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Abstract

Using an event study approach, we examine financial markets' reactions to the publication of the ECB's Comprehensive Assessment of banks in the euro area. Our results suggest that banks' stock market prices and CDS spreads generally did not react to the publication of the results of the Comprehensive Assessment. This conclusion also holds for banks with a capital shortfall. Only for banks in some countries do we find weak evidence for (mixed) effects on stock prices, while CDS spreads for German banks declined.

Key words: ECB Comprehensive Assessment, stress tests, bank equity returns, CDS spreads.
JEL classifications: G21, G28.

1   Introduction

On 26 October 2014 the European Central Bank (ECB) published the outcomes of the so-called Comprehensive Assessment of banks in the euro area (and Lithuania). A year before, on 23 October 2013, the ECB had announced the assessment in preparation for its new task as banking supervisor in the euro area. The Comprehensive Assessment consisted of an Asset Quality Review (AQR) and a stress test. Its aim was to scour banks' books for hidden problems, test their ability to withstand crises, and force weak banks to raise more capital. The ECB hopes that the AQR and the stress test will clear up lingering doubts about the health of banks in the euro area, so that banks can raise funds more easily and increase lending. As ECB President Mario Draghi put it: "We expect that this assessment will strengthen private sector confidence in the soundness of euro area banks and in the quality of their balance sheets."[1] Arguably, previous stress tests in the euro area failed to restore confidence because some banks that passed them soon thereafter collapsed (Ewing, 2014).[2]

In stress tests the implications for individual banks' financial positions under several macroeconomic scenarios are examined, taking the banks' exposures and business models into account. These tests are run by all banks involved based on common scenarios and an identical forecast window making results highly comparable across banks (Petrella and Resti, 2013).

Some previous studies examined the impact of EBA stress tests on financial markets. Using a similar event study approach as the current paper, Petrella and Resti (2013) find significant market responses to the EBA stress test in 2011. They conclude that stress tests produce valuable information for market participants and can play a role in mitigating bank opacity. Ellahie (2012) studies equity and credit market data of Eurozone banks that took part in the stress tests in 2010 and 2011. His findings indicate that information asymmetry and information uncertainty measures were not significantly affected by stress test announcements but that information asymmetry declined after the disclosure of the 2011 stress test results, while information uncertainty increased. Cardinali and Nordmark (2011) report that the announcements of the stress test and the clarification of the methodology in 2010 were relatively uninformative to markets. In contrast, they find that the disclosure in 2011 by EBA of the stress test methodology was highly informative for all stress-tested banks. Likewise, Beltratti (2011) argues that the 2011 EBA stress test produced new information, as investors could not a priori distinguish between capitalized and under-capitalized banks. Finally, Candelon and Sy (2015) compare the market impact of all US and EU-wide stress tests performed from 2009 to 2013. They find that the 2011 EU exercise is the only EU-wide stress test that resulted in a significant negative market reaction.

This paper examines the impact of the announcement of the Comprehensive Assessment and the publication of its outcomes on banks' stock prices and CDS spreads. Our results suggest that stock prices and CDS spreads generally did not react to the publication of the results. This conclusion also holds for banks with a capital shortfall. Only for banks in some countries do we find weak evidence for (mixed) effects on stock prices, while CDS spreads for German banks declined.

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[1] http://www.ecb.europa.eu/press/pr/date/2013/html/pr131023.en.html.

[2] As pointed out by Goldstein (2014), after the 2011 EU-wide stress test performed by the European Banking Authority (EBA), Irish Life and Permanent had to be placed in a government-restructuring program even though it had a very high risk-based ratio in the test. Likewise, Dexia (a French-Belgian bank) and Bankia (based in Spain) also passed the 2011 test but soon thereafter required a taxpayer-financed bailout.

The paper is structured as follows. Section 2 outlines the Comprehensive Assessment. Section 3 describes our methodology and section 4 presents the results. Section 5 offers our conclusions.

2   The Comprehensive Assessment

In the first phase of the assessment, the Asset Quality Review, teams of examiners pored over the books of the 130 most important banks in the euro area, covering approximately 82 percent of total bank assets (Ewing, 2014). The aim of the review was to uncover hidden problems, such as bad loans that banks had not disclosed. The AQR conducted by the ECB and national competent authorities (NCAs) examined whether assets were properly valued on banks' balance sheets as on 31 December 2013. It made banks comparable across national borders by applying common definitions for previously diverging concepts and a uniform methodology when assessing balance sheets.

