

Work Project, presented as part of the requirements for the Award of a Master Degree in Finance
from the NOVA – School of Business and Economics

HOW DO EUROZONE STOCK MARKETS REACT TO ECB UNCONVENTIONAL MONETARY
POLICY ANNOUNCEMENTS? A COMPARISON ACROSS COUNTRIES

JOÃO FRANCISCO VENTURA SANTOS ALVES

#2510

A Project carried out on the International Masters in Finance Program, under the supervision of
Professor Miguel Ferreira

11.09.17

Abstract

This research applies a short-term event study methodology to estimate the abnormal returns of the Eurozone indices around the European Central Bank' unconventional monetary announcements. It considers all the publicly available nonstandard policy statements between September 2008 and the end of 2016. The ones related to Asset Purchase Programs had a significant positive effect on the Italian, Portuguese and Spanish stock markets throughout the entire sample while the German and Dutch indices show a negative one. Moreover, it is observable that some indices such as the BEL20 delivered significant negative cumulative abnormal returns when the European Central Bank announced the first tools concerning the Provision of Liquidity during the crisis, but nowadays the reaction to this kind of events is almost null.

Keywords: Unconventional Monetary Policies, Quantitative Easing, Short-term Event Study

1 – Introduction

There has been a broad discussion about the effectiveness of the conventional monetary policy in the last decades. In a deep recession, most of the times Central Banks reach the so-called zero lower bound (ZLB) that theoretically prevents them from lowering interest rate further below zero because households and corporations would prefer to convert their savings into cash. Indeed, Keynes (1936) stated that any central bank action is harmless when short-term interest rates approach the ZLB and more recently Krugman (2003) argued that the ZLB demands fundamental changes and defined deflation as a "black hole" where central banks struggle to step out. However, in the 90s other theorists started to defend that there was room for central banks being capable in long-run even when interest rates are dangerously close to zero (e.g. Mishkin (1996)), by increasing liquidity, through the purchase of long-term assets. In fact, in 2001 this view was reinforced by the Bank of Japan (BOJ) that introduced a massive quantitative easing (QE) program. BOJ became the first major central bank in the modern era to pursue masterful unconventional monetary measures with the aim of improving credit conditions by "credit easing" and to foster the economic growth.

Unconventional Monetary Policies (UMP) can take many different forms, ranging from the funding for a lending scheme (FLS) in UK, the purchase of Mortgage Backed Securities (MBS) and agency debt in the US, the acquisition of different types of private assets purchases in Japan and even the introduction of negative interest rates in Denmark. These non-conventional tools began to be broadly used during the global financial crisis where the panic felt by investors led to the break of the usual functioning between policy and market rates. In November 2008, the Federal Reserve (FED) launched a massive program of long-term treasury bonds purchases (the

first QE), whereas ECB only started its QE in March of 2015 through the so-called Expanded Asset Purchase Programme (Expanded APP). Until then, ECB made some attempts to stabilize the markets through several initiatives: Long Term Refinancing Operations (LTROS) in 2008, Covered Bonds Purchase Programme (CBBP1) in 2009, Securities Market Programme (SMP) in 2010, Outright Monetary Transactions (OMT) in 2012. However, the impact of these tools was, in general, limited and short-lived. The nature and the scope of measures also greatly differed from the classic definition of quantitative easing's buy and hold. These instruments were mostly intended to rebuild the monetary transmission channel in the euro area, to provide liquidity to the distressed Eurozone Banks affected by the global crisis and helping peripheral countries to lower their government bond yields when the European Sovereign Debt Crisis started in 2010. That is why we discuss the difference between quantitative easing and credit easing. As highlighted by Bernanke (2009), the first one increases the magnitude of central bank liabilities to accelerate the economic growth and inflation in the economy while the second one only intends to improve the functioning of the bond markets.

Now, it is worth asking what the relation between Monetary Policy and Stock Markets is? According to the Discount Cash Flow Model (DCF), the price of a share is given by the expected future net cash flows. Hence, Central Banks may have a significant impact on equity returns either by changing the discount rate applied by the practitioners or by influencing them about the future economic activity. More precisely, there are many ways in which unconventional measures can affect share prices, the first one and probably the most immediate is through the portfolio rebalancing channel. By purchasing debt securities, Central Banks will artificially increase the demand for these instruments, thus reducing the risk premium offered to market agents. Therefore, investors will have strong incentives to find higher returns in more

risky assets such as corporate shares, and consequently raising its prices. It is important to refer that Conventional Measures are not able to achieve this effect - IMF (2013) -, and moreover, these large-scale asset purchases also have had a tremendous impact on depreciating exchange rates and boosting the stocks of the big exporting companies in Eurozone consequently.

Lower interest rates also incentive borrowing for consumption and investment that may also have positive effects on the equity markets. Furthermore, it is also worth mentioning the reduction of the default and redenomination risk across Eurozone, translating in higher returns in more peripheral equity markets. Finally, there is an important signaling channel (OMT was a good example of this since it was never implemented, but the power of Mario Draghi's words, moved the markets), because Central banks have more information about the shape of the economy than investors, Jenny Tang (2015), and some announcements will ultimately influence the asset allocation of all market agents for the near future - Falargiada & Ritz (2015). Here the signal of the effect on stock markets is not straightforward, meaning that more easing during a crisis sometimes might lead to lower stock returns, given that investors may assume that future conditions are even worse than they were expecting before the announcements - Hosono and Isobe (2014).

In this research, a short-term event study will be addressed to measure the market efficiency and the effect of the ECB Unconventional Monetary Policy Announcements in the different Eurozone stock markets, using countries stock market indices and considering a larger sample than the similar works about this topic (2008-2016).

First, this paper tries to review the existent literature about market efficiency and the effect of Central Banks announcements on share prices. Then one may find a section with further research about the European Central Bank interventions, stock market reactions and the

hypothesis of this study. After that, the empirical methodology, the events and the data used in this study is explained in detail. Finally, the analysis of the results, the following conclusion and some limitations of the empirical model applied in this research.

2 – Literature Review

The efficient market hypothesis (EMH) states that news reaching to the market will be immediately incorporated into the stock prices, meaning that an efficient market will reflect all available information to investors. The expression "all available information" has derived in 3 different forms of EMH: weak efficiency, semi-strong efficiency and strong efficiency - Bodie et al. (2011). The first one would imply that news are only incorporated in the prices after a while, given that excess returns will be accumulated for a longer period. The second one means that stock markets are rapid to incorporate new information about monetary policies, while the third one is even more strict, stating that all monetary policy decisions are awaited and thus already incorporated in the stock price. Therefore, this study and most of the existent literature apply the semi-strong form, where markets will react to policy interventions in a short period.

The relation between Conventional Monetary Policy and stock market performance has been extensively addressed in the previous literature especially in the United States of America - Jensen and Johnson (1995), Bomfin (2003), Bernanke and Kuttner (2005). Most of the authors found a positive reaction to expansionary monetary policies, with the response mentioned above being stronger during "bad times." In Europe, there are also several previous studies reporting a positive correlation between interest rate cuts and stock prices - Angeloni and Ehrmann, (2003), Bohl et al. (2008). However, not all studies found a positive relationship

between expansionary initiatives and stock prices. For example, Bredit et al. (2007) stated that the German Dax was nearly efficient at the end of last decade, not reacting to surprise announcements, while Fioderdelisi, Gallopo, & Rocci (2014) only found evidence of market reaction (with the nonlinear trend) when interest rates remain unchanged.

It is noticeable that most of the papers deal with a period that ends before 2008, not considering, therefore, the spread of the global crisis and of course the special weapons that were created to fight it. Central banks since then started to hugely intervene in the markets with monetary easing (purchases of government and corporate bonds) and liquidity provision operations (e.g., longer maturities for refinancing operations and extension of accepted collaterals). In fact, there are already some studies that deal with the impact of the UMP announcements on the stock markets, but from different standpoints, ranging from the effect in various sectors, the separation by type of events, impact on value and growth stocks and different time horizons.

Kuhihara (2014) was one of the first scholars that studied the overall implications of the ECB's UCP announcements on the Eurozone stock markets, concluding that Monetary Authorities have the power to influence future interest rates, and consequently the share prices. A high number of studies so far, consider general stock market indices, such as Hosono and Isobe (2014), that reported a negative relationship between ECB unconventional monetary policy surprises and stock prices. Others, like Jansen & Tsai (2010), stated that communications and transportation companies are by far the most affected sectors by unconventional monetary policy announcements. Moreover, Ricci (2015) concluded that European banks with riskier assets are more sensitive to non-standard monetary policy interventions, while Fratiani & Marchionne (2014) tried to prove that target news to the banking system are associated with

positive cumulative abnormal returns. From another perspective, Haitisma, Unalmis & Haan (2016) argue that unconventional announcements have a greater effect on the value stocks comparing to the growth ones. Since this empirical work uses different sub-samples, some researchers also intend to analyze the shocks in distinct temporal windows. Apparently, according to Hayo & Niehof (2011), there was no significant change between the pre-crisis and the financial crisis, while Wang & Mayes (2012) states that there were adverse reactions to surprise announcements before the crisis, and then this pattern changed afterward. Finally, Rogers, Scotti & Wright (2014) found that there is evidence of a greater impact of non-conventional measures on the stock market, contrasting to conventional announcements.

3 – Research Question and Hypothesis

This study provides more details about the construction of the events in the fifth chapter. Nevertheless, one may find in this study three different subsamples: Global Crisis, European Sovereign Debt, and Latest ECB Monetary Policies. There is also a distinction between two types of unconventional policies: Asset Purchase Programs and Provision of Liquidity.

In a first stage, the ECB's policy was mainly oriented to provide liquidity on a grand scale to European Banks that were massively affected by the Global Crisis. To do so, the ECB among others, increased the average maturity of its refinancing operations, it eased the collateral requirements and provided liquidity at a fixed rate and full-allotment basis after the Lehman Brother's fall in September 2008. Apart from these operations, ECB also launched its first outright asset purchase program called CBPP1, which was designed to buy covered bank bonds

(an important market for banking finance), to repair the monetary transmission channel in the European Union.

Meanwhile, most of the investors became concerned about the excessive level of debt of the southern countries. The initial increase of the bond yields in Greece, Portugal rapidly spread over Italy and Spain due to banks bailout and austerity policies. In the spring of 2010, the Governing Council announced the SMP, which enabled the ECB to buy public and private bonds. The conditions in the second half of 2011 worsened even more, and some of the previous liquidity provision operations were prolonged and reintroduced - ECB (2011). These measures were further extended in 2012 since the yields were still very high and the Governing Council decided to substitute the SMP by the OMT on 2th of August.

By the time, none of these measures were regarded as pure quantitative easing, since all the purchases were fully sterilized. In the first stage, the key interest rate of ECB was not close to the ZLB and all Central Bank's actions were limited by the Lisbon Treaty that did not allow sovereign bailouts or monetary financing. In fact, Constancio (2011) mentioned that ECB had always been ruled by a "separating principle", which means that conventional and unconventional instruments had different goals. As such, the alternative measures adopted by the ECB were regarded as a complement to the use of the interest rate in signaling the monetary policy stance - Cour-Thirrmann & Winkler (2013). Nevertheless, as referred by Belke (2013), these non-standard measures were successful to help the Eurozone banks with substantial losses in impairments and to alleviate the cost of debt of the peripheral countries. In 2013 the risk of the break-up of the euro area was already behind us as it can easily be proved by the high interbank market recover and the low level of European yields (see appendix). However, some

entities like the German Central Bank have always been against non-standard tools, since they leave more room for the most indebted countries such as Portugal, Spain, and Italy to postpone the much-needed structural reforms. It is kind of intuitive that a higher debt leads to higher yields (e.g., Ardagna et al. (2007) and Laubach (2009)), but we have witnessed the opposite phenomenon in the past few years. The Eurozone yields have been consistently decreasing since 2012, while the public debt in some European countries has been raising to date. Some papers, as Falagiarda & Reitz (2015), conclude therefore that SMP, OMT and other similar interventions had an enormous contribution to "artificially" inverse this relationship.

At the end of 2013, the inflation and high unemployed turned to be a real issue in Europe. When Mario Draghi finally recognized the perverse effects that deflationary tendencies could have brought to Europe, the ECB intervened again more aggressively in the markets. At first, the ECB launched the APP (Asset-Backed Securities Purchase Programme (ABSPP) and CBPP3) in 2014. After that, between 2015 and 2016 Mario Draghi announced its Expanded version, including non-sterilized purchases of Government and Corporate Bonds (PSPP and CSPP respectively) with the aim of raising inflation and fostering economic growth. The Expanded APP was extended three times until the end of 2016 (in size and and/or duration).

Over again, most of the literature nowadays focuses on the effect of UMP announcements on the sovereign bonds yields. Not only Krishnamurthy et al. (2014) found that default risk was the dominant channel in which the SMP and OMT had a significant role in decreasing the yields of Italy, Portugal, and Spain, but also Rivolta (2015) observed that the effects of the unconventional measures on the bond yields vary between countries and time, concluding that LTROS (provision of liquidity) reduced yields of sovereign bonds of larger countries as France

and Italy and the most relevant effects were achieved when ECB announced the CBPP (1 &2) and the SMP. Mateo and Falagiarda (2015) also state that the announcements made between 2010-2013 (European sovereign debt crisis) had a larger effect on Italian yields than the ones made after the Lehman Brother's fall. Moreover, this author says that CBPP, the SMP, and OMT were the most effective programs in reducing the spread between the Italian and German long-term bonds. In this way, Krishnamurthy et al. (2014) also argue that the most evident decreases in yields are found around the SMP and OMT announcement dates but did not find any reaction for the LTROS in GIIPS countries (Greece, Ireland, Italy, Portugal and Spain). Finally, another interesting finding is the one of Ricci (2015) that explains different reactions to similar interventions in the markets, giving as an example the fact of the provision of liquidity, which shows adverse response during the Global Crisis and a positive one throughout the European Sovereign Debt Crisis.

Nevertheless, some results might be extended to the stock market as well. However, most of the papers cover the time range between 2008-2012 and some of them have opposite conclusions. Rogers et al. (2014) highlight that UCP announcements had positive stock reactions during the crisis, whereas Hosono and Isobe (2014) argues that stock market reacted negatively to surprise announcements because investors could have thought that the economic conditions were even worse. In addition, Fiordesì et al (2014) state that the largest impact on the stock market was observed during the European Debt Crisis and Van Hilten (2016) found that most of the countries' stock markets reacted in the same way, excepting from Greece (probably due to its sovereign crisis that developed independently of the external factors as mentioned by Gonzalez-Hermosillo and Johnson (2014)). Furthermore, the last author observed that peripheral countries show much larger and more significant event day returns than northern

countries during the sovereign crisis, providing some evidence of the decrease in default and redenomination risk of Italy, Portugal, and Spain. Another relevant study is the one of Pinto de Sousa that applies an event study to analyze the impact of UMP news in stock prices, concluding again that Italy Spain and Portugal showed consistent positive cumulative abnormal returns, while the reaction of other countries was most of the times negative. To my knowledge, there is no research considering the overall effect of the Expanded APP on the Eurozone stock markets. Although there are some articles - ECB (2014) - explaining that the ABSPP was limited both in scope and in size (the market in Europe for this kind of assets is incredibly small) and some others analyzing individual events. For instances, Geordadis (2016) studied the effect of the EAPP announcement (22nd of January) on the global financial markets, concluding that even though this event was already anticipated by the markets, the enormous size of the purchases constituted a surprise factor that excited the markets around that day.

As it was mentioned before, this paper will assume a semi strong version of the EHM, meaning that it expects that stock prices react in a manner of days (even one day) to the announcements. Overall, the announcements about Asset Purchase Programs might have had a higher effect than the ones regarding the provision of liquidity. Concerning the first two samples, the surprise announcements mainly happened during the European sovereign debt crisis - again Rogers et al. (2014) – therefore, this empirical works expects higher effects on the stock market during this sample. However, since the first unconventional measures implemented by the ECB were related to liquidity injections, it is presumable that those announcements had a bigger impact during the global crisis. Moreover, SMP and OMT were the very first tools related to sovereign bonds purchases, hence this study expects a positive correlation between these events and the stock markets in the southern European countries apart from Greece - again Gonzalez-

Hermosillo and Johnson (2014) - due to the fall of the redenomination risk. Previous in this discussion it was also mentioned that German Central Bank had always been against non-standard tools since UMP are associated with complacency in the reform agenda of the GIIPS and financial stability of the Eurozone. Thus, the stock markets in Germany and maybe in some other wealthier countries like Netherlands might react negatively to most of the announcements. Regarding the latest sub-sample, this papers expects a greater reaction about the PSPP (especially the first announcement) and almost no correlation between the stock market and other programs' announcements (ABSPP, CBPP3 and CSPP), meaning that the Expanded APP as a whole, should have had a lesser impact than the Purchase Programs held during the sovereign crisis.

4 – Empirical Methodology

The event study methodology was introduced by Fama in 1969, and it has been widely used in the finance literature. The short-term event study applied in this research, as referred by Bernanke (2002), provide us a robust estimate of the market's response to monetary policy announcements, and it also allows us to work with a tiny sample of events - Yacine Ait-Sahalia (2012). Furthermore, there are also some pitfalls regarding long-term measurement, including the fact of multiple events occur in the post-event window - Kothari & Warner (2007). The primary goal this method is to verify whether the realized returns are consistent with the expected returns or they can be regarded as abnormal in a significant way - Rivolta (2015). Choosing the length of the event windows is also a major issue, bearing that in mind this research defines a very narrow event window (0;0) where it only cares about the abnormal returns calculated on the day of the announcement, to avoid the noise of other exogenous

announcements. As a robustness check it was also built another two event windows ((-1;1); (-2;2)) with the corresponding relaxation of the contamination screen to study a possible delayed and an anticipated reaction of the investors. It is relevant to say that the event date is the exact date on which the event was announced, and this is the first trading day the information became public. In this sample, there are three cases when the events were announced on a non-trading day (public holidays in Greece and Austria), so the next trading days were used as the event day.

4.1 CAR

The idea of calculating abnormal returns (ARs) is to measure the abnormality by separating the event from other market events. The ARs, of ECB i and event T , are defined as the difference between the return and the expected return (normal return), given the absence of the event in a predefined estimation window:

$$AR_{i,T} = R_{i,T} - E[R_{i,T}|\Omega_{i,T}] \quad (4.1.1.a)$$

For the wider windows, this research calculates the cumulative abnormal returns (CAR) measure. This measure accumulates abnormal returns across time and is defined as:

$$CAR_{i(T_1,T_2)} = \sum_{t=T_1}^{T_2} AR_{i,t} \quad (4.1.1.b)$$

4.2 Model

A market model is applied with the parameters being obtained with daily log returns of each country's index and a broad European benchmark Euro Stoxx Total Market over a 252-day estimation window and ending 15 days before each event. The market model is built upon the assumption of a constant and a linear relationship between the asset returns and the returns of the market index, such that:

$$R_{i,T} = \alpha_i + \beta_i R_{M,T} + \varepsilon_{i,T} \quad (4.2.a)$$

with $E[\varepsilon_{i,T}] = 0$, (4.2.b)

and $VAR[\varepsilon_{i,T}] = \sigma_{\varepsilon,i}^2$ (4.2.c)

Additionally, the model parameters in the estimation window are estimated by ordinary least squares (OLS) regressions. One may wonder why neither CAPM nor multi factor models were used instead, but Brown and Warner (1980 and 1985) showed that results based on this model are not substantially different from the ones obtained with more complex models, considering narrow event windows. As a robustness check (see appendix) this paper achieves similar results with the same market model (Scholes & William's Estimation) and with the return model, that can be defined as a limited market model with and beta equal to one for each stock - MacKinlay (1997). Gregory O' Donohoe (2014) stated that the later model is used to validate the results since it works well when relevant events are likely to be included in the estimation window - or when the crisis period is included in the sample - Fuller, Netter, and Stegemoller (2002). There are also similar studies using the heteroscedasticity-based approach of Rigobon and Sack (2004). However, Rosa (2011) empirically proved that even though simple event-study models contain bias, this bias is relatively small and the OLS approach tends to outperform the Rigobon and Sack method for any sample, thus concluding that event-study methodology should always be preferred. Finally, this paper disregards the addition of a surprise factor to the model because as it was mentioned before by Rogers et al. (2014), most of the surprise announcements were held during the sovereign crisis.

4.3 Significance test – T-test

This study uses the student's t-test developed by Student (1908). The null hypothesis is that the Cumulative Average Abnormal Return (CAAR) are not different from zero. The alternative hypothesis is that they are significantly different from zero.

5 – Data and Event Sample

This paper uses daily data since it is the most efficient way to deal with the effects of UCP on financial variables - Rogers et al. (2014). Data covering the different countries' indices and the market benchmark was retrieved from Bloomberg. The data found in the appendix was taken from Thompson and Reuters Database stream.

