereign bond market. In: *Journal of Banking & Finance* 50, p. 308–325.

Di Cesare, Antonio; Grande, Giuseppe; Manna, Michele; Taboga, Marco (2012): Recent Estimates of Sovereign Risk Premia for Euro-Area Countries, 10.10.2012.

Drechsler, Itamar; Drechsel, Thomas; Marques-Ibanez, David; Schnabl, Philipp (2016): Who Borrows from the Lender of Last Resort? In: *The Journal of Finance* 71 (5), p. 1933–1974.

Eichler, Stefan (2011): What Can Currency Crisis Models Tell Us about the Risk of Withdrawal from the EMU? Evidence from ADR Data. In: *JCMS: Journal of Common Market Studies* 49 (4), p. 719–739.

Eichler, Stefan; Karmann, Alexander; Maltritz, Dominik (2009): The ADR shadow exchange rate as an early warning indicator for currency crises. In: *Financial Globalisation, Risk Analysis and Risk Management* 33 (11), p. 1983–1995.

Engle, Robert; Ghysels, Eric; Sohn, Bumjean (2013): Stock Market Volatility and Macroeconomic Fundamentals. In: *The Review of Economics and Statistics* 95 (3), p. 776–797.

Engler, Philipp; Große Steffen, Christoph (2016): Sovereign risk, interbank freezes, and aggregate fluctuations. In: *European Economic Review* 87, p. 34–61.

Errunza, Vihang; Hogan, Ked (1998): Macroeconomic Determinants of European Stock Market Volatility. In: *European Financial Management* 4 (3), p. 361–377.

Eser, Fabian; Schwaab, Bernd (2016): Evaluating the impact of unconventional monetary policy measures: Empirical evidence from the ECB′s Securities Markets Programme. In: *Journal of Financial Economics* 119 (1), p. 147–167.

Favero, Carlo; Missale, Alessandro (2012): Sovereign spreads in the eurozone: which prospects for a Eurobond? In: *Economic Policy* 27 (70), p. 231–273.

Fisher, Ronald Aylmer, Sir, 1890-1962 (1924): 035: The Distribution of the Partial Correlation Coefficient.

Forbes, Kristin J. (2002a): How Do Large Depreciations Affect Firm Performance? In: *IMF Econ Rev* 49 (1), p. 214–238.

Forbes, Kristin J. (2002b): How Do Large Depreciations Affect Firm Performance? (National Bureau of Economic Research, w9095).

Gaballo, Gaetano; Zetlin-Jones, Ariel (2016): Bailouts, moral hazard and banks′ home bias for Sovereign debt. In: *Carnegie-Rochester-NYU Conference Series on Public Policy"Monetary Policy: An Unprecedented Predicament" held at the Tepper School of Business, Carnegie Mellon University, November, 2015* 81, p. 70–85.

Glen, Jack (2002): Devaluations and emerging stock market returns. In: *Emerging Markets Review* 3 (4), p. 409–428.

Kim, Minho; Szakmary, Andrew C.; Mathur, Ike (2000): Price transmission dynamics between ADRs and their underlying foreign securities. In: *Journal of Banking & Finance* 24 (8), p. 1359–1382.

Klose, Jens; Weigert, Benjamin (2014): Sovereign Yield Spreads During the Euro Crisis: Fundamental Factors Versus Redenomination Risk. In: *International Finance* 17 (1), p. 25–50.

Krishnamurthy, Arvind; Nagel, Stefan; Vissing-Jorgensen, Annette (2014): ECB Policies involving Government Bond Purchases: Impact and Channels. In: *Unpublished Working Paper* 2014.

Kriwoluzky, Alexander; Müller, Gernot; Wolf, Martin (2015): Exit Expectations and Debt Crises in Currency Unions, 16.09.2015.

Levy Yeyati, Eduardo; Schmukler, Sergio L.; van Horen, Neeltje (2004): The price of inconvertible deposits: the stock market boom during the Argentine crisis. In: *Economics Letters* 83 (1), p. 7–13.

Levy Yeyati, Eduardo; Schmukler, Sergio L.; van Horen, Neeltje (2009): International financial integration through the law of one price: The role of liquidity and capital controls. In: *Journal of Financial Intermediation* 18 (3), p. 432–463.

Meinen, Philipp; Roehe, Oke (2017): On measuring uncertainty and its impact on investment: Cross-country evidence from the euro area. In: *European Economic Review* 92, S. 161–179.

Melvin, Michael (2003): A stock market boom during a financial crisis?: ADRs and capital outflows in Argentina. In: *Economics Letters* 81 (1), p. 129–136.

Pasquariello, Paolo (2008): The anatomy of financial crises: Evidence from the emerging ADR market. In: *Journal of International Economics* 76 (2), p. 193–207.

Popov, Alexander; van Horen, Neeltje (2015): Exporting Sovereign Stress: Evidence from Syndicated Bank Lending during the Euro Area Sovereign Debt Crisis. In: *Review of Finance* 19 (5), p. 1825–1866.

Shambaugh, Jay C. (2012): The Euro's Three Crises Brookings Papers on Economic Activity Spring 2012.