In the second phase of the assessment, banks were subjected to a stress test intended to measure banks' ability to withstand a crisis, such as a severe recession or turmoil in global financial markets (Ewing, 2014). The stress test used both a baseline and an adverse scenario for testing banks' resilience to stress. In the baseline scenario, the EU economy develops in line with the European Commission's economic projections up to 2016; in the adverse scenario, macroeconomic developments clearly deteriorate. Banks were required to maintain a minimum CET1 ratio of 8 percent under the baseline scenario (as for the AQR) and a minimum CET1 ratio of 5.5 percent under the adverse scenario.

The AQR showed that as of end-2013 the carrying values–or book values–of banks' assets need to be adjusted by €48 billion, which will be reflected in the banks' accounts or prudential requirements. Furthermore, using a standard definition for non-performing exposures (any obligations that are 90 days overdue, or that are impaired or in default), the review found that banks' non-performing exposures increased by €136 billion to a total of €879 billion. The assessment found a capital shortfall of almost €25 billion at 25 (mainly small and medium-sized) banks (see Table 1). Most of these banks were located in Southern Europe: nine banks are Italian, while three banks come from Cyprus and Greece, two from Belgium and Slovenia, and one from Austria, France, Germany, Ireland, Portugal, and Spain. Twelve of the 25 banks covered their capital shortfall by increasing capital by €15 billion in 2014. The Comprehensive Assessment also showed that a severe scenario would deplete the banks' top-quality, loss-absorbing Common Equity Tier 1 (CET 1) capital by about €263 billion. This would result in the banks' median CET1 ratio decreasing by 4 percentage points from 12.4 to 8.3 percent.[3]

Most market participants consider the Comprehensive Assessment much more credible than previous EBA stress tests, but some academics are critical. According to de Groen (2014), one weakness of the Comprehensive Assessment is that the ECB focused purely on the CET1 ratio, which is based on risk-weighted assets. de Groen has calculated capital shortfalls under several alternative criteria, one of them being the leverage

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[3] Capital shortfalls should be covered within six months for those identified in the AQR or the baseline stress test scenario, and within nine months for those identified in the adverse stress test scenario. Shortfalls revealed by the AQR and the baseline stress test scenario may only be covered by Common Equity Tier 1 (CET1) capital instruments. The use of Additional Tier 1 (AT1) capital instruments to cover shortfalls arising from the adverse stress test scenario is limited, depending on the trigger point of conversion or write-down.

ratio. His calculations suggest that 34 banks would require almost €21 billion in total to meet the threshold of 3 percent minimum leverage ratio under the adverse scenario. According to the results of de Groen (2014), several underperforming banks have their headquarters in northern Europe, with five banks based in Germany, four banks each in Belgium and France, and three banks in the Netherlands failing to meet the threshold under the adverse scenario. Likewise, in their stress test Acharya and Steffen (2014a,b) report much higher capital shortfalls than the ECB. Acharya and Steffen (2014b) conclude that the "regulatory stress test outcomes are potentially heavily affected by the discretion of national regulators in measuring what is 'capital', and especially by the use of risk-weighted assets in calculating the prudential capital requirement. This highlights the importance of using multiple benchmark leverage ratios, such as the market-based approach we employ, and simple leverage ratio (which is not affected by regulatory risk weights)."

3   Method

We use equity returns and CDS spreads of banks that have participated in the Comprehensive Assessment. Not all banks are listed. Likewise, for some banks CDS are not available. Table 1 indicates which banks are taken into account in our analysis.[4] Data were obtained from Bloomberg.

Before the ECB announced the outcomes of the Comprehensive Assessment several estimates of capital shortages of European banks were published. Acharya and Steffen (2014a), for example, find an EU-wide capital shortfall of hundreds of billions of euros. In their estimates, the largest part of that aggregate shortfall resides with large French banks. If such expectations had been priced in, the publication of the outcomes of the Comprehensive Assessment, which suggested much lower capital shortfalls, may have surprised financial markets.