All the events were collected from the ECB's press releases. The first sub sample (Global Crisis) starts on 15th of September 2008 (when the Lehman Brothers collapsed) and runs until the first of May 2010. The second sub-period (European Sovereign Debt Crisis) starts on the 2nd of May (when the IMF agreed on a bailout to rescue Greece) and goes until the end of November 2013. The latest one starts on the first day of December 2013 (where the Eurozone inflation rate was already below 1%) and runs until the end of 2016. The events are separated into two groups: Asset Purchase programs and Provision of Liquidity. While the programs of the first group were already discussed before, the second one needs to be clarified. So, this group includes the following non-conventional tools: FRFA or fixed rate tenders with full allotment for the main refinancing operations; LTROs or Longer Maturities for Refinancing Operations; COLL or Extensions of the list of collateral assets; FOR or Liquidity provisions in foreign currencies through swap lines with other central banks and TLTROs or targeted longer-term refinancing operations. By using an event study methodology, we need to deal with the problem of the overlapping events. In this sample, it is noticeable that there are some event days where conventional monetary policies also take place (see appendix). Secondly, that different tools of the provision of liquidity are announced on the same day (here it is not an issue since there is no distinction between them). Thirdly there are some event days where both asset purchases

and provision of liquidity's tools were announced simultaneously (the only serious case is the one related to the announcement of CBPP1). This work follows a similar method used by Rivolta (2012), that considers the Asset Purchase Programs as the main events, dropping all other announcements if they were held simultaneously (e.g., provision of liquidity and conventional tools).

Table 1 – ECB's Announcements

ECB Announcements		
Events	Sub Group	Group
Global Financial Crisis (15th Sept 2008 - 1st May 2010)		
FRFA; LTRO, COLL & FOR; FRFA; FOR; FRFA & LTRO; FOR; FOR; FOR; FOR; FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
CBPP ; CBPP Technical Details	CBPP	Asset Purchase Programmes
European Sovereign Debt Crisis (2nd May 2011 - 31th Nov 2013)		
SMP; Expansion SMP	SMP	Asset Purchase Programmes
LTRO; FRFA & LTRO; FRFA & LTRO; FOR; FRFA & LTRO; FRFA & LTRO; FOR; FOR; FOR; LTRO & COLL; FTOS; COLL; FRFA & LTRO; COLL; FRFA & LTRO; FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
CBPP 2; CBPP2 Technical Details	CBPP2	Asset Purchase Programmes
OMT; OMT Technical Details	OMT	Asset Purchase Programmes
Latest ECB Policies * Low inflation (1st Dec 2013 - 31th Jan 2016)		
FOR; TRLO, FRFA & LTRO; FOR; TRLO; TRLO 2; COLL	Provision of Credit & Liquidity	Provision of Credit & Liquidity
ABS; ABS & CBPP3 Technical Details	ABS	Expanded Asset Purchase Programme
Expanded APP (PSPP); Expanded APP (PSPP) Duration Extended; Expanded APP (PSPP) Purchases Extended; Expanded APP (PSPP) Duration Extended & Scale Back	Expanded APP (PSPP)	Expanded Asset Purchase Programme
CSPP; CSPP Technical Details	CSPP	Expanded Asset Purchase Programme

Source: ECB Press Releases

6 – Analysis

This chapter intends to test the hypothesis mentioned in chapter three through a short-event study. This paper will analyze each sub-period separately, and then, in the end, it will have the

aggregated results of the sample for the two different groups: Asset Purchase Programs and Provision of Credit & Liquidity.

Global Crisis

Table 2 – Results

Provision of Credit & Liquidity - Global Financial Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0028	-0.0041	-0.0058*	-0.0011	-0.0141***	-0.0087***	-0.0026
ATX	-0.001	-0.008	0.0012	-0.0102	-0.0029	0.0067	-0.0086
BEL 20	0.0016	-0.0124**	-0.0081*	-0.0028	-0.0103	-0.0115***	-0.0005
CAC 40	-0.0018	-0.0014	-0.0018	-0.0014	-0.0026	-0.001	0.0002
DAX	-0.0018	-0.0021	-0.0009	-0.003	0.0027	0.0032	0.0013
FTASE	0.0009	0.0019	-0.0026	0.0055	0.0057	0.0076	-0.0029
FTSEMIB	0.00	0.0018	0.004	-0.0022	0.0019	0.0022	-0.0002
HEX25	0.0044*	0.0071	0.0038	0.0077**	0.0043	-0.0051	0.0051
IBEX 35	0.004*	0.0056	0.0042	0.0054*	0.0057	0.003	-0.0013
ISEQOverall	-0.0031	0.0028	-0.0028	0.0024	-0.0117	-0.0122	0.0036
PSI 20	0.0072**	0.0103**	0.0087**	0.0088**	0.0049	-0.0007	-0.0016

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

The labeled sub-sample “Global Crisis” that starts after the Lehman Brother’s fall is also known by the appearance of the first wave of unconventional measures introduced by ECB, mostly concerning the provision of liquidity. It is observable a significant underperformance of the AEX and BEL 20, consistent with the findings of Hosobo and Isabele (2014). It is also worth pointing out the strong anticipation reaction of the both indices especially for the Dutch benchmark that has a strong significant abnormal return for the window (-2;-1). Conversely, the results of the HEX 25, IBEX 35 and PSI 20 show significant positive evidence against the null hypothesis, being stronger for the Portuguese index. Contrary to AEX and BEL 20, these stock markets do not seem to have anticipated these events, since the (0,0) is the window with the most statistically robust abnormal returns.

Table 3 - Results

Asset Purchase Programmes (CBPP 1) - Global Financial Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0077	0.0092	0.0079	0.009	0.0113	0.0032	0.0004
ATX	0.0155	0.0186	0.0143	0.0198	0.0417	0.0226	0.0036
BEL 20	0.0164**	0.0333**	0.0287**	0.021*	0.0251	0.0058	0.0029
CAC 40	0.0006	0.0008	0.0014	0.00	-0.0029	-0.0016	-0.0019
DAX	-0.0023	-0.0067	-0.0065	-0.0026	-0.0095	-0.0093	0.0022
FTASE	-0.024`*	-0.0237	-0.0226	-0.0251	0.015	0.0215	0.0175
FTSEMIB	-0.0015	0.0068	0.0016	0.0037	0.0061	0.001	0.0066
HEX25	0.0033	0.00	0.0026	0.0006	-0.0189	-0.005	-0.0172*
IBEX 35	0.0041	0.0004	0.0004	0.0041	0.0086	0.0012	0.0032
ISEQOverall	-0.0056	0.0152	0.0004	0.0091	0.0056	0.0061	0.0052
PSI 20	0.0111	0.0195	0.0218*	0.0088	0.0112	0.0089	-0.0089

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Although the CBPP1 could have been included in the previous group since its first goal was to provide liquidity to the distressed European banks, it was the first program introduced by the ECB meant to purchase assets. It is relevant to say that the communication of this tool was divided in two announcements: the program itself and its technical details. The most significant market reaction is found in the first announcement, even though there is no clear trend. Contrary to the previous findings, the BEL 20 shows overperformance in the shortest windows. Furthermore, PSI 20 keeps over performing but reveals some anticipation effect.

European Debt Crisis

This was the period where we observed more surprise announcements, mostly intended to decrease the sovereign yields of the most indebted countries at the time. Then, as it was largely expected, the asset purchase programs especially the SMP had positive reactions of the markets in Italy, Spain, and Portugal. Even though this study focuses on very short windows, it is noticeable a both anticipated and delayed effect of these announcements on the previous indices, supporting evidence of a rebalancing portfolio effect. Moreover, it seems that these

events are associated with negative CAARs in the German and Dutch stock markets which it was also expected since the German Central Bank was always tried to rule out this kind of sovereign bailouts.

Table 4 - Results

Asset Purchase Programmes (SMP, CBPP2 & OMT) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0028*	-0.0034	-0.0047**	-0.0014	-0.0051	-0.0006	-0.0017
ATX	-0.0078**	-0.0025	-0.0062	-0.0042	-0.0038	0.0014	0.0026
BEL 20	0.0022	-0.0015	-0.0012	0.0019	0.0015	-0.0048*	0.0041
CAC 40	0.0009	0.0024	0.0022	0.0011	-0.0018	0.00	-0.0027
DAX	-0.0073***	-0.0077***	-0.0057**	-0.0093***	-0.0049	0.004*	-0.0015
FTASE	-0.0071	-0.0033	-0.0025	-0.0078	0.0108	0.0038	0.0141
FTSEMIB	0.0054**	0.013***	0.0084**	0.01***	0.0103*	-0.0015	0.0064*
HEX25	-0.0018	0.0007	-0.0034	0.0023	0.0037	-0.0063	0.0119*
IBEX 35	0.0086***	0.0055	0.0077*	0.0064	0.0113*	0.0044	-0.0018
ISEQOverall	0.0015	-0.0027	-0.004	0.0027	-0.0058	-0.0106	0.0033
PSI 20	0.0082***	0.0023	0.0048	0.0057	0.0128*	-0.0042	0.0088*

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Table 5 - Results

Provision of Credit & Liquidity - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0001	-0.0005	-0.0005	0.00	-0.0005	-0.0011	0.0007
ATX	0.0018	0.0013	0.0025	0.0007	0.0031	-0.001	0.0023
BEL 20	-0.0015	-0.0029*	-0.0026*	-0.0019	-0.0047**	-0.0023*	-0.0008
CAC 40	-0.0002	-0.0016	-0.0007	-0.0011	-0.0017	-0.0009	-0.0006
DAX	-0.0003	0.001	0.0018	-0.0011	0.0014	0.0024*	-0.0007
FTASE	0.0002	-0.0009	0.0036	-0.0042	0.0185	0.0015	0.0168**
FTSEMIB	-0.0012	-0.0028	-0.0025	-0.0015	-0.0045	-0.0012	-0.002
HEX25	0.0016	0.001	0.0017	0.001	0.0021	0.0004	0.000
IBEX 35	0.0002	0.0013	-0.0003	0.0017	-0.001	-0.0003	-0.0009
ISEQOverall	-0.0003	-0.0001	-0.0004	0.000	0.0016	-0.0002	0.0021
PSI 20	-0.0008	0.0006	-0.0008	0.0006	-0.0004	-0.0001	0.0005

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Overall, liquidity tool's announcements did not have a significant effect on the markets, despite the BEL 20 that shows the same trend identified in the previous sample.

Latest ECB Policies

Table 6 - Results

Provision of Credit & Liquidity - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.001	-0.0006	-0.0002	-0.0013	0.0009	0.0023	-0.0005
ATX	-0.0007	-0.0044	0.0006	-0.0057	-0.0001	0.0033	-0.0027
BEL 20	0.0007	0.0017	0.0032	-0.0008	-0.0001	0.001	-0.0018
CAC 40	0.001	0.0005	0.0006	0.0009	0.0002	-0.0001	-0.0007
DAX	-0.0013	0.0006	0.0006	-0.0013	-0.0001	0.0012	0.000
FTASE	-0.0013	0.011	0.0076	0.0021	0.0119	0.007	0.0062
FTSEMIB	0.0029	0.0033	0.0007	0.0055	0.0059	-0.0012	0.0041
HEX25	0.0009	-0.0025	-0.0007	-0.0009	-0.0004	0.0001	-0.0014
IBEX 35	-0.0028	-0.0035	-0.0041	-0.0022	-0.004	-0.0028	0.0016
ISEQ Overall	-0.0021	-0.0052	-0.0019	-0.0053	-0.0044	0.0003	-0.0027
PSI 20	-0.0015	0.001	0.0016	-0.0021	-0.0004	0.0008	0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Table 7 - Results

Expanded Asset Purchase Programme (ABSPP3, CBPP3, PSPP & CSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0023*	-0.0034*	-0.0037**	-0.0021	-0.0049*	-0.002	-0.0005
ATX	0.0035	0.0024	0.0029	0.0031	0.005	0.0014	0.0001
BEL 20	-0.0002	-0.0026	-0.0026	-0.0003	-0.0037	-0.0031*	-0.0004
CAC 40	-0.0022***	-0.002	-0.0023**	-0.0019	-0.003	0.00	-0.0008
DAX	-0.001	-0.0009	-0.001	-0.0009	0.00	-0.0015	0.0025
FTASE	0.0153*	0.0122	0.0097	0.0177	-0.0056	-0.0075	-0.0133
FTSEMIB	0.0038	0.0051	0.0072**	0.0017	0.0045	0.0058*	-0.0052
HEX25	-0.0004	-0.0006	0.0001	-0.0012	0.0041	0.0015	0.003
IBEX 35	0.0045**	0.0046	0.0042*	0.0048*	0.0056	0.002	-0.0008
ISEQ Overall	-0.0012	-0.0007	-0.0027	0.0009	-0.0033	-0.0021	0.00
PSI 20	0.0039*	0.0055	0.0075*	0.0019	0.0031	0.0014	-0.0022

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Concerning this last period, it is possible to verify the inexistence of any market reaction about liquidity tool's announcements. Regarding the expanded asset purchase program, the trend is more or less similar to the one found in the last sample (CAC 40 shows significant negative CAARs), but the results are not strongly significant. One of the main reasons might be the fact that the markets almost did not react to the ABSPP, CBPP3 and CSPP's announcements (see

appendix). Notwithstanding, the most significant event of all sample is when the ECB announced the PSPP on the 22nd January of 2015. The market reaction was massive in all countries (see appendix), and the results show both anticipated and delayed effects. The latest announcements concerning its expansion seem to have been priced before by the market agents.

All Sample

Table 8 - Results

Provision of Credit & Liquidity - All Sample							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	-0.0018	-0.0023*	-0.0006	-0.0048**	-0.003**	-0.0006
ATX	0.0003	-0.0029	0.0016	-0.0042	0.0004	0.0024	-0.0023
BEL 20	0.00	-0.0053***	-0.0034**	-0.0019	-0.0058**	-0.0048***	-0.0009
CAC 40	-0.0005	-0.0011	-0.0008	-0.0008	-0.0017	-0.0008	-0.0004
DAX	-0.001	-0.0002	0.0006	-0.0018	0.0016	0.0025**	0.0001
FTASE	0.0002	0.0023	0.002	0.0005	0.0113	0.0041	0.007
FTSEMIB	0.00	0.00	0.0003	-0.0004	-0.0004	0.00	-0.0003
HEX25	0.0025**	0.0024	0.002	0.0029*	0.0024	-0.0016	0.0015
IBEX 35	0.0009	0.0019	0.0005	0.0023	0.0007	0.0003	-0.0006
ISEQ Overall	-0.0015	0.00	-0.0014	-0.0001	-0.0044	-0.0045	0.0017
PSI 20	0.0018	0.004	0.0029	0.0029	0.0015	-0.0001	-0.0003

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Table 9 - Results

Asset Purchase Programmes - All Sample							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	-0.0018	-0.0026*	-0.0005	-0.0029	-0.0008	-0.0008
ATX	0.0006	0.0026	0.0007	0.0025	0.0045	0.0027	0.0012
BEL 20	0.0028**	0.0023	0.0019	0.0032*	0.0018	-0.0026	0.0017
CAC 40	-0.0007	0.00	-0.0002	-0.0005	-0.0025	-0.0002	-0.0017*
DAX	-0.0036***	-0.0042**	-0.0035**	-0.0043***	-0.0031	-0.0004	0.0009
FTASE	0.002	0.0019	0.0011	0.0028	0.0029	0.0003	0.0006
FTSEMIB	0.0037**	0.0083***	0.0069***	0.0051**	0.0069*	0.0025	0.0006
HEX25	-0.0005	-0.0001	-0.001	0.0004	0.0008	-0.0025	0.0038
IBEX 35	0.006***	0.0044	0.005**	0.0053**	0.0081**	0.0028	-0.0007
ISEQ Overall	-0.0008	0.0005	-0.0028	0.0026	-0.0034	-0.0045	0.0019
PSI 20	0.0064***	0.006	0.0083***	0.0042	0.0078	0.0003	0.0011

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Finally, this paper studies the market reaction to the two different types of unconventional policies for all sample (see tables above) and one may observe that the overall response was stronger when Asset Purchases Programs' announcements took place.

7 – Conclusion

The findings of this study show with empirical evidence that stock markets in the peripheral countries (Italy, Portugal and Spain) due to the decrease in the redenomination risk, tend to have higher cumulative abnormal returns concerning asset purchase programs' announcements. It also proves that none of the unconventional tools had a significant impact in the Greek market and finally some stock markets showed underperformance to surprise events during the Global Crisis. These results are in line with the scarce existent literature. Besides, this paper also provides a more recent sub sample that at my knowledge has not been addressed in previous studies. First, the newest liquidity tools (including the TLROs) do not affect the markets. Second, the investors did not pay much attention to the announcements about the ABSPP, CBPP3 and CSPP. Third, the overall short term reaction to the PSPP announcement and its extensions is less significant comparing to the SMP program, probably because Mario Draghi signaled these last events further in advance. It is also important to point out that the static significance of the liquidity tool's announcements has decreased throughout the time.

Looking for the aggregate sample, one might draw some conclusions about the two different groups. Regarding the provision of the liquidity, the Belgian index negatively reacted to these announcements while the Finnish stock market showed a positive reaction. Even though the southern equity markets showed higher CAARs for asset purchase events during the sovereign

crisis, this pattern still holds for the last sample whereas DAX shows an apparent underperformance for the all sample. It is also interesting to observe that the Irish stock market does not react to ECB, unconventional announcements, even during the sovereign crisis when the Irish sovereign yield was above 10% which means that the rebalancing portfolio did not play a role in this case. As a matter of consistency, the findings presented so far are in line with the ones achieved using a different model (see appendix). Finally, all the results suggest that European stock markets are semi efficient when unconventional measures are announced since they respond in a short notice of the time, implying there are almost no delayed reactions on the second day after the announcements.

This research is an important development in the literature of the stock market response to unconventional policies announcements. However, some drawbacks relate to the methodology applied in this study. Firstly, the period analyzed (2008-2016) had many different interventions and some of them in the same day, implying that we needed to deal with overlapping events and set some selection criteria to overcome this issue. Secondly, it is impossible to control other factors that occur at the same time in different countries which might also play a role in the stock markets. Even though this paper has some limitations, it encompasses a bigger sample than the existent literature, and it achieves new findings.

8 – References

- Fama, Eugene F., et al. "The adjustment of stock prices to new information." *International Economic Review* 1969 pp. 1-21
- Mackinlay. "The econometrics of financial markets." Vol.2. Princeton, NJ: Princeton University Press, 1997.
- Kothari, S.P., and Jerold B. Warner. "The econometrics of event studies." 2004
- Cynthia J. Campbell, Arnold R. Cowan, Valentina Salotti. "Multi-Country Event Study Methods." Iowa State University 11-2010.
- Brett W. Fawley and Christopher J. Neely "Four Stories of Quantitative Easing." *Federal Reserve Bank of St. Louis Review*, January / February 2013, 95 (1), pp. 51-58.
- "Global Impact and Challenges of Unconventional Monetary Policies." International Monetary Fund Washington, D.C.
- Michael Joyce, David Miles, Andrew Scott and Dimitri Vayanos. "Quantitative Easing and Unconventional Monetary Policy – an introduction." *The Economic Journal* 122 (November).
- Andrew G Haldane, Matt Roberts-Sklar, Tomasz and Chris Young. "QE: the story so far." Staff Working Paper No. 624 Bank of England
- Gauti Eggertsson and Michael Woodford. "The Zero Bound on Interest Rates and Optimal Monetary Policy." Princeton University – March 19, 2003
- Giulia Rivolta. "An Event Study Analysis of ECB Unconventional Monetary Policy." Working paper n. 2014-02. Università Degli Studi di Milano.
- Matteo Falagiarda, Stefan Reitz. "Announcements of ECB unconventional programs: Implications for the sovereign spreads of stressed euro area countries." *Journal of International Money and Finance* 53 (2015) pp 276-295.
- John H. Rogers, Chiara Scotti, Jonathan H. Wright. "Evaluating Asset-Market Effects of Unconventional Monetary Policy: A Cross-Country Comparison. Board of Governors of the Federal Reserve System. *International Finance Discussion Papers*. Number 1101. March 2014
- Ornella Ricci. "The impact of monetary policy announcements on the stock price of large European banks during the financial crisis." *Journal of Banking & Finance* 52 (2015) 245-255.
- "Effectiveness of the ECB program of asset purchases: where do we stand?" Policy Department An economic and scientific policy. June 2016.