To examine whether stress tests have caused abnormal movements in equity or CDS markets we follow previous studies, such as Petrella and Resti (2013) and Morgan et al. (2014), and use an event study methodology. To measure the impact of an event we set the abnormal return of a security as the difference between the actual (ex post) return and the normal return over the relevant event window. Normal returns are estimated using the following market model:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \tag{1}$$

where $R_{i,t}$ is the daily return of equity of bank i at time t, and $R_{m,t}$ is the return of a market portfolio. We use the MSCI Europe Index as proxy for the market portfolio.[5] In addition, we employ daily data on 5-year senior CDS spreads for a subset of the banks. We regress the CDS spread of bank i at time t on the overall index and employ the iTraxx Europe Index provided by Bloomberg as proxy for a market portfolio in the CDS market.

The residuals or abnormal returns (AR) implied by the market model are given by:

$$AR_{i,t} = R_{i,t} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{m,t} \right) \tag{2}$$

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[4]Our analysis does not consider the effects on banks that were not part of the assessment. The Comprehensive Assessment covers 82% of total banking assets in the Euro Area making it exceedingly difficult to have a proper control sample in our analysis.

[5]We have also considered as alternatives the MSCI World Index, Stoxx 600 Banks Index, the Euro Overnight Index Average rate and two-factor models including these indices with national indices. This does not affect our general findings (results available upon request).

where the circumflex indicates that the parameter concerned is estimated. Next, following Morgan et al. (2014), we sum the abnormal returns over the relevant window around the event date (T) to compute the cumulative abnormal return (CAR). While we experimented with windows of various sizes, we follow Morgan et al. (2014) and focus on a 3-day window (-1,+1).[6] Our estimation windows for equity returns and CDS spreads consists of 255 trading days, i.e. the (-265,-10) time interval, where $T = 0$ is the event date (i.e. the announcement of the assessment or the publication of the outcomes). This window is sufficient to conduct an event study using daily data (MacKinlay, 1997). The t-statistics obtained from the estimation are adjusted for event clustering and event induced variance following Kolari and Pynnonen (2010).[7] These adjusted t-statistics are employed to test whether the CAR significantly differs from zero.

4   Results

Tables 2 and 3 show the financial market reactions to the announcement of the Comprehensive Assessment and the publication of its outcomes, respectively. The tables display the abnormal returns cumulated over a period of three (or more) trading days and averaged across groups of banks. We test whether banks have CARs that are significantly different from zero during our event windows. As Table 2 shows, the announcement of the assessment led to a decline in the average CARs of all banks of 2.4 percent but this effect is not significant. Also the CDS-spreads were not significantly affected. The results do not suggest that stock prices and CDS-spreads of gap and no-gap banks reacted systematically different. The same conclusion holds for the publication of the outcomes. Overall, stocks and spreads did not react on the day that the results of the assessment were released, and this holds both for gap banks and no-gap banks.[8]

Next, we differentiate between banks located in two groups of countries, namely the GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) and the other countries in the euro area. As Tables 2 and 3 show, the results for both groups of countries are similar: both the announcement and the publication of the outcomes of the Comprehensive Assessment generally did not affect financial markets.[9]

Next, we turn to the results per country. Using our standard event window, there is some evidence that the Comprehensive Assessment had an effect on equity returns and CDS spreads. The announcement of the Comprehensive Assessment affected stock prices of Belgian and Portuguese banks negatively (see Table 2). The announcement does not seem to have had a significant effect on stock prices of banks in other countries. In Spain there was a negative announcement effect for CDS spreads and in the Netherlands a positive effect. As to the market reaction to the publication of the results of the Comprehensive Assessment we see a mixed picture (see Table 3). CARs were affected positively for Austrian and Portuguese banks but negatively for the

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[6]We have considered different event windows as well: (-1,0), (0,+1), (-2,0), (0,+2), (-2,+2), (-3,0), (0,+3), (-3,+3), (-7,0), (0,+7), and (-7,+7). We present findings for some of these windows in our tables.

[7]In the presence of event clustering cross-correlation among stocks may lead to the over rejection of the null hypothesis of zero average abnormal returns. Not all recent event studies adjust for clustering (e.g. Candelon and Sy, 2015), but in our view it is the proper procedure. See also Amici et al. (2013), Fratianni and Marchionne (2013), and Elyasiani et al. (2014).

[8]If we take somewhat longer symmetric windows, i.e. (-2,+2), (-3,+3), and (-7,+7), we find similar results. Although the CARs after the publication of the results of the Comprehensive Assessment increase in most windows, they are only significantly different from zero at the ten percent level for the stock market for a (-3,+3) window; for CDS spreads the results are always insignificant.