Appendix – Work Project – HOW DO EUROZONE STOCK MARKETS REACT TO ECB UNCONVENTIONAL MONETARY POLICY ANNOUNCEMENTS? A COMPARISON ACROSS COUNTRIES
João Francisco Ventura Santos Alves 2510

ECB Announcements			
Date	Events	Sub Group	Group
08.10.2008*	FRFA	Provision of Credit & Liquidity	Provision of Credit & Liquidity
15.10.2008	LTRO, COLL & FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
18.12.2008	FRFA	Provision of Credit & Liquidity	Provision of Credit & Liquidity
03.02.2009	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
05.03.2009*	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
19.03.2009	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
06.04.2009	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
07.05.2009*	CBPP	CBPP	Asset Purchase Programmes
04.06.2009	CBPP Technical Details	CBPP	Asset Purchase Programmes
25.06.2009	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
24.09.2009	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
03.12.2009	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
04.03.2010	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
10.05.2010	SMP	SMP	Asset Purchase Programmes
10.06.2010	LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
02.09.2010	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
02.12.2010	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
17.12.2010	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
03.03.2011	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
09.06.2011	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
29.06.2011	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
08.08.2011	Expansion SMP	SMP	Asset Purchase Programmes
25.08.2011	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
15.09.2011	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
06.10.2011	CBPP2	CBPP2	Asset Purchase Programmes
03.11.2011*	CBPP2 Technical Details	CBPP2	Asset Purchase Programmes
08.12.2011*	LTRO & COLL	Provision of Credit & Liquidity	Provision of Credit & Liquidity
16.12.2011	FTOs	Provision of Credit & Liquidity	Provision of Credit & Liquidity
09.02.2012	COLL	Provision of Credit & Liquidity	Provision of Credit & Liquidity
02.08.2012	OMT	OMT	Asset Purchase Programmes
06.09.2012	OMT Technical Details	OMT	Asset Purchase Programmes
06.12.2012	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
22.03.2013	COLL	Provision of Credit & Liquidity	Provision of Credit & Liquidity
02.05.2013*	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
08.11.2013	FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
24.01.2014	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
05.06.2014*	TRLO & FRFA & LTRO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
17.06.2014	FOR	Provision of Credit & Liquidity	Provision of Credit & Liquidity
03.07.2014	TRLO	Provision of Credit & Liquidity	Provision of Credit & Liquidity
04.09.2014*	ABS	ABS	Asset Purchase Programmes
02.10.2014	ABS & CBPP3 Technical Details	ABS	Asset Purchase Programmes
22.01.2015	Expanded APP (PSPP)	Expanded APP (PSPP)	Asset Purchase Programmes
03.12.2015*	Expanded APP (PSPP) Duration Extended	Expanded APP (PSPP)	Asset Purchase Programmes
10.03.2016*	Expanded APP (PSPP) Purchases Extended	Expanded APP (PSPP)	Asset Purchase Programmes
21.04.2016	CSPP	CSPP	Asset Purchase Programmes
03.05.2016	TRLO 2	Provision of Credit & Liquidity	Provision of Credit & Liquidity
02.06.2016	CSPP Technical Details	CSPP	Asset Purchase Programmes
05.10.2016	COLL	Provision of Credit & Liquidity	Provision of Credit & Liquidity
08.12.2016	Expanded APP Duration Extended & Scale Back	Expanded APP (PSPP)	Asset Purchase Programmes

*the event coincides with a change of the key ECB interest rates

Source: ECB Press Releases

Global Financial Crisis (15th Sept 2008 - 1st May 2010)			
Date	Events	Group	Description
08.10.2008*	FRFA	Provision of Credit & Liquidity	Fixed rate tender procedure with full allotment on the main refinancing operation (MROs).
15.10.2008	LTRO, COLL & FOR,	Provision of Credit & Liquidity	Expansion of the list of assets eligible as collateral, enhancement of the provision of longer-term refinancing operations and provision of US Dollar liquidity through a foreign exchange swaps.
18.12.2008	FRFA	Provision of Credit & Liquidity	The main refinancing operations will continue to be carried out through a fixed rate tender procedure.
03.02.2009	FOR	Provision of Credit & Liquidity	Extension of the liquidity swap arrangements with the FED.
05.03.2009*	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council of the European Central Bank (ECB) has decided to continue the fixed rate tender procedure with full allotment for all main refinancing operations, for as long as needed, and in any case beyond the end of 2009. In addition, the Governing Council decided to continue with the current frequency and maturity profile of supplementary longer-term refinancing operations and special-term refinancing operations for as long as needed, and in any case beyond the end of 2009.
19.03.2009	FOR	Provision of Credit & Liquidity	The Governing Council will carry on conducting US dollar liquidity-providing operations
06.04.2009	FOR	Provision of Credit & Liquidity	Establishment of a temporary reciprocal currency arrangement (swap line) with the Fed.
07.05.2009*	CBPP	Asset Purchase Programmes	Announcement of the Covered Bond Purchase Programme and Enhanced Credit Support programme
04.06.2009	CBPP Technical Details	Asset Purchase Programmes	Technical Details of the CBPP1.
25.06.2009	FOR	Provision of Credit & Liquidity	Extension of the liquidity swap arrangements with the FED
24.09.2009	FOR	Provision of Credit & Liquidity	The Governing Council will carry on conducting US dollar liquidity-providing operations
03.12.2009	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment for as long as is needed, and to enhance the provision of longer-term refinancing operations.
04.03.2010	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment for as long as is needed, and to enhance the provision of longer-term refinancing operations.

* the event coincides with a change of the key ECB interest rates

Source: ECB Press Releases

FRFA 08 10 2008							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0205***	-0.0176**	-0.0234***	-0.0147**	-0.0478***	-0.0182***	-0.0091
ATX	-0.0285***	-0.0888***	-0.0668***	-0.0505***	-0.0886***	-0.0392***	-0.0209*
BEL 20	-0.0145**	-0.047***	-0.0302***	-0.0313***	-0.0112	-0.0029	0.0063
CAC 40	-0.0018	0.0152***	0.011***	0.0024	0.0046	0.004	0.0023
DAX	-0.0041***	-0.0169*	-0.0089**	-0.0121**	-0.0161**	-0.0015	-0.0105**
FTASE	0.0108	0.035	0.0155	0.0302*	0.0821***	0.028	0.0433**
FTSEMIB	-0.0049	-0.006	-0.0047	-0.0063	-0.0273**	-0.0133**	-0.0091
HEX25	0.0138**	0.0156	-0.0098	0.0393***	0.0546***	-0.0261***	0.0669***
IBEX 35	0.01**	0.0105	0.0298***	-0.0094	0.0169	0.0433***	-0.0365***
ISEQ Overall	-0.0026	-0.0485*	-0.0671***	0.016	-0.0162	-0.0681***	0.0545***
PSI 20	0.0076	0.0244	0.0013	0.0308**	-0.0249	-0.0497***	0.0172

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

LTRO, COLL & FOR 15 10 2008							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0149***	-0.0467***	-0.0437***	-0.0179***	-0.0584***	-0.0274***	-0.0161**
ATX	0.0158*	0.0195	0.0465***	-0.0112	-0.0325	0.0446***	-0.0929***
BEL 20	0.0058	-0.0798***	-0.0705***	-0.0035	-0.0893***	-0.0893***	-0.0058
CAC 40	-0.0033	-0.0066	-0.0043	-0.0057	0.008	0.00	0.0114***
DAX	-0.0099***	-0.0076	-0.0072	-0.0103**	0.0171**	0.0211***	0.0059
FTASE	-0.0101	-0.0112	-0.0107	-0.0106	-0.1674***	-0.0487***	-0.1086***
FTSEMIB	0.0029	-0.0043	0.0156**	-0.017**	0.033**	0.0327***	-0.0026
HEX25	0.0101	0.0263**	0.0091	0.0273***	-0.0062	-0.0274***	0.0111
IBEX 35	0.0147**	0.0293***	0.0132	0.0308***	0.0303**	-0.005	0.0206**
ISEQ Overall	0.0148	0.0442**	0.0105	0.0485**	-0.0917***	-0.1015***	-0.005
PSI 20	0.0178**	0.0327**	0.0422***	0.0083	0.0393**	0.0475***	-0.026**

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA 18 12 2008							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0041	0.0074	0.0037	0.0078	-0.0094	-0.0107	-0.0028
ATX	-0.0132	-0.0562**	-0.0164	-0.053**	-0.0112	-0.0146	0.0166
BEL 20	0.009	0.0039	0.0096	0.0033	-0.006	-0.0169	0.0019
CAC 40	-0.0073**	-0.0073	-0.0093	-0.0054	-0.008	0.0033	-0.004
DAX	0.0059	-0.006	0.0025	-0.0025	-0.0002	-0.0009	-0.0052
FTASE	-0.0104	0.0013	0.0008	-0.0099	-0.0195	-0.0153	0.0063
FTSEMIB	0.0067	0.022**	0.0109	0.0178**	0.0141	0.0038	0.0037
HEX25	-0.0013	0.0014	-0.0017	0.0018	-0.0044	-0.0107	0.0076
IBEX 35	0.002	0.012	0.0064	0.0076	0.0117	0.0056	0.0041
ISEQ Overall	-0.0388*	-0.0357	-0.0162	-0.0583**	-0.0428	-0.0051	0.001
PSI 20	0.0024	0.0129	0.0182	-0.0028	0.0207	0.0096	0.0086

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 03 02 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0011	0.002	0.0118	-0.0086	-0.0103	0.0051	-0.0165
ATX	-0.0074	-0.0183	-0.0216	-0.004	-0.0117	0.016	-0.0203
BEL 20	-0.0011	-0.013	-0.0047	-0.0095	0.0019	0.0084	-0.0053
CAC 40	-0.0007	0.0083	0.0049	0.0026	0.0061	0.0026	0.0043
DAX	0.0078	0.0146	0.0103	0.0121	0.0076	-0.01	0.0099
FTASE	-0.0081	-0.0342	-0.0261	-0.0162	-0.0111	0.0236	-0.0266
FTSEMIB	-0.0045	-0.0144	-0.0116	-0.0074	-0.0121	-0.007	-0.0006
HEX25	-0.006	0.01	-0.0135	0.0174	0.0103	0.0016	0.0148
IBEX 35	-0.0021	-0.0172	-0.009	-0.0103	-0.0173	-0.0019	-0.0132
ISEQ Overall	-0.0157	0.0214	0.0107	-0.005	0.0253	0.0298	0.0112
PSI 20	-0.0062	-0.0162	-0.0065	-0.016	-0.0118	0.0126	-0.0181

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 05 03 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0039	0.0106	-0.0029	0.0095	-0.0014	-0.0152	0.0177
ATX	0.0134	0.0259	0.0242	0.0151	0.0492	0.0322	0.0036
BEL 20	0.0203*	-0.0017	-0.0016	0.0202	0.0048	-0.0374**	0.0219
CAC 40	0.0075**	0.0163**	0.012**	0.0117*	0.0183*	0.0076	0.0033
DAX	-0.0088	0.015	0.0068	-0.0006	0.0333*	0.0225*	0.0196*
FTASE	0.022	-0.0025	-0.016	0.0355	0.0029	-0.038	0.0189
FTSEMIB	-0.0156**	-0.059***	-0.0288***	-0.0459***	-0.0863***	-0.0243**	-0.0464***
HEX25	0.018**	0.0263*	0.0251**	0.0192	0.0217	-0.0005	0.0042
IBEX 35	-0.0017	-0.0175	-0.0214*	0.0022	-0.0247	-0.0142	-0.0087
ISEQ Overall	0.0319	0.0212	0.0377	0.0154	0.0169	0.0119	-0.0268
PSI 20	0.0218**	0.0252	0.0071	0.0399**	0.0135	-0.0271*	0.0187

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 19 03 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0045	-0.0093	-0.0145	0.0007	-0.0187	-0.0237**	0.0095
ATX	0.0254	0.037	0.032	0.0304	0.0528	0.019	0.0085
BEL 20	-0.0117	-0.0068	-0.0144	-0.0042	-0.0019	0.0019	0.008
CAC 40	-0.0036	-0.0103	-0.0092	-0.0047	-0.0158*	-0.0057	-0.0064
DAX	0.0033	0.0039	0.0029	0.0043	-0.0055	-0.0065	-0.0023
FTASE	0.031	0.0458	0.0264	0.0504*	0.0618	0.0037	0.0271
FTSEMIB	0.011	0.0453***	0.0366***	0.0197*	0.0756***	0.0292***	0.0354***
HEX25	0.0185**	-0.0058	0.0135	-0.0008	-0.0211	-0.0118	-0.0278**
IBEX 35	-0.0036	-0.0087	-0.0042	-0.0081	0.001	0.0085	-0.004
ISEQ Overall	-0.0117	0.0191	0.00	0.0075	0.005	0.0171	-0.0004
PSI 20	0.0052	0.0065	0.016	-0.0043	0.0153	0.0155	-0.0054

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 06 04 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0017	-0.0004	-0.0029	0.0009	-0.0142	-0.0082	-0.0043
ATX	-0.0042	-0.0065	0.0189	-0.0295	0.0004	0.0119	-0.0073
BEL 20	0.0017	-0.0178	-0.0064	-0.0097	-0.0336	-0.0195	-0.0157
CAC 40	-0.004	-0.0129*	-0.0116*	-0.0053	-0.0211**	-0.0114*	-0.0057
DAX	-0.0027	0.0024	0.0013	-0.0017	0.0092	0.0125	-0.0005
FTASE	-0.003	0.0094	0.0071	-0.0007	0.064	0.0191	0.0479*
FTSEMIB	-0.0058	0.0052	0.0041	-0.0047	0.0134	0.0046	0.0146
HEX25	0.0097	0.0094	0.0182	0.0009	0.0009	0.0191	-0.0279**
IBEX 35	0.0058	0.0185	0.0077	0.0166	0.0099	-0.004	0.008
ISEQ Overall	-0.0049	-0.0157	-0.0134	-0.0072	-0.0203	-0.0223	0.0069
PSI 20	0.0128	0.0147	0.0127	0.0149	0.0077	-0.0034	-0.0017

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Covered Bonds Purchase Programme 1 (CBPP1) 07 05 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0166**	0.0104	0.0139	0.0131	0.0154	0.0027	-0.0039
ATX	0.0367**	0.0351	0.0322	0.0397	0.0536	0.0192	-0.0023
BEL 20	0.0334***	0.0595***	0.0502***	0.0426***	0.0466*	0.0079	0.0053
CAC 40	0.0004	0.0003	0.0031	-0.0025	-0.0039	0.0008	-0.0051
DAX	-0.0067	-0.012	-0.015	-0.0037	-0.0145	-0.0167	0.0089
FTASE	-0.0162	-0.0231	-0.0125	-0.0268	0.0383	0.0465*	0.008
FTSEMIB	-0.0041	0.0173	0.0029	0.0103	0.0166	0.0042	0.0165
HEX25	0.0087	0.0239	0.023*	0.0096	-0.0125	0.0095	-0.0307**
IBEX 35	0.0093	0.0044	0.0052	0.0086	0.0192	0.0045	0.0054
ISEQ Overall	-0.0237	-0.0269	-0.0428	-0.0078	-0.0385	-0.0191	0.0043
PSI 20	0.0247**	0.0407**	0.0407**	0.0247	0.039	0.0177	-0.0035

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

CBPP1 Technical Details 04 06 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	0.008	0.002	0.0048	0.0071	0.0038	0.0046
ATX	-0.0057	0.0021	-0.0035	0.00	0.0061	0.0021	0.0096
BEL 20	-0.0006	0.0071	0.0072	-0.0007	0.0036	0.0037	0.0004
CAC 40	0.0008	0.0012	-0.0004	0.0025	-0.002	-0.004	0.0013
DAX	0.0021	-0.0014	0.0021	-0.0014	-0.0044	-0.0019	-0.0046
FTASE	-0.0319	-0.0242	-0.0328	-0.0234	-0.0269	-0.0035	0.0085
FTSEMIB	0.0011	-0.0036	0.0003	-0.0028	-0.0044	-0.0021	-0.0033
HEX25	-0.002	-0.024	-0.0177	-0.0083	-0.0253	-0.0195	-0.0038
IBEX 35	-0.0011	-0.0037	-0.0043	-0.0005	-0.0021	-0.002	0.001
ISEQ Overall	0.0124	0.0574	0.0437	0.026	0.0498	0.0313	0.0061
PSI 20	-0.0025	-0.0018	0.0029	-0.0072	-0.0165	0.0001	-0.0142

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 25 06 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0029	0.0047	-0.001	0.0087	-0.0004	-0.0047	0.0014
ATX	0.0084	0.035	0.0301	0.0133	0.039	0.0143	0.0164
BEL 20	0.0041	0.0109	0.008	0.007	0.0188	0.0143	0.0004
CAC 40	-0.0029	-0.0161**	-0.009	-0.0099	-0.0176*	-0.0083	-0.0064
DAX	-0.0038	-0.004	-0.0022	-0.0056	0.0033	0.0044	0.0027
FTASE	-0.0116	-0.025	-0.0205	-0.0161	-0.0236	0.0033	-0.0153
FTSEMIB	-0.001	0.001	0.0029	-0.0029	-0.0077	0.0001	-0.0068
HEX25	-0.0033	0.0199	0.0048	0.0119	0.0159	-0.0033	0.0224
IBEX 35	0.0087	0.0164	0.0112	0.0139	0.0154	0.0035	0.0032
ISEQ Overall	-0.0145	-0.0083	-0.0092	-0.0136	-0.02	-0.0025	-0.003
PSI 20	0.0048	-0.0004	-0.0034	0.0078	-0.0055	-0.0102	-0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 24 09 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0019	-0.0035	0.0023	-0.0039	-0.006	0.0003	-0.0082
ATX	0.0023	-0.0019	-0.0014	0.0018	0.0029	0.0052	-0.0047
BEL 20	0.0051	0.0088	0.0092	0.0047	-0.0053	-0.0045	-0.006
CAC 40	-0.0005	-0.0053	-0.0031	-0.0027	-0.007	-0.0045	-0.002
DAX	-0.0019	-0.0067	-0.0052	-0.0034	0.0021	-0.0007	0.0048
FTASE	0.0117	0.0369	0.0327	0.016	0.0552	0.0371	0.0064
FTSEMIB	0.0042	0.0196	0.0098	0.014	0.0097	0.0018	0.0037
HEX25	-0.0107	-0.0132	-0.0101	-0.0138	-0.0112	0.0043	-0.0049
IBEX 35	0.0007	-0.0012	0.0012	-0.0017	0.0011	0.0029	-0.0026
ISEQOverall	-0.0123	-0.0054	-0.0075	-0.0102	-0.0148	0.0064	-0.0089
PSI 20	0.0079	0.0068	0.0068	0.0079	0.005	0.0034	-0.0062

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 03 12 2009							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0033	0.0034	0.0035	0.0033	0.0074	0.0029	0.0011
ATX	-0.0027	0.0036	0.0039	-0.003	-0.0038	0.0049	-0.0059
BEL 20	0.0029	0.0086	0.0111	0.0004	0.0176	0.0167	-0.002
CAC 40	0.0007	0.005	0.0033	0.0024	0.0056	0.0008	0.0041
DAX	-0.0022	-0.0071	-0.0042	-0.005	-0.0103	-0.0038	-0.0044
FTASE	-0.0383**	-0.0342	-0.0353	-0.0372	-0.0116	0.061**	-0.0343
FTSEMIB	0.0021	0.0028	0.0002	0.0047	0.0012	-0.0021	0.0012
HEX25	-0.0037	-0.0063	-0.0005	-0.0095	-0.0096	-0.0015	-0.0045
IBEX 35	0.0023	0.0001	-0.0003	0.0027	-0.005	-0.009	0.0017
ISEQOverall	0.0109	0.0363	0.0215	0.0257	0.0244	0.0033	0.0102
PSI 20	0.0002	-0.01	-0.0046	-0.0052	-0.013	-0.0043	-0.0089

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 04 03 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0018	0.0042	0.0035	0.0025	0.0044	0.0039	-0.0013
ATX	-0.0202*	-0.0378*	-0.0367**	-0.0214	-0.0286	-0.0207	0.0123
BEL 20	-0.004	-0.0027	0.0013	-0.008	-0.0095	0.0032	-0.0086
CAC 40	-0.0035	-0.0016	-0.0048	-0.0003	-0.0023	0.0002	0.0011
DAX	-0.0039	-0.0112	-0.0064	-0.0086	-0.0112	-0.0018	-0.0055
FTASE	0.0161	0.00	-0.003	0.019	0.0185	-0.001	0.0035
FTSEMIB	0.0048	0.0079	0.0088	0.0039	0.007	-0.0019	0.0041
HEX25	0.003	-0.0058	0.0064	-0.0091	-0.0034	-0.0004	-0.006
IBEX 35	0.0074	0.0197**	0.0118	0.0153*	0.0231*	0.0032	0.0125
ISEQ Overall	0.0086	0.0019	0.0027	0.0078	0.006	-0.0028	0.0003
PSI 20	0.0046	0.0167	0.0057	0.0156	0.0078	-0.0012	0.0044

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

European Sovereign Debt Crisis (2nd May 2011 - 31th Nov 2013)			
Date	Events	Group	Description
10.05.2010	SMP	Asset Purchase Programmes	Immediate implementation of the Securities Market Programme.
10.06.2010	LTRO	Provision of Credit & Liquidity	introduction of a fixed rate tender procedure with full allotment in the regular 3 - month longer-term refinancing operations.
02.09.2010	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until January 2011, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
02.12.2010	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until April 2011, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
17.12.2010	FOR	Provision of Credit & Liquidity	Announcement of a temporary swap facility with the Bank of England.
03.03.2011	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until July 2011, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
09.06.2011	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until October 2011, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
29.06.2011	FOR	Provision of Credit & Liquidity	Extention of the liquidity swap arrangements with the FED
08.08.2011	SMP	Asset Purchase Programmes	Inclusion of Spain and Italy in the Securities Market Programme.
25.08.2011	FOR	Provision of Credit & Liquidity	Extention of the liquidity swap arrangements with the Bank of England.
15.09.2011	FOR	Provision of Credit & Liquidity	The Governing Council decided to conduct three US dollar liquidity-providing operations in coordination with other central banks.
06.10.2011	CBPP2	Asset Purchase Programmes	Announcement of a new covered bond purchase programme (CBPP2)
03.11.2011*	CBPP2 Technical Details	Asset Purchase Programmes	Technical Details of the CBPP2.
08.12.2011*	LTRO & COLL	Provision of Credit & Liquidity	Two longer-term refinancing operations with a maturity of three years and to increase collateral availability.
16.12.2011	FTOs	Provision of Credit & Liquidity	The European Central Bank (ECB) has decided to conduct two one-day liquidity-providing fine-tuning operations (FTOs). The first will be allotted on 20 December 2011 and the second on 28 February 2012.
09.02.2012	COLL	Provision of Credit & Liquidity	The Governing Council approved specific national eligibility criteria and risk control measures for the temporary acceptance in a number of countries of addiitonal credit claims as collateral in Eurosystem credit operations.
02.08.2012	OMT	Asset Purchase Programmes	Announcement of OMT, even though with some lack of details.
06.09.2012	OMT Technical Details	Asset Purchase Programmes	Technical Details of the OMT.
06.12.2012	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until July 2013, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
22.03.2013	COLL	Provision of Credit & Liquidity	Colateral Rules changes for some uncovered government- guaranteed bank bonds.
02.05.2013*	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until July 2014, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
08.11.2013	FRFA & LTRO	Provision of Credit & Liquidity	The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until July 2015, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.