[9]Using a longer window generally does not lead to different results. Again the CARs increase, but they are not significantly different from zero; only for the (-3, +3) window do we find a significant effect in the stock market, but only at the ten percent level.

Irish banks in our sample. News articles obtained from the Dow Jones Factiva database indicate that stock prices of banks for which markets expected worse results than reported increased. In other circumstances, stocks declined mainly due to economic news.[10] For CDS spreads there is less evidence of a market reaction after the publication of the results of the assessment (see Table 3). An exception is the decline in spreads for German banks, which may reflect that markets were positively surprised that almost all German banks passed the Comprehensive Assessment.

For longer event windows, the results as shown in Tables 2 and 3 suggest stock market reactions for some countries (most notably Austria, Belgium, France, and Spain). For example, considering an event window of (-2,+2), i.e. five trading days, the negative market reactions of Belgian, French, and Spanish banks are significant at the 5 percent level. Considering event windows of (-3,+3) and (-7,+7), there is also evidence of negative market reactions for banks in Belgium, Cyprus, France, Malta, and Spain and positive market reactions for banks in Austria. However, there is no evidence of reaction for these banks during a (-1,+1) window.[11] Table 3 suggests a similar picture for the reactions in the CDS market. The CDS spreads of French, Spanish, and Dutch banks show positive reactions over longer windows.

As pointed out before, before the results of the Comprehensive Assessment were published, several banks increased their capital position by issuing equity or subordinated debt (like CoCos). Notably banks situated in the periphery did so. Table 4 shows the market reactions to the announcement of extra capital issuance by some of these banks. The results suggest some market response, notably for banks located in the periphery. Two Italian banks display a strong reaction in stock prices but not in spreads. The negative sign for stocks could be due to dilution effects that frequently occur after extra capital issuance. Stock prices of Banco Comercial Portugues increased following the announcement of capital issuance.

Finally, we have examined the CARs of those banks that had a shortfall according to Acharya and Steffen (2014a). These authors report higher capital shortfalls under their alternative stress test. If such expectations had been priced in, the publication of the outcomes of the Comprehensive Assessment may have surprised financial markets.[12] As Table 5 shows, the publication of the results of the assessment did not affect the stocks and spreads of most of these banks. Only for three Italian banks and one Austrian bank do we find (mixed) reactions. Whereas stock prices of Banca Carige and Banca Monte dei Paschi decreased, stock prices of Credito Emiliano and Erste Bank increased. CDS spreads of all banks were not affected.

5   Discussion and conclusions

We have studied the market reactions to the ECB's Comprehensive Assessment considering their effects on stock returns and CDS spreads. Our findings indicate that the *announcement* of the assessment had no sig-

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[10] An example is the news on the decline of the IFO business climate index to a two-year low in October 2014 suggesting that the German economy may face a difficult final quarter of 2014 (Wagstyl, 2014).

[11] An argument in favour of using longer event windows is that it could capture delayed market reactions. However, in longer windows market volatility due to other news may be picked up. For example, for the French banks in Table 3, the decrease in stocks for longer event windows seem to be driven by investors' profit-taking after gains in the run-up to the publication of the Comprehensive Assessment (Reuters, 2014) and not so much by the results of the stress test.

[12] Still, at the time the leverage ratio was not a regulatory measure so it may also be argued that markets would therefore not be affected by shortfalls calculated on the basis of this measure.

nificant effect on stock prices of banks and CDS-spreads in the full sample. If we groups banks at the country level, we find some evidence for a market response in Belgium, the Netherlands, Portugal, and Spain.

Our results suggest that also the publication of the *results* had no significant effect on stocks or CDS-spreads in our full sample for our standard event window of (-1,+1), i.e. three trading days. On a country level, however, we find some evidence of stock market reaction for Austrian, Irish, and Portuguese banks and reactions in CDS spreads for German banks. Considering longer event windows (5 to 15 trading days) we find (mixed) market reactions in the stock markets of Austrian, Belgian, French, and Spanish banks. Similarly, longer windows lead to evidence of reactions in the CDS markets for French, Dutch, and Spanish banks.