* the event coincides with a change of the key ECB interest rates

Source: ECB Press Releases

Securities Market Programme (SMP) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0105***	-0.0103**	-0.0138***	-0.007**	-0.0069	0.00	0.0036
ATX	-0.0161***	-0.024**	-0.0195**	-0.0206**	-0.0153	-0.01	0.0108
BEL 20	0.0095***	0.0072	0.0002	0.0165***	0.0193**	-0.0081*	0.0179***
CAC 40	0.0026	0.0046	0.0015	0.0058**	0.0007	-0.0005	-0.0014
DAX	-0.0237***	-0.0265***	-0.0268***	-0.0234***	-0.0197***	0.004	0.00
FTASE	-0.01	-0.0174	-0.005	-0.0224	0.0234	0.0363*	-0.0029
FTSEMIB	0.0202***	0.0307***	0.0312***	0.0198***	0.0046	-0.0035	-0.0122
HEX25	-0.0037	0.0132	-0.0019	0.0114*	0.0205*	-0.0033	0.0275***
IBEX 35	0.0384***	0.0292***	0.0494***	0.0182***	0.0223**	0.0086	-0.0247***
ISEQOverall	-0.0072	-0.0021	-0.0099	0.0005	0.0014	-0.0063	0.015
PSI 20	0.0202***	0.003	0.0196***	0.0036	0.0161	-0.0072	0.0032

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Covered Bond Purchase Programme 2 (CBPP 2) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0006	0.0034	-0.0022	0.0062*	0.0044	0.00	0.0037
ATX	-0.0098**	0.0284***	0.0101	0.0084	0.0061	0.0193***	-0.0034
BEL 20	-0.002	-0.0099**	-0.0042	-0.0078*	-0.0089	-0.0014	-0.0055
CAC 40	0.0003	0.0004	0.0017	-0.001	-0.0016	0.0009	-0.0028
DAX	0.0001	0.0047	0.0093**	-0.0046	0.0059	0.0074*	-0.0015
FTASE	-0.0032	-0.013	-0.0186	0.0024	-0.0678	-0.0642**	-0.0004
FTSEMIB	0.0007	0.0029	0.0023	0.0012	0.0135	-0.0028	0.0156**
HEX25	0.0037	-0.0001	0.0059	-0.0022	0.0047	-0.0019	0.0029
IBEX 35	-0.0085*	-0.0152*	-0.0203***	-0.0033	-0.0152	-0.0011	-0.0055
ISEQOverall	0.0041	-0.0025	-0.0061	0.0078	-0.014	-0.02***	0.0018
PSI 20	0.0011	0.0015	-0.0042	0.0067	0.0076	-0.0062	0.0128

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Outright Monetary Transactions (OMT) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0016	-0.0033	0.0018	-0.0035	-0.0126**	-0.0018	-0.0124***
ATX	0.0025	-0.0028	-0.0001	-0.0003	0.0068	0.0039	0.0004
BEL 20	-0.0008	-0.0017	0.0004	-0.0029	-0.0058	-0.0049	-0.0002
CAC 40	-0.0001	0.0021	0.0035	-0.0015	-0.0045	-0.0004	-0.004
DAX	0.0016	-0.0014	0.0003	-0.0001	-0.0009	0.0005	-0.003
FTASE	-0.0081	0.0206	0.0159	-0.0034	0.0768	0.0393	0.0456
FTSEMIB	-0.0047	0.0053	-0.0084	0.009	0.0127	0.0017	0.0157**
HEX25	-0.0055	-0.0109	-0.0142**	-0.0022	-0.014	-0.0138*	0.0052
IBEX 35	-0.0041	0.0025	-0.0061	0.0045	0.0267*	0.0058	0.025***
ISEQ Overall	0.0076	-0.0037	0.004	-0.0001	-0.0048	-0.0054	-0.0069
PSI 20	0.0035	0.0023	-0.001	0.0068	0.0148	0.0008	0.0105

***99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Securities Market Programme (SMP) 10 05 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0139***	-0.0151**	-0.0178***	-0.0113**	-0.0148*	0.0021	-0.003
ATX	-0.0097	-0.0037	0.0015	-0.0149	-0.0074	-0.0016	0.0039
BEL 20	0.0178***	0.0022	0.0069	0.013	0.0094	-0.0128	0.0044
CAC 40	0.0047**	0.0005	-0.0009	0.006*	-0.0055	-0.0065**	-0.0037
DAX	-0.0373***	-0.0165***	-0.0285***	-0.0254***	0.004	0.0218***	0.0195***
FTASE	-0.003	-0.0056	0.0156	-0.0242	0.0236	0.0585**	-0.0319
FTSEMIB	0.0129***	0.0296***	0.0246***	0.0179***	-0.0004	-0.0088	-0.0045
HEX25	-0.0066	-0.011	-0.0081	-0.0095	0.0046	0.0037	0.0075
IBEX 35	0.0504***	0.0315***	0.057***	0.0249***	0.0147	-0.0028	-0.0329***
ISEQ Overall	-0.0076	-0.0148	-0.01	-0.0124	-0.0228	-0.0069	-0.0083
PSI 20	0.0391***	0.0229**	0.039***	0.023**	0.0309**	-0.009	0.0008

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

LTRO 10 06 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0048	-0.0138**	-0.0053	-0.0132***	-0.0117	-0.0012	-0.0057
ATX	0.0076	0.0103	0.0098	0.0081	0.0121	0.0033	0.0012
BEL 20	-0.0029	-0.0138	-0.0059	-0.0108	-0.0154	-0.0043	-0.0082
CAC 40	-0.001	0.0002	-0.0017	0.0008	0.0031	-0.0012	0.0053
DAX	-0.0074*	-0.0163**	-0.0062	-0.0175***	-0.017*	0.0027	-0.0124**
FTASE	-0.0151	0.007	0.0061	-0.0143	0.0481	0.0371	0.0261
FTSEMIB	0.0028	0.0057	0.0014	0.0071	0.0208**	0.0041	0.0139**
HEX25	0.0015	-0.0063	0.0015	-0.0063	0.002	0.0046	-0.0041
IBEX 35	0.0137**	0.0437***	0.0147	0.0427***	0.0248	-0.0029	0.014
ISEQ Overall	-0.0016	-0.0047	0.011	-0.0173	-0.0166	0.0126	-0.0276*
PSI 20	0.009	-0.0014	-0.0021	0.0097	-0.0112	-0.0144	-0.0059

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 02 09 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0012	0.0005	0.0007	0.001	0.0016	0.0002	0.0003
ATX	-0.0003	-0.0129	-0.0077	-0.0055	-0.0166	-0.0164	0.0001
BEL 20	0.0005	-0.002	0.0018	-0.0032	-0.0044	-0.0022	-0.0027
CAC 40	0.0002	0.0066*	0.005	0.0018	0.0058	0.0038	0.0018
DAX	-0.002	-0.0024	-0.0025	-0.002	-0.0022	-0.0005	0.0003
FTASE	0.0302	0.0299	0.0096	0.0505	0.0346	-0.0234	0.0279
FTSEMIB	0.0003	-0.0009	-0.0021	0.0015	-0.0032	-0.0027	-0.0009
HEX25	0.0002	-0.0053	0.0012	-0.0063	-0.0061	0.0036	-0.0098
IBEX 35	-0.0026	-0.0093	-0.0046	-0.0073	-0.0076	0.0008	-0.0058
ISEQ Overall	-0.0072	-0.0049	-0.0162	0.0041	0.0066	0.0026	0.0112
PSI 20	-0.0063	-0.0364***	-0.0256**	-0.0171	-0.0324*	-0.0202*	-0.0058

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 02 12 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0018	0.0008	0.0001	-0.001	0.0011	-0.0001	0.0029
ATX	0.0022	0.0089	0.0139	-0.0028	0.0072	0.0049	0.0001
BEL 20	0.0014	-0.0008	0.0014	-0.0008	-0.0011	-0.0009	-0.0016
CAC 40	-0.0007	-0.0127***	-0.0123***	-0.0012	-0.0118**	-0.0126***	0.0016
DAX	-0.004	-0.0025	0.0006	-0.007	0.0025	0.0074	-0.0008
FTASE	-0.0237	-0.0012	-0.006	-0.0189	0.033	0.0381	0.0185
FTSEMIB	0.0023	-0.0003	-0.0026	0.0045	-0.0108	-0.0087	-0.0043
HEX25	0.0034	0.0014	0.0055	-0.0007	0.0028	0.0035	-0.0041
IBEX 35	0.0032	0.0213*	0.0154	0.009	0.0139	0.014	-0.0032
ISEQ Overall	0.0024	-0.0078	-0.0033	-0.0021	0.0014	-0.0032	0.0022
PSI 20	0.0009	0.0133	0.0072	0.0071	0.0085	-0.0007	0.0082

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 17 12 2010							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0055	0.0051	0.0075	0.0031	0.0046	0.0039	-0.0048
ATX	0.0086	0.0119	0.0065	0.014	0.0161	0.0004	0.0071
BEL 20	-0.0019	-0.0045	-0.0059	-0.0004	-0.009	-0.0038	-0.0033
CAC 40	0.001	0.0002	0.002	-0.0008	-0.0015	0.0014	-0.0039
DAX	-0.0019	-0.0028	-0.0024	-0.0024	-0.0025	0.0019	-0.0025
FTASE	0.0149	-0.0272	0.0176	-0.0299	-0.0402	-0.0023	-0.0528*
FTSEMIB	-0.0076	-0.0016	-0.0104	0.0012	-0.0046	-0.0104	0.0135**
HEX25	0.0013	0.005	0.0024	0.0039	0.0181	0.0087	0.0082
IBEX 35	-0.003	-0.0004	-0.0035	0.00	-0.0014	-0.0076	0.0093
ISEQ Overall	-0.0008	0.0021	0.0019	-0.0006	0.0087	0.0059	0.0035
PSI 20	-0.0003	-0.0059	-0.0081	0.0019	-0.0154	-0.0124	-0.0027

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 03 03 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0043	0.0085	0.0024	0.0104**	0.0087	0.0006	0.0038
ATX	-0.006	-0.0118	-0.0074	-0.0104	-0.0029	0.0024	0.0007
BEL 20	-0.0021	0.0054	-0.0037	0.007	0.0088	0.0066	0.0043
CAC 40	0.0029	-0.0005	0.003	-0.0006	-0.0077	-0.0033	-0.0073**
DAX	0.0028	-0.0002	0.0022	0.0003	-0.003	-0.0028	-0.003
FTASE	0.006	0.0163	0.009	0.0133	0.0206	0.0073	0.0073
FTSEMIB	-0.0075	0.0084	0.002	-0.0011	0.0098	0.0065	0.0107
HEX25	0.0035	-0.0067	-0.0005	-0.0027	0.0062	0.0033	-0.0006
IBEX 35	-0.0113	-0.0108	-0.0123	-0.0098	-0.006	-0.0005	0.0058
ISEQ Overall	0.0001	-0.0024	-0.005	0.0027	0.004	-0.0042	0.0082
PSI 20	-0.0063	-0.0011	-0.001	-0.0064	0.0066	0.0106	0.0024

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 09 06 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	-0.0003	-0.0015	-0.0001	-0.0014	-0.0019	0.0017
ATX	-0.0026	0.0052	-0.0048	0.0074	-0.0004	-0.0078	0.01
BEL 20	-0.0017	-0.0041	-0.0014	-0.0043	-0.0043	0.0014	-0.004
CAC 40	0.0002	0.0008	0.003	-0.0021	0.0024	0.0039	-0.0017
DAX	0.0051	0.009	0.0082*	0.0059	0.0119*	0.0044	0.0025
FTASE	-0.0015	-0.0269	-0.0302	0.0018	-0.0525	-0.0544**	0.0033
FTSEMIB	-0.0047	-0.004	-0.0075	-0.0012	-0.0044	-0.0014	0.0017
HEX25	0.007	-0.0097	-0.0064	0.0037	-0.014	-0.0127	-0.0083
IBEX 35	-0.007	-0.0021	-0.003	-0.0061	-0.0026	0.0039	0.0005
ISEQ Overall	0.0052	0.0019	0.0048	0.0023	0.0098	-0.0004	0.005
PSI 20	-0.0033	-0.0196	-0.0136	-0.0094	-0.0226	-0.0116	-0.0077

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 29 06 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.001	-0.004	-0.004	-0.001	-0.0037	-0.0046	0.0018
ATX	0.0055	0.0093	0.0075	0.0072	0.0156	0.0002	0.0099
BEL 20	0.0046	-0.0108**	-0.0075	0.0012	-0.0185**	-0.0165***	-0.0065
CAC 40	-0.0027	0.0011	0.0027	-0.0043	0.00	0.0073	-0.0046
DAX	-0.0012	-0.0033	-0.0005	-0.0041	-0.0089	-0.0025	-0.0052
FTASE	-0.0155	0.013	0.0105	-0.013	0.0383	0.0263	0.0275
FTSEMIB	0.00	-0.0003	-0.0006	0.0003	0.0134	0.0058	0.0076
HEX25	0.0194***	0.0216**	0.0132*	0.0278***	0.0211*	-0.0061	0.0078
IBEX 35	-0.0015	-0.0001	-0.0044	0.0028	0.0077	0.0019	0.0073
ISEQ Overall	-0.0066	-0.0137	-0.0048	-0.0155	-0.0062	0.0026	-0.0023
PSI 20	0.0096	0.0247*	0.0044	0.0299***	0.0137	-0.0119	0.016

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

SMP - Inclusion of Spain and Italy 08 08 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0071**	-0.0054	-0.0097**	-0.0027	0.0009	-0.0021	0.0101**
ATX	-0.0225***	-0.0443***	-0.0405***	-0.0263***	-0.0232*	-0.0183**	0.0176**
BEL 20	0.0011	0.0122**	-0.0066	0.0199***	0.0292***	-0.0034	0.0314***
CAC 40	0.0006	0.0088**	0.0038	0.0056*	0.0023	0.0055*	0.0009
DAX	-0.01***	-0.0364***	-0.0251***	-0.0214***	-0.0434***	-0.0138***	-0.0196***
FTASE	-0.017	-0.0291	-0.0255	-0.0206	0.0233	0.0141	0.0262
FTSEMIB	0.0275***	0.0318***	0.0378***	0.0216***	0.0095	0.0018	-0.0198***
HEX25	-0.0008	0.0374***	0.0042	0.0324***	0.0363***	-0.0103	0.0475***
IBEX 35	0.0264***	0.0268**	0.0418***	0.0115	0.03**	0.0201**	-0.0166*
ISEQ Overall	-0.0069	0.0106	-0.0097	0.0134	0.0256	-0.0057	0.0382***
PSI 20	0.0012	-0.017	0.0001	-0.0159	0.0013	-0.0055	0.0057

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 25 08 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0041	-0.007	-0.0076*	-0.0036	-0.0068	-0.0007	-0.0019
ATX	0.0107*	0.0248**	0.0187**	0.0167**	0.0135	-0.0048	0.0077
BEL 20	-0.0012	0.0147**	0.0114**	0.0021	0.0037	0.0074	-0.0025
CAC 40	0.0023	-0.0001	0.0005	0.0017	0.0017	0.0034	-0.004
DAX	-0.0099***	-0.0015	-0.001	-0.0105**	0.0053	0.0142***	0.0009
FTASE	-0.0006	-0.0469	-0.0369	-0.0106	0.0502	-0.0825***	0.1333***
FTSEMIB	0.0079	0.0067	0.0054	0.0093	-0.0134	-0.0186**	-0.0027
HEX25	0.0019	0.0036	-0.0012	0.0066	0.0159	0.0015	0.0125
IBEX 35	0.0012	-0.0119	-0.0083	-0.0023	-0.0196	-0.0168*	-0.004
ISEQ Overall	-0.0011	-0.004	-0.0033	-0.0017	-0.0165	-0.0123	-0.0031
PSI 20	-0.0025	-0.0113	-0.0108	-0.0029	-0.0085	-0.0137	0.0076

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 15 09 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0051	-0.0042	-0.0109**	0.0016	-0.0129*	-0.0118***	0.004
ATX	-0.0019	-0.0091	-0.02**	0.0089	-0.0245*	-0.0269***	0.0044
BEL 20	-0.005	-0.0096	-0.0125**	-0.0021	-0.0157**	-0.012**	0.0013
CAC 40	0.0024	-0.0143***	-0.0033	-0.0086**	-0.0171***	-0.007**	-0.0124***
DAX	0.0029	0.019***	0.0132**	0.0087	0.0209**	0.0141***	0.0038
FTASE	-0.0273	0.0013	-0.0217	-0.0043	-0.0066	-0.004	0.0247
FTSEMIB	0.0026	-0.0097	0.0031	-0.0102	-0.004	0.0058	-0.0124
HEX25	0.0048	0.0004	-0.0047	0.0098	-0.0122	-0.0185*	0.0015
IBEX 35	0.0059	0.0085	0.0085	0.006	0.0279*	0.0124	0.0096
ISEQ Overall	-0.0242***	-0.0136	-0.0223**	-0.0155	-0.0047	0.0051	0.0144
PSI 20	0.0099	0.0117	0.0072	0.0145	0.0059	-0.0068	0.0027

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Covered Bond Purchase Programme 2 (CBPP2) 06 10 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.002	0.0039	0.0005	0.0054	0.0054	0.0005	0.0028
ATX	-0.0113*	0.0173	0.0087	-0.0027	-0.0154	0.0193**	-0.0235***
BEL 20	-0.0059	-0.0145**	-0.0047	-0.0157***	-0.0222**	-0.0027	-0.0136**
CAC 40	0.0009	0.0033	0.0036	0.0006	0.0038	0.0052	-0.0023
DAX	-0.0005	0.0079	0.0094	-0.0019	0.0125	0.0069	0.0061
FTASE	-0.0177	-0.0365	-0.0401	-0.014	-0.1261**	-0.0761**	-0.0323
FTSEMIB	-0.001	-0.0004	-0.0059	0.0046	0.0152	-0.0002	0.0164**
HEX25	0.0042	-0.0047	0.0047	-0.0052	-0.0167	-0.0194*	-0.0015
IBEX 35	-0.0065	-0.0125	-0.0163*	-0.0026	-0.0113	0.0039	-0.0087
ISEQ Overall	0.0016	-0.01	-0.0092	0.0008	-0.0311*	-0.0244**	-0.0083
PSI 20	-0.0079	-0.001	-0.007	-0.0018	0.0051	-0.0009	0.0139

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

CBPP2 Technical Details 03 11 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0007	0.003	-0.0048	0.007	0.0033	-0.0005	0.0046
ATX	-0.0084	0.0195	-0.0084	0.0195*	0.0084	0.00	0.0167
BEL 20	0.0019	-0.0054	-0.0037	0.0002	0.0044	-0.0001	0.0025
CAC 40	-0.0003	-0.0025	-0.0001	-0.0026	-0.007	-0.0034	-0.0033
DAX	0.0007	0.0014	0.0093	-0.0072	-0.0006	0.0079	-0.0092
FTASE	0.0113	0.0104	0.003	0.0188	-0.0095	-0.0524	0.0315
FTSEMIB	0.0023	0.0061	0.0106	-0.0021	0.0118	-0.0053	0.0148
HEX25	0.0033	0.0045	0.007	0.0008	0.026*	0.0155	0.0072
IBEX 35	-0.0105	-0.0179	-0.0243**	-0.0041	-0.019	-0.0062	-0.0023
ISEQ Overall	0.0067	0.005	-0.003	0.0148	0.0031	-0.0155	0.0119
PSI 20	0.01	0.0039	-0.0013	0.0152	0.0101	-0.0116	0.0116

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

LTRO & COLL 08 12 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0044	0.0068	0.0067	0.0045	0.011	0.0066	0.00
ATX	0.00	-0.0067	0.00	-0.0067	0.0086	0.011	-0.0023
BEL 20	0.0011	0.0054	0.005	0.0015	-0.0015	-0.0051	0.0025
CAC 40	-0.0006	0.0078*	0.0034	0.0037	0.0122**	0.0042	0.0087**
DAX	0.0042	0.0024	0.0035	0.0031	-0.0078	-0.0068	-0.0052
FTASE	0.0057	0.0053	0.0232	-0.0122	-0.0144	0.0016	-0.0216
FTSEMIB	-0.0159**	-0.0117	-0.0225**	-0.0051	-0.0131	-0.0037	0.0065
HEX25	-0.0083	-0.0186	-0.0083	-0.0186*	-0.0194	0.00	-0.011
IBEX 35	0.002	0.0015	-0.0013	0.0047	0.0058	0.0038	0.00
ISEQ Overall	0.0045	0.0035	0.0109	-0.0029	0.0111	0.0041	0.0026
PSI 20	-0.0084	-0.0024	-0.0043	-0.0064	-0.0123	-0.0037	-0.0003

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FTOs 16 12 2011							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0023	0.0036	0.0035	0.0023	0.0056	-0.0006	0.0039
ATX	0.0171**	0.0213	0.0216**	0.0169	0.0301*	0.0099	0.003
BEL 20	0.0058	0.005	0.0059	0.0048	0.0048	-0.0014	0.0004
CAC 40	-0.0034	-0.0038	-0.0051	-0.0021	-0.0145**	-0.0101***	-0.001
DAX	0.0002	-0.0043	0.0007	-0.0048	0.0051	0.0081	-0.0033
FTASE	-0.0042	-0.0174	-0.0063	-0.0152	0.006	0.0167	-0.0066
FTSEMIB	0.0024	0.005	0.0058	0.0016	0.0005	0.0032	-0.0052
HEX25	0.0015	-0.0056	0.0005	-0.0046	0.0047	-0.0028	0.0059
IBEX 35	-0.0008	0.0053	-0.0012	0.0057	0.008	0.0055	0.0032
ISEQ Overall	0.01	0.0156	0.013	0.0126	0.0145	0.0052	-0.0006
PSI 20	-0.0003	0.0116	0.0085	0.0029	0.0011	0.0124	-0.011

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

COLL 09 02 2012							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0036	-0.0104	-0.0066	-0.0075	-0.0043	-0.0005	-0.0001
ATX	0.0005	-0.0143	0.0027	-0.0164	-0.0006	0.0054	-0.0066
BEL 20	-0.0071	-0.0157*	-0.0105	-0.0123*	-0.0085	-0.0045	0.003
CAC 40	0.0006	-0.0011	-0.001	0.0005	-0.0013	-0.0001	-0.0018
DAX	0.0019	0.00	-0.0004	0.0023	-0.0009	-0.0046	0.0018
FTASE	0.011	-0.0178	0.016	-0.0228	0.0773	0.0396	0.0267
FTSEMIB	-0.0046	0.0049	0.0053	-0.005	0.0065	0.0162	-0.0051
HEX25	-0.0057	0.0113	0.0074	-0.0018	0.0082	0.0084	0.0055
IBEX 35	0.0028	0.0044	0.0023	0.0049	0.0002	0.0007	-0.0033
ISEQ Overall	0.0005	-0.0021	-0.0066	0.005	-0.0133	-0.0129	-0.0009
PSI 20	-0.0065	0.0152	0.0129	-0.0042	0.0453**	0.0394***	0.0124

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Outright Monetary Transactions (OMT) 02 08 2012							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0047	-0.0014	0.0063	-0.003	-0.0129	0.0001	-0.0178***
ATX	0.002	-0.0171	-0.009	-0.0061	-0.0076	-0.0058	-0.0038
BEL 20	0.0018	-0.0004	0.0061	-0.0047	-0.009	-0.008	-0.0029
CAC 40	0.001	0.009*	0.0077*	0.0023	-0.0017	0.005	-0.0028
DAX	0.0052	-0.0028	-0.0001	0.0024	-0.0011	0.0011	-0.0073
FTASE	0.0048	-0.0068	0.0081	-0.01	0.0178	0.0096	0.0033
FTSEMIB	-0.0154**	-0.0007	-0.0152	-0.0009	0.0028	0.0021	0.0161
HEX25	0.0038	-0.0112	0.0009	-0.0083	-0.0156	-0.0077	-0.0117
IBEX 35	-0.0262***	-0.0099	-0.0303**	-0.0058	0.0204	-0.0063	0.0529***
ISEQ Overall	0.0198***	-0.0118	0.0089	-0.0009	-0.0159	-0.0154	-0.0203**
PSI 20	0.0012	-0.0182	-0.0077	-0.0093	-0.003	-0.0028	-0.0014

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

OMT Technical Details 12 09 2012							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0016	-0.0051	-0.0027	-0.004	-0.0123	-0.0038	-0.0069
ATX	0.003	0.0115	0.0088	0.0056	0.0211	0.0135	0.0047
BEL 20	-0.0034	-0.0029	-0.0053	-0.001	-0.0026	-0.0018	0.0025
CAC 40	-0.001	-0.0049	-0.0006	-0.0053	-0.0121**	-0.0057	-0.0053
DAX	-0.002	0.00	0.0006	-0.0026	-0.0008	-0.0002	0.0013
FTASE	-0.021	0.0479	0.0237	0.0032	0.1359**	0.069	0.0879**
FTSEMIB	0.006	0.0113	-0.0017	0.0189*	0.0225	0.0013	0.0153
HEX25	-0.0148**	-0.0106	-0.0292***	0.0039	-0.0125	-0.0199**	0.0222**
IBEX 35	0.018**	0.0149	0.0182	0.0147	0.033	0.018	-0.003
ISEQ Overall	-0.0046	0.0045	-0.0009	0.0007	0.0064	0.0045	0.0065
PSI 20	0.0057	0.0229	0.0056	0.023*	0.0326*	0.0044	0.0225*

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 06 12 2012							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0029	0.0088	0.0048	0.007	0.0104	0.0012	0.0063
ATX	0.0039	0.0043	0.0103	-0.0021	0.0034	0.0013	-0.0018
BEL 20	-0.0138***	-0.0138*	-0.0169***	-0.0106*	-0.0133	-0.0039	0.0043
CAC 40	-0.0022	0.0002	-0.0015	-0.0006	0.0062	0.0027	0.0057
DAX	0.0054	0.0036	0.0057	0.0033	0.0048	-0.0018	0.0012
FTASE	0.0164	0.0365	0.0327	0.0203	0.0337	-0.0016	0.0189
FTSEMIB	-0.0137**	-0.029**	-0.0214**	-0.0213**	-0.0398***	0.0007	-0.0268***
HEX25	0.00	0.0135	0.0135	0.00	0.0063	0.0135	-0.0072
IBEX 35	-0.0017	-0.0123	-0.0057	-0.0082	-0.0144	-0.0037	-0.0089
ISEQ Overall	0.0082	0.0129	0.0111	0.01	0.0063	-0.0004	-0.0014
PSI 20	0.0018	0.0262*	0.0183	0.0097	0.0259	0.0207*	0.0033

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

COLL 22 03 2013							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0035	-0.0005	-0.0024	-0.0016	0.001	0.00	0.0046
ATX	-0.0114**	-0.0177*	-0.0091	-0.0199**	-0.0185	0.0018	-0.0089
BEL 20	0.0034	0.0075	0.0088*	0.0021	0.007	0.0045	-0.001
CAC 40	0.0005	-0.0049	-0.0045	0.0001	0.0056	-0.0015	0.0066*
DAX	-0.0015	0.0015	-0.0024	0.0024	0.0009	-0.0037	0.006
FTASE	0.008	0.0146	0.0146	0.008	0.0149	0.0069	0.00
FTSEMIB	0.0094	0.0056	0.0167*	-0.0018	0.0068	0.0158	-0.0184**
HEX25	-0.0061	0.0075	-0.0015	0.0029	0.0032	0.0006	0.0087
IBEX 35	-0.0004	-0.0069	0.0031	-0.0104	-0.0246	0.0024	-0.0266*
ISEQ Overall	-0.0013	-0.0005	-0.0072	0.0054	0.00	-0.0034	0.0046
PSI 20	0.001	-0.0013	0.004	-0.0043	-0.0117	0.007	-0.0197*

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 02 05 2013							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.00	-0.0044	0.00	-0.0044	-0.0146*	-0.0105**	-0.0041
ATX	0.00	0.0003	0.00	0.0003	0.0026	-0.0057	0.0084
BEL 20	0.00	-0.0001	0.00	-0.0001	-0.0031	-0.0039	0.0008
CAC 40	0.00	-0.0033	0.00	-0.0033	-0.0104*	-0.0068*	-0.0035
DAX	0.00	0.0052	0.00	0.0052	0.0067	0.0018	0.0049
FTASE	0.00	0.00	0.00	0.00	-0.0138	-0.0138	0.00
FTSEMIB	0.00	-0.0116	0.00	-0.0116	-0.0274*	-0.0142	-0.0132
HEX25	0.00	0.00	0.00	0.00	-0.0045	-0.0082	0.0036
IBEX 35	0.00	-0.0043	0.00	-0.0043	-0.0159	-0.0083	-0.0077
ISEQ Overall	0.0047	0.0092	0.0061	0.0079	0.0003	-0.0075	0.0032
PSI 20	0.00	-0.0093	0.00	-0.0093	-0.0063	-0.005	-0.0013

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FRFA & LTRO 08 11 2013							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0038	0.0032	0.0044	0.0026	0.004	0.002	-0.0017
ATX	-0.0082	-0.0077	-0.0076	-0.0082	-0.004	0.0032	0.001
BEL 20	-0.0041	-0.0072	-0.0084	-0.0029	-0.0018	0.002	0.0003
CAC 40	-0.0028	-0.0003	-0.0008	-0.0022	0.0001	0.0022	0.0006
DAX	0.0015	0.0064	0.0088**	-0.0009	0.0052	0.0041	-0.0004
FTASE	-0.0015	0.0048	0.015	-0.0116	-0.0123	0.0288	-0.0396
FTSEMIB	0.0076	-0.0088	-0.0095	0.0083	-0.0066	-0.0166	0.0023
HEX25	-0.0013	0.0011	0.0008	-0.001	-0.0033	0.0068	-0.0087
IBEX 35	0.0028	-0.0062	-0.0037	0.0002	-0.0121	-0.0104	-0.0045
ISEQ Overall	0.0027	0.0074	0.0041	0.006	0.0186	0.0031	0.0128
PSI 20	-0.0106	-0.0039	-0.0089	-0.0056	0.0075	0.0089	0.0093

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Latest ECB Policies - Low Inflation (1st Dec 2013 - 31th Jan 2016)			
Date	Events	Group	Description
24.01.2014	FOR	Provision of Credit & Liquidity	The ECB will cease to conduct three-month US dollar liquidity-providing operations as of April 2014. One-week US dollar liquidity-providing operations will continue to be conducted at least until 31 July 2014.
05.06.2014*	TRLO, FRFA & LTRO	Provision of Credit & Liquidity	The Govern Council has decided to conduct a series of targeted longer-term refinancing operations (TLTROs) aimed at improving bank lending to euro area non-financial private sector. The Governing Council will carry on conducting its main refinancing operations as fixed rate tender procedures with full allotment at least until July 2016, and to conduct a 3-month longer-term refinancing operations as fixed rate tender procedures with full allotment.
17.06.2014	FOR	Provision of Credit & Liquidity	Extention of US dolllar liquidity-providing operations beyond 31 July 2014.
03.07.2014	TRLO	Provision of Credit & Liquidity	ECB announces further details of the targeted longer-term refinancing operations.
04.09.2014*	ABS	Asset Purchase Programmes	Eurosystem's asset-backed securities purchase programme (ABSPP).
02.10.2014	ABS & CBPP3 Technical Details	Asset Purchase Programmes	Operational Details of asset-backed securities and covered bond purchase programmes (Abs and CBPP3).
22.01.2015	Expanded APP (PSPP)	Asset Purchase Programmes	Expanded Asset Purchase Programme (QE ECB) - Public Sector Purchase Programme. ECB expands purchases to include bonds issued by euro area central governments, agencies and European institutions. Combined monthly asset purchases to amount to €60 billion Purchases intended to be carried out until at least September 2016 Programme designed to fulfil price stability mandate.
03.12.2015*	Expanded APP Duration Extended	Asset Purchase Programmes	Duration of Expanded Asset Purchase Programme Extended.
10.03.2016*	Expanded APP Purchases Extended	Asset Purchase Programmes	Monthly Purchases under Expanded Asset Programme Extended.
21.04.2016	CSPP	Asset Purchase Programmes	The CSPP aims to further strengthen the pass-through of the Eurosystem's asset purchases to the financing conditions of the real economy. Purchases will start in June 2016.
03.05.2016	TRLO 2	Provision of Credit & Liquidity	ECB publishes legal acts relating to the second series of targeted longer-term refinancing operations (TLTRO-II).
02.06.2016	CSPP Technical Details	Asset Purchase Programmes	Governing Council decided that purchases under its corporate sector purchase programme (CSPP) will start on 8 June 2016.
05.10.2016	COLL	Provision of Credit & Liquidity	Collateral Rules changes for some uncovered government- guaranteed bank bonds.
08.12.2016	Expanded APP Duration Extended & Scale Back	Asset Purchase Programmes	QE Scale Back Duration Extended.

* the event coincides with a change of the key ECB interest rates

Source: ECB Press Releases

Provision of Credit & Liquidity - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.001	-0.0006	-0.0002	-0.0013	0.0009	0.0023	-0.0005
ATX	-0.0007	-0.0044	0.0006	-0.0057	-0.0001	0.0033	-0.0027
BEL 20	0.0007	0.0017	0.0032	-0.0008	-0.0001	0.001	-0.0018
CAC 40	0.001	0.0005	0.0006	0.0009	0.0002	-0.0001	-0.0007
DAX	-0.0013	0.0006	0.0006	-0.0013	-0.0001	0.0012	0.000
FTASE	-0.0013	0.011	0.0076	0.0021	0.0119	0.007	0.0062
FTSEMIB	0.0029	0.0033	0.0007	0.0055	0.0059	-0.0012	0.0041
HEX25	0.0009	-0.0025	-0.0007	-0.0009	-0.0004	0.0001	-0.0014
IBEX 35	-0.0028	-0.0035	-0.0041	-0.0022	-0.004	-0.0028	0.0016
ISEQ Overall	-0.0021	-0.0052	-0.0019	-0.0053	-0.0044	0.0003	-0.0027
PSI 20	-0.0015	0.001	0.0016	-0.0021	-0.0004	0.0008	0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded Asset Purchase Programme (ABSPP3, CBPP3, PSPP & CSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0023*	-0.0034*	-0.0037**	-0.0021	-0.0049*	-0.002	-0.0005
ATX	0.0035	0.0024	0.0029	0.0031	0.005	0.0014	0.0001
BEL 20	-0.0002	-0.0026	-0.0026	-0.0003	-0.0037	-0.0031*	-0.0004
CAC 40	-0.0022***	-0.002	-0.0023**	-0.0019	-0.003	0.00	-0.0008
DAX	-0.001	-0.0009	-0.001	-0.0009	0.00	-0.0015	0.0025
FTASE	0.0153*	0.0122	0.0097	0.0177	-0.0056	-0.0075	-0.0133
FTSEMIB	0.0038	0.0051	0.0072**	0.0017	0.0045	0.0058*	-0.0052
HEX25	-0.0004	-0.0006	0.0001	-0.0012	0.0041	0.0015	0.003
IBEX 35	0.0045**	0.0046	0.0042*	0.0048*	0.0056	0.002	-0.0008
ISEQ Overall	-0.0012	-0.0007	-0.0027	0.0009	-0.0033	-0.0021	0.00
PSI 20	0.0039*	0.0055	0.0075*	0.0019	0.0031	0.0014	-0.0022

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Asset-Backed Securities Purchase (ABSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0036*	-0.0048	-0.0068	-0.0016	-0.0044	-0.0034	0.0025
ATX	0.0029	0.0065	0.0071	0.0023	0.0038	-0.0007	0.0016
BEL 20	-0.0013	-0.0022	-0.0043	0.0008	-0.0057	-0.0045	0.0001
CAC 40	-0.0007	-0.0025	-0.0021	-0.0012	-0.0024	-0.0004	-0.0013
DAX	0.0003	0.0028	0.001	0.0022	0.004	-0.0011	0.0047
FTASE	0.0143	0.0202	0.0224	0.012	0.0052	-0.0003	-0.0088
FTSEMIB	0.0013	0.0067	0.0055	0.0025	0.0055	0.0078	-0.0036
HEX25	0.0014	-0.0021	-0.0023	0.0015	0.0044	-0.0026	0.0056
IBEX 35	-0.0008	0.0052	0.0009	0.0035	0.0066	0.002	0.0053
ISEQOverall	-0.0009	0.0041	0.0006	0.0025	0.003	0.0034	0.0005
PSI 20	-0.0016	0.0003	-0.0012	-0.0001	-0.0064	-0.0035	-0.0013

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded APP / Public Sector Purchase Programme (PSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0019	-0.0036	-0.0024	-0.0032	-0.0047	-0.0006	-0.0022
ATX	0.006*	0.0035	0.0069	0.0026	0.0084	0.0067	-0.0043
BEL 20	0.0003	-0.0055**	-0.0025	-0.0027	-0.0046	-0.0024	-0.0025
CAC 40	-0.0031***	-0.002	-0.0026*	-0.0025*	-0.0039*	0.0006	-0.0013
DAX	-0.0029*	-0.0031	-0.0035	-0.0024	-0.0034	-0.0046**	0.004*
FTASE	0.0166	-0.0048	0.001	0.0108	-0.0261	-0.0149	-0.0277
FTSEMIB	0.0062**	0.0063	0.0107***	0.0019	0.0107*	0.0123***	-0.0078**
HEX25	0.001	0.0049	0.0059*	0.0001	0.0082	0.0022	0.005
IBEX 35	0.0064***	0.0016	0.0032	0.0049	0.0051	0.0026	-0.004
ISEQOverall	0.0006	0.0035	0.0009	0.0032	-0.0026	-0.0014	-0.0018
PSI 20	0.0077**	0.0113**	0.0159***	0.0032	0.0117	0.0078	-0.0038

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Corporate Sector Purchase Programme (CSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0019	-0.0017	-0.0033	-0.0003	-0.0057	-0.0037	-0.0001
ATX	0.0005	0.0002	-0.0071	0.0078	-0.002	-0.0079	0.0054
BEL 20	0.00	0.0026	-0.0009	0.0036	0.00	-0.0031	0.003
CAC 40	-0.0017	-0.0017	-0.0021	-0.0013	-0.0018	-0.0008	0.0006
DAX	0.0013	0.0007	0.002	-0.0001	0.0038	0.0042	-0.0016
FTASE	0.0137	0.038	0.0144	0.0373	0.0215	-0.0001	0.0079
FTSEMIB	0.0015	0.001	0.0018	0.0007	-0.0091	-0.0091	-0.0015
HEX25	-0.005	-0.0081	-0.0067	-0.0063	-0.0039	0.0045	-0.0034
IBEX 35	0.0058	0.0098	0.0097	0.0059	0.0058	0.0007	-0.0007
ISEQ Overall	-0.0052	-0.0137	-0.0134	-0.0055	-0.0053	-0.0089	0.0088
PSI 20	0.0017	-0.0009	-0.0005	0.0014	-0.0047	-0.0063	-0.0001

***99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 24 01 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0034	-0.0076	-0.0052	-0.0058	-0.0049	0.0044	-0.0059
ATX	0.0032	-0.0009	0.0012	0.0011	0.0129	0.0032	0.0064
BEL 20	0.0028	0.0124	0.0104	0.0048	0.0112	0.0061	0.0023
CAC 40	0.0009	0.0035	0.0002	0.0042	0.0051	0.0005	0.0036
DAX	0.0002	0.0006	-0.001	0.0017	-0.0024	-0.0017	-0.0009
FTASE	-0.0162	-0.0311	-0.0113	-0.0359	-0.0469	0.0126	-0.0434
FTSEMIB	0.0098	0.0178	0.0136	0.014	0.016	0.0033	0.0029
HEX25	0.0011	-0.0119	-0.0053	-0.0054	-0.0058	-0.001	-0.0059
IBEX 35	-0.0059	-0.0029	0.0005	-0.0094	-0.0072	-0.0001	-0.0012
ISEQ Overall	-0.0029	-0.0179*	-0.0056	-0.0153*	-0.0042	0.0003	-0.0016
PSI 20	0.0153*	0.0166	0.0227*	0.0092	-0.0076	-0.0253**	0.0024