Although our results suggest that the immediate market effects of the Comprehensive Assessment are limited, at least for some banks the assessment has led to increased transparency, as markets responded to the provision of new information. Our finding of a limited market response can be interpreted in two ways. Either, financial market participants had no confidence in the assessment and therefore decided to ignore the publication of its results, or the outcomes of the assessment were in line with market expectations. Although our results cannot rule out the first explanation, in view of market analysts' reactions to the publication of the assessment, we believe that the second interpretation is more likely.

The success of the ECB's Comprehensive Assessment is not primarily determined by short-term market responses. As a result of the exercise, the ECB knows more about the current state of the banks and can use this information in implementing its new responsibility for bank supervision in the Eurozone. Due to the Comprehensive Assessment several banks have enhanced their capital base which may enhance financial stability. Interestingly, some banks which did not have a capital shortfall under the Comprehensive Assessment raised new capital, illustrating that banks' capital management is not only affected by regulatory measures but also by other considerations, such as internal targets and market opportunities.

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Tables

Table 1

Comprehensive assessment: list of considered banks per country and banks with capital shortfall

Notes: This table shows the list of banks in our analysis as well as the subset of banks that did not pass the Comprehensive Assessment. The columns "Stock data" and "Spread data" indicate whether listed banks had respectively stock or CDS data available. "Shortfall" denotes the size of the capital gap the banks have (in billion €). "Shortfall after raised capital" denotes banks that still have to cover their capital shortfall (also in billion €) after the release of stress test results.

Country	Bank	Stock data	Spread data	Shortfall	Shortfall after capital raised
AT	Erste Group Bank	+	-		
AT	Osterreichische Volksbanken	-	-	.86	.86
BE	AXA Bank Europa	-	+	.20	.07
BE	Dexia	+	-	.34	.34
BE	KBC Group	+	-		
CY	Bank of Cyprus Public Co.	-	-	.92	
CY	Co-operative Central Bank	-	-	1.17	
CY	Hellenic Bank Public Co.	+	-	.28	.18
DE	Aareal Bank	+	-		
DE	Commerzbank	+	+		
DE	Deutsche Bank	+	+		
DE	IKB Deutsche Industriebank	+	-		
DE	Munchener Hypothekenbank	-	-	.23	
DE	Volkswagen Fin. Serv.	-	+		
EE	AS SEB Pank	-	+		
ES	Banco Bilbao Vizcaya Argentaria	+	-		
ES	Banco de Sabadell	+	+		
ES	Banco Popular Espanol	+	-		
ES	Banco Santander	+	-		
ES	Bankinter	-	+		
FR	BNP Paribas	+	+		
FR	C.R.H. Caisse de Ref. de lfbHabitat	-	-	.00	
FR	HSBC France	-	+		
FR	Societe General	+	+		
GR	Alpha bank	+	-		
GR	Eurobank Ergasias	+	-	4.63	1.76
GR	National Bank of Greece	+	-	3.43	.93
GR	Piraeus Bank	+	-	.66	
IE	Allied Irish Banks	+	-		
IE	Permanent tsb	-	-	.85	.85
IE	Gov. Comp. Bank of Ireland	+	-		
IE	Ulster Bank Ireland	-	+		
IT	Banca Carige	+	-	1.83	.81
IT	Banca Monte dei Paschi di Sienna	+	-	4.25	2.11
IT	Banca Piccolo Credito Valtellinese	+	-	.38	
IT	Banca Popolare dell'Emilia Rom.	+	-	.13	
IT	Banca Popolare di Milano	+	+	.68	.17
IT	Banca Popolare di Sondrio	+	-	.32	
IT	Banca Popolare di Vicenza	-	-	.68	.22
IT	Banco Popolare S.C.	+	+	.43	
IT	Credito Emiliano	+	-		
IT	Intesa Sanpaolo	+	+		
IT	Mediobanca	+	+		

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Country	Bank	Stock data	Spread data	Shortfall	Shortfall after capital raised
IT	UniCredit	+	+		
IT	Unione di Banche Italiane S.C.	+	-		
IT	Veneto Banca	-	-	.71	
LU	UBS Luxembourg	-	+		
MT	Bank of Valletta	+	-		
MT	HSBC Bank Malta	+	-		
NL	ING Bank	-	+		
NL	Nederlandse Waterschapsbank	-	+		
PT	Banco BPI	+	-		
PT	Banco Comercial Portugues	+	-	1.14	1.15
PT	Caixa Geral de Depositos	-	+		
SI	Nova Kreditna Banka Maribor	-	-	.03	.03
SI	Nova Ljubljanska banka	-	-	.03	.03
SK	Vseobecna uverova banka	+	-		
Total				24.19	9.52