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

TRLO, FRFA & LTRO 05 06 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0003	-0.0029	-0.0011	-0.0016	0.0027	0.0019	0.0005
ATX	0.0047	0.0068	0.0046	0.0069	0.0042	-0.0027	0.0022
BEL 20	-0.0043	-0.0061	-0.0044	-0.006	-0.01	-0.0023	-0.0035
CAC 40	0.0023	-0.0002	0.0016	0.0004	-0.0005	0.001	-0.0038
DAX	-0.0062**	-0.0107**	-0.0057	-0.0112**	-0.0112	0.0017	-0.0067
FTASE	0.0238	0.0488*	0.0365	0.0361	0.0414	0.0053	0.0123
FTSEMIB	0.0053	0.0082	0.0034	0.01	0.0103	-0.0033	0.0084
HEX25	-0.0025	-0.0005	-0.0018	-0.0012	-0.0073	-0.0052	0.0004
IBEX 35	0.0019	0.0065	-0.0006	0.009	0.0106	-0.0029	0.0117*
ISEQ Overall	-0.0035	0.0098	0.0045	0.0018	0.009	0.008	0.0045
PSI 20	0.0023	0.0141	0.0076	0.0088	0.0157	0.0047	0.0088

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

FOR 17 06 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0012	0.004	0.0023	0.0029	0.0052	0.0019	0.0021
ATX	-0.0022	0.0076	0.005	0.0004	0.01	0.0096	0.0026
BEL 20	0.0013	-0.0002	0.003	-0.0019	-0.002	-0.001	-0.0023
CAC 40	0.0012	-0.0021	-0.0003	-0.0005	-0.0011	-0.0009	-0.0014
DAX	-0.001	0.0023	0.0019	-0.0006	0.003	0.0032	0.0008
FTASE	-0.0059	0.0038	-0.0064	0.0043	-0.0168	-0.0271	0.0162
FTSEMIB	-0.0046	-0.0053	-0.0062	-0.0037	-0.0014	0.0023	0.0009
HEX25	-0.002	0.0024	0.0001	0.0002	-0.0022	0.0004	-0.0006
IBEX 35	-0.0007	-0.0001	-0.0041	0.0033	0.0041	0.0019	0.0029
ISEQ Overall	-0.0063	-0.0202*	-0.0092	-0.0173*	-0.0223	-0.0147*	-0.0014
PSI 20	-0.0032	-0.0093	-0.0035	-0.0091	-0.0104	0.0007	-0.0079

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

TRLO 03 07 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0003	0.0036	0.0009	0.003	0.0009	-0.0007	0.0013
ATX	-0.0045	-0.0196*	0.0046	-0.0287***	-0.0272*	0.0026	-0.0253***
BEL 20	0.0008	0.0044	0.005	0.0002	0.0083	0.0047	0.0029
CAC 40	0.00	-0.0029	-0.004	0.0011	-0.0052	-0.0036	-0.0016
DAX	0.0016	0.0058	0.0022	0.0053	0.0056	-0.0008	0.0047
FTASE	-0.0026	0.0093	0.0147	-0.008	0.0209	0.022	0.0014
FTSEMIB	-0.0035	-0.0069	0.0012	-0.0116	-0.0036	0.0072	-0.0072
HEX25	0.0031	0.0037	0.0062	0.0007	0.0062	0.0018	0.0013
IBEX 35	-0.0052	-0.0065	-0.0052	-0.0065	-0.007	-0.0021	0.0003
ISEQ Overall	0.0079	0.0072	0.0073	0.0078	0.0093	0.0033	-0.0019
PSI 20	-0.0117	-0.0152	-0.0125	-0.0144	-0.0151	0.0054	-0.0088

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Asset-Backed Securities Purchase Programme (ABSPP) 04 09 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.002	-0.007	-0.0055	-0.0034	-0.0062	-0.0031	-0.0012
ATX	0.00	0.0068	0.0048	0.002	0.0029	0.0024	0.0005
BEL 20	-0.0011	-0.0085	-0.0072*	-0.0024	-0.0134*	-0.0086**	-0.0037
CAC 40	0.0017	-0.001	0.0011	-0.0004	-0.0036	-0.0025	-0.0028
DAX	-0.0052*	-0.0019	-0.0038	-0.0034	0.0021	0.0026	0.0047
FTASE	0.0091	0.0253	0.0142	0.0203	0.0106	-0.0113	0.0128
FTSEMIB	0.0083	0.0113	0.013	0.0066	0.0115	0.0073	-0.0042
HEX25	-0.0025	-0.0073	-0.0041	-0.0057	-0.0006	0.0027	-0.0009
IBEX 35	0.0027	0.0063	0.0027	0.0062	0.0022	-0.0014	0.0009
ISEQ Overall	0.0017	0.0048	0.0044	0.0021	-0.0054	0.0023	-0.0094
PSI 20	0.0036	0.0046	0.0041	0.0041	-0.0014	-0.0041	-0.0009

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

ABSPP & CBPP3 Technical Details 02 10 2014							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0052**	-0.0025	-0.008**	0.0003	-0.0026	-0.0036	0.0062
ATX	0.0057	0.0062	0.0093	0.0026	0.0047	-0.0037	0.0028
BEL 20	-0.0015	0.0041	-0.0014	0.004	0.002	-0.0004	0.0039
CAC 40	-0.0031	-0.004	-0.0052	-0.0019	-0.0012	0.0017	0.0003
DAX	0.0059**	0.0057	0.0057	0.0059	0.0012	-0.0047	0.00
FTASE	0.0194	0.0151	0.0307	0.0038	-0.0002	0.0108	-0.0304
FTSEMIB	-0.0057	0.0022	-0.002	-0.0016	-0.0004	0.0083	-0.003
HEX25	0.0052	0.003	-0.0006	0.0088	0.0094	-0.0079	0.0122*
IBEX 35	-0.0042	0.0041	-0.0009	0.0008	0.0109	0.0054	0.0097
ISEQ Overall	-0.0034	0.0033	-0.0031	0.003	0.0114	0.0045	0.0103
PSI 20	-0.0068	-0.0041	-0.0064	-0.0044	-0.0113	-0.0028	-0.0018

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded Asset Purchase Programme (Expanded APP) - Public Sector Purchase Programme 22 01 2015							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0016***	0.0035***	0.0027***	0.0025***	0.0053***	0.0015***	0.0022***
ATX	0.0049***	-0.0045***	0.0098***	-0.0094***	0.0046***	0.0107***	-0.011***
BEL 20	-0.0025***	-0.0027***	-0.003***	-0.0023***	-0.0014***	-0.0037***	0.0048***
CAC 40	-0.0007***	0.0033***	0.0009***	0.0017***	0.0057***	0.0068***	-0.0003***
DAX	-0.0029***	-0.0028***	-0.0061***	0.0004***	-0.0044***	-0.0083***	0.0069***
FTASE	-0.0037***	0.0117***	-0.0356***	0.0436***	-0.0754***	-0.0522***	-0.0195***
FTSEMIB	0.0035***	-0.009***	0.0105***	-0.016***	-0.0099***	0.0078***	-0.0212***
HEX25	0.0073***	0.0222***	0.0128***	0.0166***	0.0218***	0.0007***	0.0138***
IBEX 35	-0.0001***	-0.0141***	-0.0028***	-0.0114***	-0.0087***	0.0028***	-0.0114***
ISEQ Overall	0.0003***	0.0124***	0.0051***	0.0076***	0.0013***	-0.0004***	0.0013***
PSI 20	0.0083***	0.011***	0.0219***	-0.0025***	0.0065***	0.0069***	-0.0088***

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded APP Duration Extended 03 12 2015							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0082**	-0.0108*	-0.0065	-0.0125**	-0.0135	0.0029	-0.0083*
ATX	0.0102	0.0065	0.0068	0.01	0.0032	0.0066	-0.0137
BEL 20	0.0023	0.0013	0.0011	0.0024	0.0023	-0.0006	0.0006
CAC 40	-0.0044*	-0.0046	-0.0038	-0.0052	-0.0064	-0.0017	-0.0002
DAX	-0.004	-0.0087	-0.0078	-0.0049	-0.0087	-0.008	0.0033
FTASE	0.0182	-0.0107	0.0083	-0.0008	0.0063	0.0083	-0.0202
FTSEMIB	0.0102**	0.0155	0.0116	0.0141**	0.0084	0.0024	-0.0042
HEX25	0.0044	0.0087	0.012	0.001	0.0127	0.0123	-0.004
IBEX 35	0.0056	0.0061	0.0047	0.007	0.0011	0.0048	-0.0093
ISEQ Overall	0.0025	0.01	0.0087	0.0038	0.023	0.0119	0.0086
PSI 20	0.0103	0.0169	0.0198	0.0074	0.0153	0.0157	-0.0107

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded APP Purchases Extended 10 03 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0008	-0.0017	0.0028	-0.0037	-0.0034	0.0025	-0.0068
ATX	0.0028	0.0019	0.0041	0.0006	0.021	0.0097	0.0084
BEL 20	0.0027	-0.0036	0.0029	-0.0038	-0.0057	-0.0012	-0.0072
CAC 40	-0.0031	-0.0037	-0.0026	-0.0042	-0.0093	-0.0001	-0.0062*
DAX	-0.0091**	-0.0092	-0.0104**	-0.0079	-0.0017	-0.0018	0.0092**
FTASE	0.0473*	-0.0204	0.016	0.0109	-0.0015	-0.0124	-0.0364
FTSEMIB	0.0111*	0.027**	0.017*	0.0211**	0.0251*	0.013	0.0009
HEX25	-0.0004	-0.0089	0.0009	-0.0102	-0.0036	-0.0065	0.0033
IBEX 35	0.0144***	0.0187**	0.0131*	0.02***	0.0201	0.0015	0.0042
ISEQ Overall	-0.0048	-0.008	-0.0065	-0.0063	-0.0209	-0.0022	-0.0139
PSI 20	0.0113	0.0092	0.0132	0.0073	0.0109	-0.0049	0.0045

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Corporate Sector Purchase Programme (CSPP) 21 04 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.005	-0.0131**	-0.0116**	-0.0065	-0.0183**	-0.0081	-0.0052
ATX	-0.0029	0.0068	-0.0063	0.0103	-0.0038	-0.004	0.003
BEL 20	-0.0018	-0.0013	-0.0063	0.0031	-0.0073	-0.0077	0.0022
CAC 40	-0.0008	-0.0014	-0.0016	-0.0006	-0.0008	-0.0025	0.0026
DAX	0.0027	0.0007	0.0034	0.00	0.0083	0.0084	-0.0027
FTASE	0.0427*	0.0603	0.0414	0.0616*	0.0382	-0.0154	0.0109
FTSEMIB	0.0056	0.0115	0.0101	0.007	-0.0067	-0.0071	-0.0052
HEX25	-0.012**	-0.0231**	-0.0148*	-0.0204***	-0.0313**	0.0002	-0.0194**
IBEX 35	0.007	0.0281***	0.0208***	0.0143*	0.022*	0.0102	0.0048
ISEQ Overall	-0.0097	-0.0241**	-0.0215**	-0.0122	-0.019	-0.0159*	0.0066
PSI 20	0.0037	0.0207	0.0151	0.0093	0.0121	0.002	0.0065

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

TRLO 2 03 05 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.001	-0.0006	0.0008	-0.0024	0.0024	0.0007	0.0027
ATX	-0.0066	-0.0181	-0.0107	-0.014	-0.0046	0.0094	-0.0074
BEL 20	0.0027	-0.0013	0.0047	-0.0034	-0.0041	0.0023	-0.0091**
CAC 40	0.0023	0.0026	0.0038	0.0011	-0.0037	-0.0024	-0.0037
DAX	-0.0013	0.0052	0.0055	-0.0015	0.0032	0.0037	0.0009
FTASE	0.00	0.0251	0.00	0.0251	0.0347	0.00	0.0347
FTSEMIB	-0.0038	-0.0056	-0.0152	0.0058	0.0008	-0.0031	0.0077
HEX25	0.0068	-0.0006	0.0007	0.0056	0.0104	0.0048	-0.0013
IBEX 35	-0.011**	-0.0156*	-0.0126*	-0.0141*	-0.0151	-0.0043	0.0002
ISEQ Overall	0.00	0.0028	0.00	0.0028	0.0102	0.0055	0.0047
PSI 20	-0.0006	0.0152	0.0048	0.0098	0.0308	0.0169	0.0145

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

CSPP Technical Details 02 06 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0013	0.0096	0.0051	0.0059	0.007	0.0007	0.005
ATX	0.0039	-0.0065	-0.0079	0.0053	-0.0002	-0.0119	0.0077
BEL 20	0.0019	0.0066	0.0045	0.004	0.0074	0.0015	0.0039
CAC 40	-0.0025	-0.002	-0.0025	-0.002	-0.0029	0.0009	-0.0013
DAX	-0.0002	0.0006	0.0007	-0.0002	-0.0007	0.00	-0.0005
FTASE	-0.0154	0.0158	-0.0125	0.013	0.0048	0.0152	0.0049
FTSEMIB	-0.0026	-0.0095	-0.0064	-0.0057	-0.0114	-0.0111	0.0022
HEX25	0.0021	0.0069	0.0013	0.0077	0.0234*	0.0088	0.0126
IBEX 35	0.0046	-0.0085	-0.0015	-0.0024	-0.0104	-0.0088	-0.0062
ISEQ Overall	-0.0008	-0.0034	-0.0053	0.0011	-0.0007	-0.0019	0.002
PSI 20	-0.0002	-0.0224	-0.0161	-0.0065	-0.0215	-0.0147	-0.0066

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

COLL 05 10 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.003	-0.0001	0.001	-0.0042	-0.0007	0.0058	-0.0035
ATX	0.0014	-0.0019	-0.0009	0.0004	-0.0023	-0.002	-0.0017
BEL 20	0.001	0.0011	0.0003	0.0017	-0.0041	-0.004	-0.0011
CAC 40	-0.0005	0.0023	0.0024	-0.0006	0.0067	0.0047	0.0025
DAX	-0.0013	-0.0013	-0.0013	-0.0013	-0.0001	0.00	0.0012
FTASE	-0.0057	0.0027	0.0045	-0.0075	0.0296	0.0222	0.0131
FTSEMIB	0.0143*	0.0115	0.007	0.0188*	0.0131	-0.0133	0.0122
HEX25	-0.0011	-0.0082	-0.0041	-0.0052	-0.0042	-0.0001	-0.003
IBEX 35	0.0046	-0.0085	-0.0015	-0.0024	-0.0104	-0.0088	-0.0062
ISEQ Overall	-0.0055	-0.0109	-0.0069	-0.0095	-0.0267	-0.001	-0.0202*
PSI 20	-0.0108	-0.0155	-0.0093	-0.017	-0.0157	0.0027	-0.0075

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Expanded APP Duration Extended & Scale Back of the Amount of Purchases 08 12 2016							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.002	-0.0057	-0.0085*	0.0008	-0.007	-0.0092*	0.0042
ATX	0.00	0.0033	0.00	0.0033	-0.0012	-0.0012	-0.0011
BEL 20	-0.0014	-0.0169***	-0.0113**	-0.007	-0.0136*	-0.0041	-0.0081*
CAC 40	-0.0044*	-0.0028	-0.0048	-0.0024	-0.0055	-0.0026	0.0015
DAX	0.0046	0.0083	0.0103**	0.0026	0.0011	-0.0003	-0.0032
FTASE	0.0044	0.0003	0.0152	-0.0105	-0.0117	-0.0034	-0.0128
FTSEMIB	0.00	-0.0084	0.0034	-0.0118	0.0222***	0.0256**	-0.0063
HEX25	-0.0072	-0.0072	-0.0072	-0.0072	-0.0003	0.00	0.0068
IBEX 35	0.0058	-0.0041	-0.0024	0.004	0.0077	0.0013	0.0006
ISEQ Overall	0.0044	-0.0002	-0.0036	0.0078	-0.0136	-0.0147	-0.0033
PSI 20	0.0011	0.0082	0.0088	0.0005	0.0142	0.0134	-0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (OLS Estimation) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - Global Financial Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0028	-0.0039	-0.0057*	-0.0009	-0.0137***	-0.0086***	-0.0024
ATX	0.0002	-0.008	0.001	-0.0088	-0.0055	0.0037	-0.0094
BEL 20	0.0027	-0.0118**	-0.0076*	-0.0014	-0.0107	-0.0131***	-0.0004
CAC 40	-0.0024**	-0.0017	-0.002	-0.0021	-0.002	0.0001	0.0003
DAX	-0.0017	-0.0018	-0.0008	-0.0027	0.0029	0.0032	0.0015
FTASE	0.0034	0.0031	-0.0018	0.0083	0.0043	0.0037	-0.0028
FTSEMIB	0.0004	0.0022	0.0042	-0.0016	0.0019	0.0015	-0.0001
HEX25	0.0043	0.0066	0.0034	0.0074**	0.0029	-0.0059	0.0045
IBEX 35	0.0025	0.0035	0.0031	0.003	0.0034	0.0036	-0.0027
ISEQ Overall	-0.0016	0.0036	-0.0023	0.0043	-0.0123	-0.0141*	0.0034
PSI 20	0.0073**	0.0103*	0.0087**	0.0088**	0.0052	-0.0005	-0.0016

***99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Asset Purchase Programmes (CBPP 1) - Global Financial Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0076	0.0099	0.008	0.0095	0.0117	0.0035	0.0006
ATX	0.0158	0.0161	0.0145	0.0174	0.041	0.0222	0.0029
BEL 20	0.0167**	0.0326**	0.0291**	0.0201*	0.0254	0.0058	0.0029
CAC 40	0.0004	0.0018	0.0012	0.001	-0.0027	-0.0014	-0.0017
DAX	-0.0023	-0.0068	-0.0065	-0.0026	-0.0095	-0.0093	0.0022
FTASE	-0.0236*	-0.026	-0.0222	-0.0274	0.0148	0.0211	0.0173
FTSEMIB	-0.0015	0.0063	0.0016	0.0033	0.0058	0.0008	0.0064
HEX25	0.0034	-0.0007	0.0027	0.00	-0.0191	-0.0051	-0.0174*
IBEX 35	0.004	0.0007	0.0004	0.0043	0.0086	0.0013	0.0033
ISEQ Overall	-0.0052	0.013	0.0008	0.007	0.0055	0.006	0.0047
PSI 20	0.0112	0.0194	0.022*	0.0086	0.0113	0.009	-0.0089

***99% significance level, **95% significance level, *90% significance level

Asset Purchase Programmes (SMP, CBPP2 & OMT) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0029**	-0.0035	-0.0049**	-0.0015	-0.0053*	-0.0006	-0.0018
ATX	-0.0093***	-0.0045	-0.0077*	-0.0061	-0.0057	0.0021	0.0015
BEL 20	0.0012	-0.0018	-0.0017	0.001	0.0006	-0.0045*	0.0038
CAC 40	0.0019*	0.0032*	0.003**	0.0021	-0.0012	-0.0007	-0.0024
DAX	-0.0069***	-0.0082***	-0.0059**	-0.0092***	-0.0056	0.0034	-0.002
FTASE	-0.0107	-0.0053	-0.004	-0.012	0.009	0.0069	0.0128
FTSEMIB	0.0059**	0.0141***	0.009**	0.011***	0.0117**	-0.0016	0.0073**
HEX25	-0.002	0.0012	-0.0031	0.0023	0.0031	-0.0067	0.0118***
IBEX 35	0.0077**	0.005	0.007*	0.0057	0.0117*	0.0055	-0.0015
ISEQOverall	0.0015	-0.0024	-0.0038	0.0028	-0.0069	-0.0115*	0.003
PSI 20	0.0076**	0.0015	0.0042	0.005	0.0126**	-0.0037	0.0086*

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0001	-0.0007	-0.0007	-0.0001	-0.0007	-0.0012	0.0006
ATX	0.0015	0.0007	0.0018	0.0003	0.0025	-0.0013	0.0023
BEL 20	-0.0015	-0.0028*	-0.0024	-0.0019	-0.0046*	-0.0023	-0.0008
CAC 40	-0.0001	-0.0012	-0.0004	-0.0008	-0.0013	-0.0007	-0.0005
DAX	-0.0002	0.0009	0.0019	-0.0012	0.0015	0.0024*	-0.0006
FTASE	-0.0005	-0.0022	0.0025	-0.0052	0.0167	0.0006	0.0166**
FTSEMIB	-0.0014	-0.0032	-0.0029	-0.0017	-0.005	-0.0014	-0.0022
HEX25	0.0018	0.0012	0.0019	0.0011	0.0022	0.0005	-0.0001
IBEX 35	0.0002	0.0012	-0.0003	0.0017	-0.0011	-0.0004	-0.0009
ISEQOverall	0.00	0.0004	0.0002	0.0002	0.002	-0.0001	0.0021
PSI 20	-0.0009	0.0003	-0.0009	0.0003	-0.0007	-0.0003	0.0005