Table 2
Financial market reaction to the Comprehensive Assessment: announcement effects

Notes: *** - 1% ** - 5%, * - 10% significance level. This table shows the average cumulative abnormal returns for all, no-gap, gap, GIIPS, No-GIIPS banks, and per country banks in the stock market (in %) and the CDS market (in bp) in response to the announcement of the Comprehensive Assessment. The average reaction of spreads for the CDS market for GIIPS countries excludes Greece, as no CDS data is available for these banks. The No-GIIPS countries are BE, FR, and DE for stocks and BE, FR, DE, NL, and LU for spreads. This composition is determined by data availability. Reported figures are based on corrected t-statistics.

	Stock market (%)				CDS market (bp)			
	(-1,+1)	(-2,+2)	(-3,+3)	(-7,+7)	(-1,+1)	(-2,+2)	(-3,+3)	(-7,+7)
Austria	-1.19	-2.48	-3.29***	.617				
Belgium	-2.78**	6.28	-6.81	-4.01	2.4	3.41	4.56	.836
Cyprus	-4.84	4.52	1.27	25.5***				
France	-.769	-4.19***	-6.27***	-5.05***	1.58	3.83***	4.47***	.787
Germany	-1.24	-2.18	-3.91**	.272	-2.12	.481	2.22	3.27
Greece	3.55	8.92	11.6	12.9				
Ireland	-18.8	-11.4	-12.7***	2.59	1.21	10.8	11.5	8.2
Italy	-2.27	-4.28	-5.79	-1.04	-.95	1.71	6.5	-24.9
Luxembourg					-2.92	-.678	.569	3.73
Malta	.597*	.826***	.034	1.63				
Netherlands					-7.16*	-1.23***	-.829	-8.92
Portugal	-4.84***	-4.21***	-5.21***	-2.29***	-1.84	3.18	13.6	-33.7
Slovakia	-7.7	-6.58	-2.01***	4.84***				
Spain	-1.37	-3.2	-7.32*	-5.69	5.05***	3.57**	11.2***	-3.13
all	-2.44				-.635			
no-gap	-3.24				.046			
gap	-.97				-3.36			
no-giips	-1.51				-1.65			
giips	-2.74				.377			

Table 3

Financial market reaction to the Comprehensive Assessment: results effects

Notes: *** - 1% ** - 5%, * - 10% significance level. This table shows the average cumulative abnormal returns for all, no-gap, gap, GIIPS, No-GIIPS banks, and per country banks in the stock market (in %) and the CDS market (in bp) in response to the publication of Comprehensive Assessment outcomes. The average reaction of spreads for the CDS market for GIIPS countries excludes Greece, as no CDS data is available for these banks. The No-GIIPS countries are BE, FR, and DE for stocks and BE, FR, DE, NL, and LU for spreads. This composition is determined by data availability. Reported figures are based on corrected t-statistics.

	Stock market (%)				CDS market (bp)			
	(-1,+1)	(-2,+2)	(-3,+3)	(-7,+7)	(-1,+1)	(-2,+2)	(-3,+3)	(-7,+7)
Austria	7.71**	4.64	5.5***	5.1***				
Belgium	-1.84	-4.55**	-3.58	-13.6*	.384	3.19	1.61	4.01
Cyprus	-1.31	-.517	-2.29	-21.5***				
France	-.059	-2.59**	-4.84***	-5.94***	-2.14	.538	1.61	10.5***
Germany	1.28	.287	1.78	2.12	-3.6***	-3.65	2.26	5.12
Greece	.576	-5.31	-11.9	3.23				
Ireland	-6.59**	-4.69	-3.6	-1.71	-6.27	-3.73	-1.59	2.1
Italy	-1.26	-6.24	-10.6	-8.49	-14	-19.8	-19.3	6.95
Luxembourg					-.231	2.8	2.95	7.9
Malta	.42	-.828***	-2.04***	1.24				
Netherlands					-2.19	-3.62	-2.55*	6.45***
Portugal	2.89***	-1.78	-5.85	-7.38	11.3	-14	-9.56	.691
Slovakia	.717	-.633	.601	1.88				
Spain	.855	-4.03	-4.86	-10*	-2.32	5.65	3.05	20.4**
all	-.203				-5.26			
no-gap	.204				-1.98			
gap	-.954				-18.4			
no-giips	.165				-2.15			
giips	-.7				-8.38			

Table 4
Stock issuances 12 months preceding the Comprehensive Assessment results: market reactions

Notes: *** - 1% ** - 5%, * - 10% significance level. This table shows the largest stock issuances going back up to 12 months prior to the release of the results of the stress test. We list only those banks that were included in the Comprehensive Assessment. Column "Size" indicates the size of the capital issue (in bln €). Type "A" and "R" denote "Additional" and "Rights" respectively. The final columns indicate the reaction of the stock (in %) and CDS markets (in bp) to the announcement of capital issuance.

	Bank	Size	Type	Date	Stocks	Spreads
Austria	Raiffeisen Bank	2.8	A	21-01-2014		
Germany	Deutsche Bank	6.7	R	18-05-2014	-.9	-1.66
Greece	Alpha Bank	1.2	A	24-03-2014	-8.35	
Greece	Eurobank Ergasias	2.9	A	12-04-2014	-10	
Greece	National Bank of Greece	2.5	A	06-05-2014	-3.07	
Greece	Piraeus Bank	1.8	A	24-03-2014	-2.53	
Italy	Banca Monte dei Paschi	5.0	R	26-11-2013	-13.8**	-25.5
Italy	Banco Popolare	1.5	R	27-01-2014	-15.6***	-11.4
Portugal	Banco Comercial Portugues	2.2	R	24-06-2014	8.75*	

Table 5

List of banks with shortfall under the SRISK measure: market reactions

Notes: *** - 1% ** - 5%, * - 10% significance level. This table shows market reactions to cumulative abnormal returns of listed banks in Appendix 2 of Acharya and Steffen (2014b) that do not pass the SRISK benchmark stress test using a (-1,+1) event window. The "SRISK" and "Shortfall" columns indicate the size of capital shortfalls (in billion €). The final columns indicate the reaction of the stock (in %) and CDS markets (in bp) to the publication of the outcomes of the Comprehensive Assessment.

Country	Bank	SRISK	Shortfall	Stocks	Spreads
Austria	Erste Group Bank	5.92	0	7.707**	
Belgium	Dexia	21.35	.34	-3.907	
Belgium	KBC Group	5.26	0	.2305	
Cyprus	Hellenic Bank Public Co.	.17	.28	-1.312	
France	BNP Paribas	58.03	0	.5754	
France	Societe General	49.48	0	-.6936	2.430
Germany	Aareal Bank	1.56	0	.9000	
Germany	Commerzbank	24.25	0	3.498	.6028
Germany	Deutsche Bank	76.59	0	.8935	3.481
Greece	Alpha bank	.15	0	-3.092	
Greece	Eurobank Ergasias	2.47	4.63	5.820	
Greece	National Bank of Greece	.60	3.43	-5.157	
Greece	Piraeus Bank	1.15	.66	4.733	
Ireland	Gov. Comp. Bank of Ireland	2.16	0	-3.100	
Italy	Banca Carige	1.73	1.83	-12.34***	
Italy	Banca Monte dei Paschi di Sienna	9.87	4.25	-9.329*	-25.46
Italy	Banca Popolare dell'Emilia Rom.	1.88	.13	1.300	
Italy	Banca Popolare di Milano	1.85	.68	-.6946	-.1556
Italy	Banca Popolare di Sondrio	1.02	.32	-2.036	
Italy	Banco Popolare S.C.	5.53	.43	1.401	-21.87
Italy	Credito Emiliano	.46	0	6.421*	
Italy	Intesa Sanpaolo	18.70	0	.6434	-4.431
Italy	Mediobanca	1.03	0	2.697	-6.566
Italy	UniCredit	30.36	0	-1.347	-8.592
Italy	Unione di Banche Italiane S.C.	3.88	0	-1.287	
Portugal	Banco BPI	1.12	0	3.075	
Portugal	Banco Comercial Portugues	2.70	1.14	2.699	
Spain	Banco Bilbao Vizcaya Argentaria	5.61	0	.1066	
Spain	Banco de Sabadell	4.33	0	.8446	-5.181
Spain	Banco Popular Espanol	3.69	0	3.231	
Spain	Banco Santander	23.83	0	-.7634	
Spain	Bankinter	.45	0		-2.707

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