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Securities Market Programme (SMP) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0111***	-0.0107***	-0.0142***	-0.0076**	-0.0076	0.0002	0.0034
ATX	-0.0193***	-0.0255***	-0.0214***	-0.0235***	-0.0172	-0.0082	0.0103
BEL 20	0.0058*	0.0053	-0.0022	0.0133***	0.0164**	-0.0066	0.0172***
CAC 40	0.0049***	0.0055*	0.0026	0.0078***	0.0014	-0.0022	-0.0013
DAX	-0.0223***	-0.0263***	-0.0266***	-0.0221***	-0.0208***	0.0019	-0.0004
FTASE	-0.0216	-0.0222	-0.0111	-0.0327*	0.0189	0.0443**	-0.0038
FTSEMIB	0.0217***	0.0317***	0.0325***	0.0209***	0.0068	-0.0033	-0.0116**
HEX25	-0.0055	0.012	-0.0035	0.01	0.0177	-0.0036	0.0268***
IBEX 35	0.0371***	0.0292***	0.0494***	0.0169***	0.0242***	0.0113**	-0.0241***
ISEQOverall	-0.0084	-0.0035	-0.0116	-0.0003	-0.0028	-0.0082	0.0138
PSI 20	0.0192***	0.0027	0.0192***	0.0027	0.0164	-0.0061	0.0033

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Covered Bond Purchase Programme 2 (CBPP 2) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0004	0.003	-0.0026	0.006*	0.004	0.00	0.0036
ATX	-0.0112**	0.0248***	0.0064	0.0071	0.0034	0.0185***	-0.0038
BEL 20	-0.0015	-0.0093*	-0.0033	-0.0075*	-0.0091	-0.0018	-0.0057
CAC 40	0.0009	0.0014	0.0029	-0.0005	-0.0012	0.0006	-0.0027
DAX	-0.0005	0.0037	0.0083**	-0.005	0.0056	0.0076*	-0.0016
FTASE	-0.002	-0.0109	-0.0164	0.0034	-0.0664***	-0.0644***	0.00
FTSEMIB	0.001	0.0037	0.0031	0.0016	0.0142	-0.0027	0.0158**
HEX25	0.0053	0.0024	0.0087	-0.0011	0.0055	-0.0027	0.0029
IBEX 35	-0.0092*	-0.0163*	-0.0216***	-0.0039	-0.0156	-0.0008	-0.0055
ISEQOverall	0.0056	-0.0002	-0.0035	0.0088	-0.0133	-0.0207***	0.0018
PSI 20	0.0004	0.0003	-0.0054	0.0062	0.0071	-0.006	0.0127

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Outright Monetary Transactions (OMT) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0019	-0.0028	0.0021	-0.003	-0.0123**	-0.0019	-0.0122***
ATX	0.0026	-0.0049	-0.0001	-0.0021	0.0049	0.0043	-0.002
BEL 20	-0.0008	-0.0015	0.0004	-0.0027	-0.0056	-0.005	0.0001
CAC 40	-0.0002	0.0027	0.0034	-0.001	-0.004	-0.0006	-0.0032
DAX	0.0019	-0.002	0.0006	-0.0006	-0.0015	0.0007	-0.0041
FTASE	-0.0083	0.0172	0.0156	-0.0067	0.0746	0.0408	0.0421
FTSEMIB	-0.0049	0.007	-0.0085	0.0106	0.0141	0.0012	0.0178**
HEX25	-0.0057	-0.0107	-0.0144**	-0.002	-0.0137	-0.0138**	0.0059
IBEX 35	-0.0046	0.0021	-0.0066	0.0041	0.0266*	0.0059	0.0252***
ISEQOverall	0.0074	-0.0037	0.0038	-0.0001	-0.0047	-0.0055	-0.0066
PSI 20	0.0033	0.0015	-0.0012	0.006	0.0142	0.0011	0.0098

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0008	-0.0002	0.0001	-0.001	0.0016	0.0027	-0.0003
ATX	-0.0005	-0.0036	0.0011	-0.0052	0.0016	0.0038	-0.0016
BEL 20	0.0009	0.002	0.0033*	-0.0005	0.0003	0.0011	-0.0017
CAC 40	0.0009	0.00	0.0002	0.0006	-0.0004	-0.0004	-0.0009
DAX	-0.0012	0.0008	0.0008	-0.0011	0.00	0.0012	-0.0001
FTASE	0.00	0.0138	0.01	0.0039	0.0153	0.0084	0.0068
FTSEMIB	0.0024	0.0025	0.0002	0.0047	0.0045	-0.0017	0.0037
HEX25	0.0009	-0.0019	-0.0003	-0.0007	0.0004	0.0008	-0.0012
IBEX 35	-0.0028	-0.0032	-0.0039	-0.002	-0.0034	-0.0024	0.0018
ISEQOverall	-0.0023	-0.0054	-0.0023	-0.0054	-0.0045	0.00	-0.0022
PSI 20	-0.0008	0.0022	0.0026	-0.0012	0.001	0.0015	0.0003

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Expanded Asset Purchase Programme (ABSPP3, CBPP3, PSPP & CSPP) - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0022*	-0.0036*	-0.0036**	-0.0022	-0.0053**	-0.0023	-0.0009
ATX	0.0037	0.0011	0.0027	0.0022	0.0027	0.0005	-0.0014
BEL 20	-0.0001	-0.0028	-0.0026	-0.0003	-0.004	-0.0033**	-0.0007
CAC 40	-0.0021**	-0.0017	-0.0022*	-0.0016	-0.0023	0.0004	-0.0005
DAX	-0.0011	-0.0007	-0.001	-0.0008	0.0004	-0.0014	0.0028*
FTASE	0.0157**	0.0086	0.0087	0.0156	-0.0118	-0.0105	-0.017
FTSEMIB	0.0034	0.0058	0.0071**	0.0021	0.006	0.0066*	-0.004
HEX25	-0.0001	-0.0012	0.0002	-0.0015	0.0031	0.001	0.0022
IBEX 35	0.0047**	0.0046	0.0044*	0.0048*	0.0053	0.0017	-0.0011
ISEQ Overall	-0.0012	-0.0015	-0.003	0.0003	-0.005	-0.0029	-0.0009
PSI 20	0.0045	0.0048	0.0079*	0.0014	0.0012	0.0004	-0.0038

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Asset-Backed Securities Purchase (ABSPP) - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0031	-0.0044	-0.0062**	-0.0013	-0.0043	-0.0035	0.0023
ATX	0.0042	0.0068	0.0083	0.0027	0.0028	-0.0021	0.0007
BEL 20	-0.0015	-0.0024	-0.0046	0.0007	-0.0058	-0.0044	0.0002
CAC 40	-0.0012	-0.0025	-0.0025	-0.0013	-0.0018	0.0003	-0.0009
DAX	0.0002	0.0027	0.0008	0.0021	0.004	-0.0009	0.0048
FTASE	0.0159	0.0198	0.0236	0.0121	0.0027	-0.0029	-0.0103
FTSEMIB	0.0004	0.0061	0.0045	0.002	0.0054	0.0082	-0.0032
HEX25	0.0017	-0.0028	-0.0024	0.0013	0.0029	-0.0039	0.005
IBEX 35	0.00	0.0054	0.0017	0.0038	0.006	0.0012	0.0048
ISEQ Overall	0.0003	0.0047	0.002	0.0031	0.0027	0.0026	-0.0002
PSI 20	0.001	0.0014	0.0016	0.0009	-0.0073	-0.0054	-0.0029

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Expanded APP / Public Sector Purchase Programme (PSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0018	-0.0043	-0.0025	-0.0037*	-0.0056	-0.0008	-0.003
ATX	0.0055*	0.0009	0.0057	0.0006	0.0042	0.0056	-0.0069
BEL 20	0.0006	-0.0058**	-0.0024	-0.0028	-0.0051	-0.0026	-0.0031
CAC 40	-0.0028***	-0.0013	-0.0021	-0.002	-0.0029	0.0009	-0.001
DAX	-0.0029*	-0.0026	-0.0034	-0.0021	-0.0026	-0.0044**	0.0046**
FTASE	0.0168	-0.013	-0.0014	0.0053	-0.0383	-0.0187	-0.0364**
FTSEMIB	0.0058*	0.0086*	0.0111***	0.0033	0.0141**	0.0133***	-0.005
HEX25	0.0014	0.0041	0.006*	-0.0005	0.0069	0.002	0.0034
IBEX 35	0.0066***	0.0014	0.0032	0.0047	0.0047	0.0026	-0.0044
ISEQOverall	0.0001	0.0015	-0.0003	0.0018	-0.0057	-0.0026	-0.0032
PSI 20	0.0077**	0.009	0.0153***	0.0015	0.0082	0.0069	-0.0064

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Corporate Sector Purchase Programme (CSPP) - Latest ECB Policies							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0018	-0.0015	-0.0033	-0.0001	-0.0056	-0.004	0.0002
ATX	0.0006	0.0005	-0.007	0.0081	-0.0017	-0.008	0.0057
BEL 20	0.00	0.0027	-0.001	0.0037	-0.0001	-0.0034	0.0033
CAC 40	-0.0017	-0.0016	-0.002	-0.0013	-0.0017	-0.0007	0.0006
DAX	0.0012	0.0005	0.002	-0.0002	0.0037	0.0042	-0.0018
FTASE	0.0135	0.0405	0.0142	0.0398	0.0228	-0.0019	0.0112
FTSEMIB	0.0015	0.0001	0.0018	-0.0002	-0.0096	-0.0084	-0.0027
HEX25	-0.005	-0.0079	-0.0068	-0.0061	-0.0038	0.0042	-0.0031
IBEX 35	0.0057	0.01	0.0096*	0.0062	0.0058	0.0005	-0.0004
ISEQOverall	-0.0052	-0.0139*	-0.0134**	-0.0056	-0.0055	-0.0089	0.0086
PSI 20	0.0017	-0.0004	-0.0006	0.0018	-0.0046	-0.0068	0.0006

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - All Sample							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	-0.0017	-0.0023*	-0.0006	-0.0047**	-0.003**	-0.0005
ATX	0.0006	-0.003	0.0014	-0.0038	-0.0005	0.0013	-0.0025
BEL 20	0.0004	-0.0049**	-0.0031*	-0.0014	-0.0058**	-0.0053***	-0.0008
CAC 40	-0.0007	-0.0011	-0.0008	-0.001	-0.0014	-0.0004	-0.0003
DAX	-0.0009	-0.0001	0.0007	-0.0017	0.0017	0.0025**	0.0002
FTASE	0.001	0.0026	0.0022	0.0013	0.0105	0.0026	0.007
FTSEMIB	-0.0001	-0.0003	0.0001	-0.0005	-0.0009	-0.0004	-0.0004
HEX25	0.0025**	0.0025	0.002	0.003*	0.0021	-0.0017	0.0013
IBEX 35	0.0004	0.0012	0.0002	0.0015	0.00	0.0006	-0.001
ISEQOverall	-0.0009	0.0005	-0.0011	0.0006	-0.0044	-0.0052*	0.0017
PSI 20	0.0019	0.0041	0.003	0.003	0.0017	0.00	-0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Asset Purchase Programmes - All Sample							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0012	-0.0019	-0.0026*	-0.0005	-0.0032	-0.0009	-0.001
ATX	0.0001	0.001	0.0001	0.001	0.0025	0.0024	0.00
BEL 20	0.0025*	0.002	0.0017	0.0027	0.0014	-0.0026	0.0015
CAC 40	-0.0003	0.0006	0.0002	0.0001	-0.002	-0.0003	-0.0014
DAX	-0.0034***	-0.0043**	-0.0035**	-0.0043***	-0.0032	-0.0006	0.0008
FTASE	0.0009	-0.0009	0.0001	-0.0001	-0.001	-0.0001	-0.0019
FTSEMIB	0.0037**	0.009***	0.0071***	0.0056**	0.0081**	0.0028	0.0016
HEX25	-0.0004	-0.0003	-0.0008	0.0001	0.0001	-0.0029	0.0034
IBEX 35	0.0058***	0.0042	0.0049**	0.0051**	0.0081**	0.0031	-0.0007
ISEQOverall	-0.0007	-0.0001	-0.0028	0.0021	-0.0047	-0.0054	0.0013
PSI 20	0.0065***	0.0054	0.0083***	0.0036	0.0067	0.00	0.0002

*** 99% significance level, **95% significance level, *90% significance level

Market Model (Scholes & Williams Estimation) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - Global Financial Crisis

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0032	-0.0042	-0.0058*	-0.0015	-0.0129***	-0.0077**	-0.002
ATX	-0.0028	-0.0104	-0.0004	-0.0129*	-0.0044	0.0077	-0.0093
BEL 20	0.0012	-0.0151***	-0.0096**	-0.0044	-0.0158**	-0.0141***	-0.0029
CAC 40	-0.0024*	-0.0014	-0.0017	-0.0021	-0.0012	0.0006	0.0006
DAX	-0.0007	0.0001	0.0003	-0.0009	0.0053	0.0033	0.0027
FTASE	-0.0004	-0.0028	-0.0057	0.0025	-0.0033	0.0037	-0.0067
FTSEMIB	0.0007	0.0031	0.0046	-0.0007	0.0039	0.0022	0.0009
HEX25	0.0034	0.0053	0.0026	0.006	0.0022	-0.0051	0.0039
IBEX 35	0.0039*	0.0059	0.0046	0.0053*	0.0065	0.0038	-0.0012
ISEQOverall	-0.0068	-0.0051	-0.0075	-0.0044	-0.0232*	-0.0145*	-0.0019
PSI 20	0.0108***	0.0122**	0.01**	0.013***	0.0033	-0.0059	-0.0016

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Asset Purchase Programmes (CBPP 1) - Global Financial Crisis

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0068	0.0088	0.0065	0.0091	0.0085	0.0023	-0.0006
ATX	0.0136	0.0159	0.011	0.0186	0.0343	0.0198	0.0009
BEL 20	0.0161*	0.0297**	0.0278**	0.0181	0.0216	0.0042	0.0013
CAC 40	0.0006	0.0023	0.0015	0.0013	-0.0019	-0.0011	-0.0013
DAX	-0.0018	-0.0056	-0.0055	-0.0019	-0.0073	-0.0085	0.003
FTASE	-0.0249*	-0.0295	-0.0249	-0.0295	0.0081	0.0185	0.0145
FTSEMIB	-0.0019	0.0065	0.0009	0.0037	0.0048	0.0005	0.0061
HEX25	0.0029	-0.002	0.0015	-0.0007	-0.0217	-0.0062	-0.0184*
IBEX 35	0.0045	0.0018	0.0013	0.005	0.0108	0.0021	0.0041
ISEQOverall	-0.0072	0.0096	-0.0028	0.0053	-0.0011	0.0043	0.0017
PSI 20	0.0121	0.0166	0.023*	0.0058	0.0118	0.0087	-0.0091

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Asset Purchase Programmes (SMP,CBPP2 & OMT) - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0035**	-0.006**	-0.0063***	-0.0031	-0.0032	0.0023	-0.0021
ATX	-0.0059*	-0.0023	-0.0055	-0.0026	-0.0028	0.0003	0.0028
BEL 20	-0.0005	-0.0047	-0.0036	-0.0016	0.0015	-0.0013	0.0033
CAC 40	0.0012	0.0031	0.0025*	0.0017	-0.003	-0.0014	-0.0027*
DAX	-0.0059***	-0.0056**	-0.004*	-0.0075***	-0.0017	0.0045*	-0.0002
FTASE	-0.0075	-0.0127	-0.008	-0.0122	0.0001	-0.0007	0.0082
FTSEMIB	0.0073***	0.016***	0.0104***	0.0129***	0.0087	-0.0056	0.007*
HEX25	-0.0012	0.0021	-0.0026	0.0035	0.0056	-0.0062	0.013***
IBEX 35	0.0078***	0.0044	0.0067	0.0055	0.0071	0.0025	-0.0033
ISEQOverall	0.0004	-0.0059	-0.0058	0.0004	-0.0034	-0.0065	0.0027
PSI 20	0.0033	-0.006	-0.0007	-0.002	0.0105	0.0015	0.0057

*** 99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - European Sovereign Debt Crisis							
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0003	-0.0016	-0.0014	-0.0004	-0.0015	-0.0017	0.0006
ATX	0.0017	0.0011	0.0023	0.0005	0.0026	-0.0013	0.0022
BEL 20	-0.002*	-0.0042**	-0.0036**	-0.0025*	-0.0061**	-0.0029*	-0.0012
CAC 40	0.0001	-0.0008	0.00	-0.0007	-0.0009	-0.0006	-0.0005
DAX	-0.0004	0.0008	0.0015	-0.0011	0.0018	0.0025*	-0.0003
FTASE	-0.0013	-0.0051	0.001	-0.0074	0.0113	-0.0015	0.0141*
FTSEMIB	-0.0011	-0.0021	-0.0018	-0.0014	-0.0043	-0.0009	-0.0023
HEX25	0.0015	0.0008	0.0014	0.0009	0.0021	0.0006	0.00
IBEX 35	0.0008	0.0026	0.001	0.0024	0.0002	0.0002	-0.0008
ISEQOverall	-0.0004	-0.0008	-0.0008	-0.0004	0.0009	-0.0007	0.002
PSI 20	-0.002	-0.0025	-0.0034	-0.0011	-0.0043	-0.0017	-0.0006

*** 99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Securities Market Programme (SMP) - European Sovereign Debt Crisis

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0076***	-0.0064	-0.0093***	-0.0047	0.0038	0.0048	0.0066*
ATX	-0.0085	-0.0188*	-0.0135*	-0.0137*	-0.0061	-0.011	0.0134*
BEL 20	0.0051	0.0072	0.0001	0.0122**	0.0249***	0.0003	0.0196***
CAC 40	0.0016	0.0027	-0.0008	0.0051**	-0.0052	-0.0038	-0.0031
DAX	-0.0205***	-0.0235***	-0.0237***	-0.0203***	-0.0139***	0.0048	0.0017
FTASE	-0.0007	-0.016	-0.0009	-0.0158	0.0243	0.0287	-0.0036
FTSEMIB	0.021***	0.0277***	0.0284***	0.0203***	-0.0057	-0.0113	-0.0154**
HEX25	-0.0021	0.0151*	0.0001	0.0129*	0.025**	-0.0017	0.0288***
IBEX 35	0.0345***	0.0249***	0.0445***	0.0149*	0.0115***	0.0049	-0.0278***
ISEQOverall	-0.0053	0.0007	-0.0064	0.0018	0.0102	-0.0019	0.0174*
PSI 20	0.0145***	0.0041	0.0211***	-0.0025	0.029**	0.0076	0.0069

*** 99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Covered Bond Purchase Programme 2 (CBPP 2) - European Sovereign Debt Crisis

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0042	-0.0047	-0.0114***	0.0024	0.0012	0.0022	0.0033
ATX	-0.0111**	0.0247***	0.007	0.0066	0.0025	0.0184***	-0.0048
BEL 20	-0.0055*	-0.0159***	-0.0108**	-0.0106**	-0.0115	0.00	-0.006
CAC 40	0.0019	0.003	0.0047*	0.0002	-0.0005	0.0003	-0.0026
DAX	0.001	0.0062	0.0109**	-0.0037	0.0072	0.0075*	-0.0012
FTASE	-0.0107	-0.0277	-0.0326	-0.0058	-0.0807**	-0.0656***	-0.0043
FTSEMIB	0.005	0.0099	0.0105	0.0043	0.0154	-0.0052	0.0156**
HEX25	0.004	-0.0002	0.0062	-0.0024	0.0035	-0.0027	0.0022
IBEX 35	-0.0071	-0.0125	-0.0176***	-0.002	-0.0133	-0.0013	-0.0049
ISEQOverall	-0.001	-0.0099	-0.0155**	0.0047	-0.0139	-0.0159**	0.0029
PSI 20	-0.0067	-0.012	-0.0189**	0.0002	0.0012	-0.0036	0.0115

*** 99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Outright Monetary Transactions (OMT) - European Sovereign Debt Crisis

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	0.0014	-0.0068	0.0017	-0.0071	-0.0147*	0.00	-0.0162***
ATX	0.002	-0.004	-0.0012	-0.0008	0.0043	0.0024	-0.0001
BEL 20	-0.0011	-0.0054	-0.0001	-0.0063	-0.0089	-0.004	-0.0039
CAC 40	0.00	0.0035	0.0037	-0.0002	-0.0033	-0.0007	-0.0025
DAX	0.0018	0.0006	0.0009	0.0014	0.0017	0.0011	-0.0011
FTASE	-0.0109	0.0055	0.0096	-0.015	0.0566	0.0349	0.0327
FTSEMIB	-0.0041	0.0105	-0.0077	0.0141*	0.0164	-0.0002	0.0207**
HEX25	-0.0055	-0.0085	-0.014*	-0.0001	-0.0118	-0.0142*	0.0079
IBEX 35	-0.004	0.0008	-0.0068	0.0035	0.0231	0.0041	0.023**
ISEQOverall	0.0075	-0.0085	0.0044	-0.0054	-0.0063	-0.0016	-0.0122
PSI 20	0.0019	-0.0101	-0.0043	-0.0038	0.0012	0.0006	-0.0013

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Provision of Credit & Liquidity - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0006	0.0003	0.0004	-0.0008	0.0018	0.0028	-0.0004
ATX	-0.0001	-0.0043	0.0007	-0.0052	-0.0002	0.0031	-0.0032
BEL 20	0.0012	0.0027	0.0038*	0.0002	0.0018	0.0018	-0.0012
CAC 40	0.0004	-0.0005	-0.0002	0.0001	-0.0011	-0.0006	-0.0009
DAX	-0.0011	0.001	0.0008	-0.001	0.0002	0.0011	0.0002
FTASE	-0.0013	0.0115	0.0082	0.002	0.0113	0.0071	0.0055
FTSEMIB	0.0018	0.001	-0.0008	0.0036	0.0022	-0.0025	0.0028
HEX25	0.0018	-0.0005	0.0007	0.0006	0.0024	0.0012	-0.0007
IBEX 35	-0.0032	-0.0042	-0.0046	-0.0028	-0.0047	-0.0029	0.0013
ISEQOverall	-0.0011	-0.0028	-0.0003	-0.0036	-0.0012	0.0021	-0.0022
PSI 20	-0.0011	0.0012	0.0018	-0.0017	0.00	0.0008	0.0003

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Expanded Asset Purchase Programme (ABSPP, CBPP3, PPSP & CSPP) - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0022*	-0.004*	-0.0037**	-0.0024	-0.0059**	-0.0026	-0.0011
ATX	0.0041	0.0011	0.0028	0.0025	0.0025	0.0003	-0.0019
BEL 20	0.0006	-0.003	-0.0021	-0.0003	-0.0048	-0.0038**	-0.0016
CAC 40	-0.0024***	-0.0021	-0.0025**	-0.002	-0.0029	0.0001	-0.0006
DAX	-0.0013	-0.0008	-0.0012	-0.001	0.0003	-0.0013	0.0029*
FTASE	0.0143*	0.0109	0.0086	0.0167	-0.0077	-0.0082	-0.0139
FTSEMIB	0.0034	0.0067	0.0074**	0.0026	0.0076	0.0076**	-0.0033
HEX25	0.00	-0.0006	0.0006	-0.0011	0.004	0.0015	0.0025
IBEX 35	0.0048***	0.0053*	0.0048*	0.0053**	0.0067	0.0026	-0.0008
ISEQ Overall	0.0002	0.0001	-0.0013	0.0016	-0.0028	-0.0021	-0.0009
PSI 20	0.0035	0.0037	0.0064	0.0009	0.0001	-0.0001	-0.0034

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Asset-Backed Securities Purchase (ABSPP) - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0024	-0.0043	-0.0056	-0.0012	-0.0051	-0.0044	0.0017
ATX	0.0021	0.0035	0.0052	0.0004	-0.0014	-0.003	-0.0005
BEL 20	0.0003	-0.0011	-0.0025	0.0016	-0.0055	-0.0053	-0.0005
CAC 40	-0.0008	-0.0029	-0.0023	-0.0014	-0.0031	-0.0007	-0.0016
DAX	0.0002	0.0029	0.001	0.0022	0.0043	-0.0007	0.0048
FTASE	0.0147	0.0198	0.0227	0.0119	0.0039	-0.0013	-0.0095
FTSEMIB	-0.0009	0.0062	0.0034	0.0019	0.0072	0.0099	-0.0018
HEX25	0.0021	-0.0017	-0.0015	0.0019	0.0045	-0.003	0.0054
IBEX 35	-0.0009	0.0063	0.0012	0.0042	0.0089	0.0033	0.0064
ISEQ Overall	0.0004	0.0046	0.002	0.003	0.0024	0.0024	-0.0004
PSI 20	-0.0027	-0.0023	-0.0032	-0.0019	-0.0102	-0.0049	-0.0026

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Expanded APP / Public Sector Purchase Programme (PSPP) - Latest ECB Policies

Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0023	-0.0052*	-0.0031	-0.0043*	-0.0069*	-0.0013	-0.0033
ATX	0.0078**	0.0027	0.008	0.0025	0.006	0.0059	-0.0077
BEL 20	0.0009	-0.0074**	-0.0026	-0.0039	-0.0075*	-0.0032	-0.0052*
CAC 40	-0.0035***	-0.0017	-0.0028	-0.0024	-0.0033	0.0008	-0.0005
DAX	-0.0034*	-0.0029	-0.0039	-0.0024	-0.003	-0.0045*	0.0049**
FTASE	0.0144	-0.0068	-0.0015	0.0091	-0.0297	-0.0163	-0.0279
FTSEMIB	0.0066*	0.0109*	0.0126**	0.0049	0.0174**	0.0147***	-0.0039
HEX25	0.0014	0.0042	0.0061	-0.0005	0.0072	0.0022	0.0035
IBEX 35	0.0074***	0.0032	0.0046	0.006	0.0071	0.0037	-0.004
ISEQ Overall	0.0025	0.0031	0.0025	0.0032	-0.0033	-0.0012	-0.0047
PSI 20	0.0077*	0.009	0.0148**	0.0019	0.0078	0.0059	-0.0058

***99% significance level, **95% significance level, *90% significance level

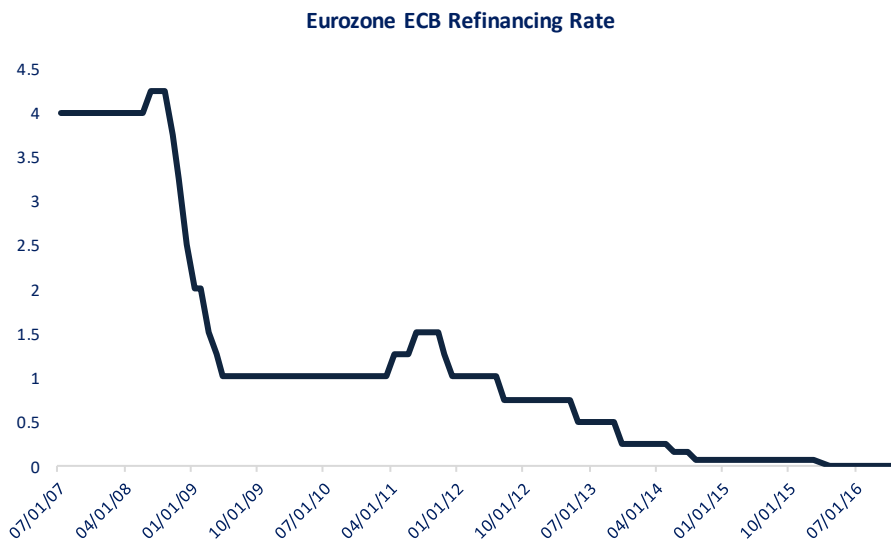
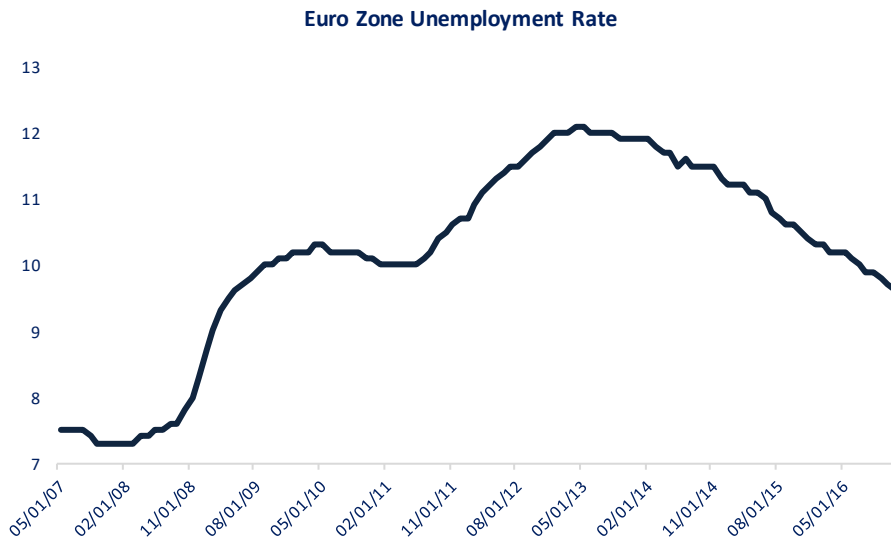
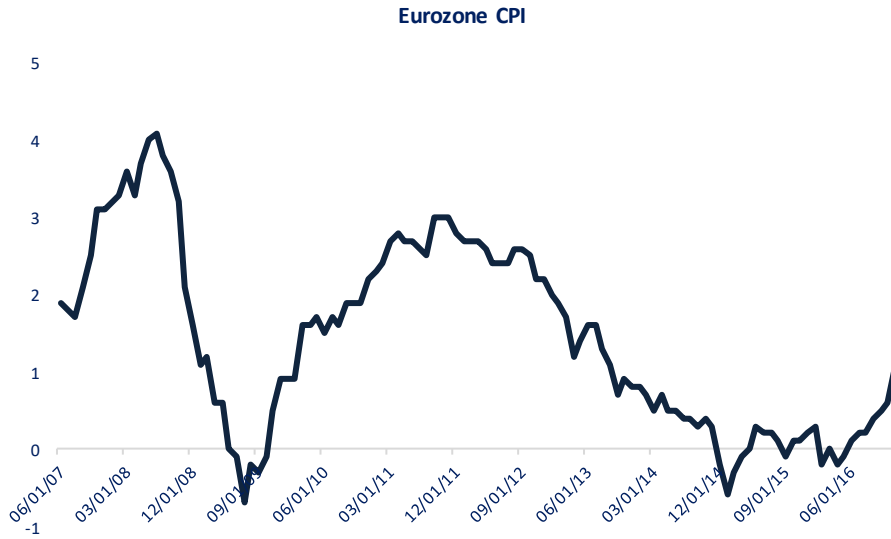
Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI

Corporate Sector Purchase Programme (CSPP) - Latest ECB Policies

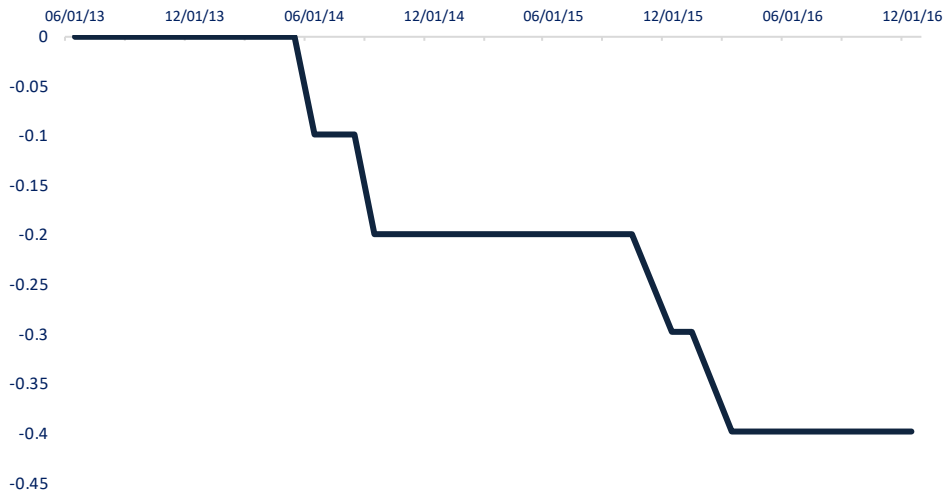
Event Windows:	[0;0]	[-1;1]	[-1;0]	[0;1]	[-2,2]	[-2;-1]	[1;2]
AEX	-0.0017	-0.0012	-0.003	0.0001	-0.0049	-0.0035	0.0004
ATX	0.0006	0.0014	-0.0069	0.0089	-0.001	-0.0085	0.0068
BEL 20	0.0002	0.0039	-0.0007	0.0047	0.0012	-0.0035	0.0045
CAC 40	-0.0017	-0.0019	-0.002	-0.0016	-0.0019	-0.0006	0.0003
DAX	0.0013	0.0004	0.0021	-0.0004	0.0037	0.0045	-0.002
FTASE	0.0137	0.0373	0.0146	0.0364	0.0214	0.0009	0.0067
FTSEMIB	0.0012	-0.0014	0.0011	-0.0013	-0.0117	-0.0091	-0.0038
HEX25	-0.0047	-0.0069	-0.0062	-0.0054	-0.0024	0.0048	-0.0024
IBEX 35	0.0054	0.0085	0.0088	0.0051	0.0036	-0.0003	-0.0016
ISEQ Overall	-0.0046	-0.0105	-0.0122	-0.0029	-0.0002	-0.0086	0.013
PSI 20	0.0015	-0.0008	-0.0009	0.0016	-0.0052	-0.0071	0.0004

***99% significance level, **95% significance level, *90% significance level

Return Model ($\beta=1$) - Benchmark: Euro Stoxx TMI



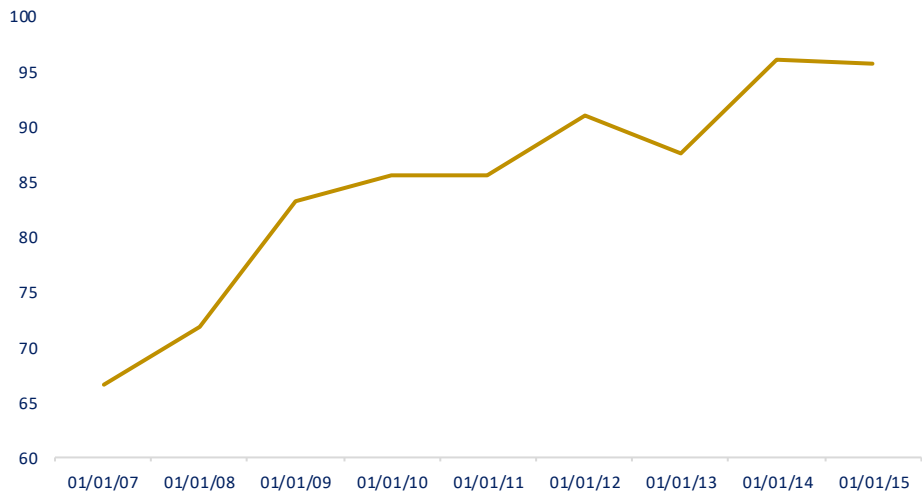
Eurozone ECB Deposit Rate



Euro Stoxx TMI (benchmark)



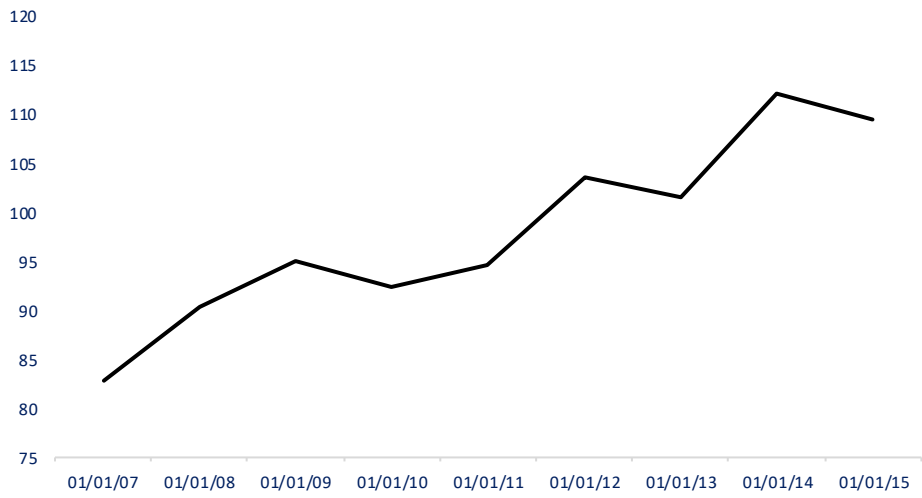
Public Debt % GDP Austria



Austria 10y Yield



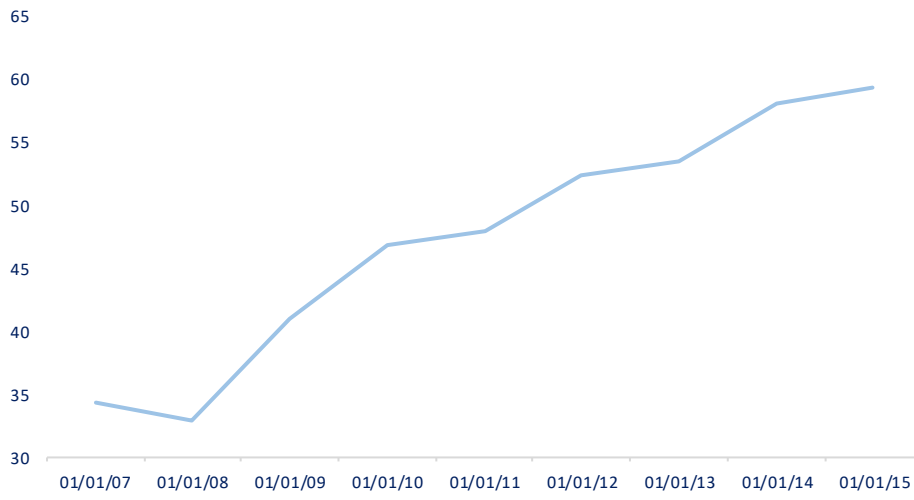
Public Debt % GDP Belgium



Belgium 10y Yield



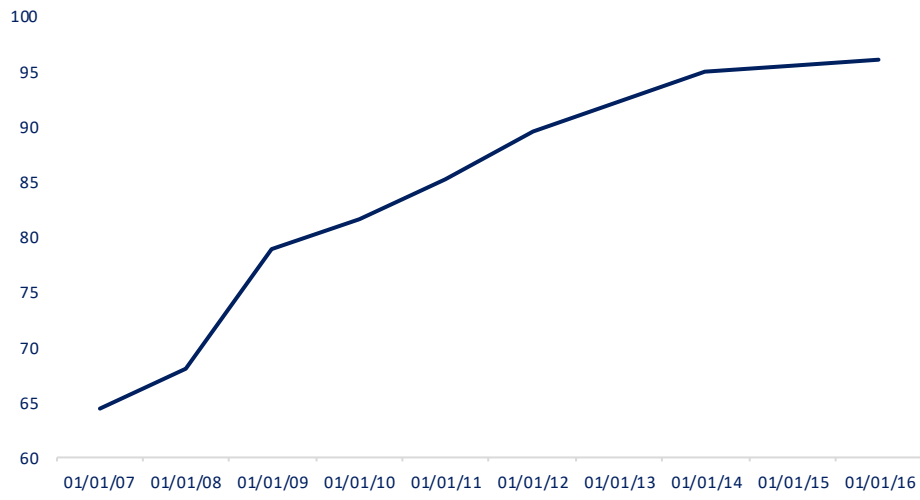
Public Debt % GDP Finland



Finland 10y Yield



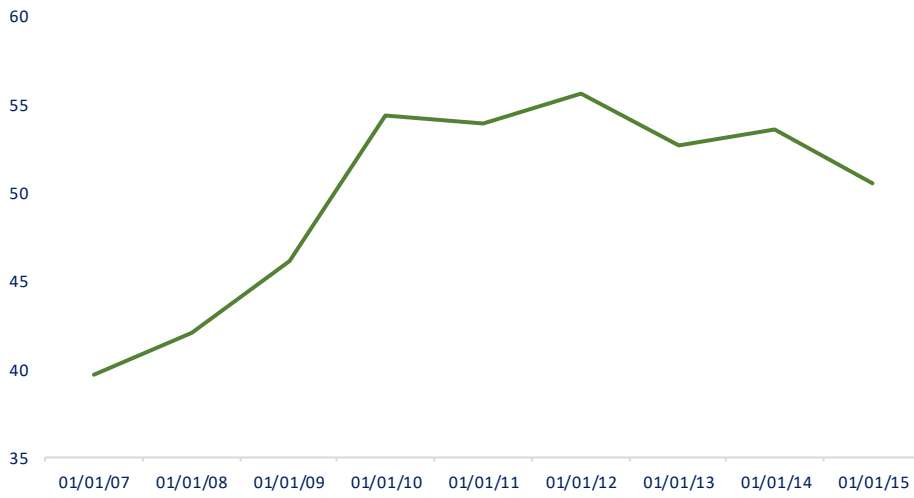
Public Debt % GDP France



France 10y Yield



Public Debt % GDP Germany



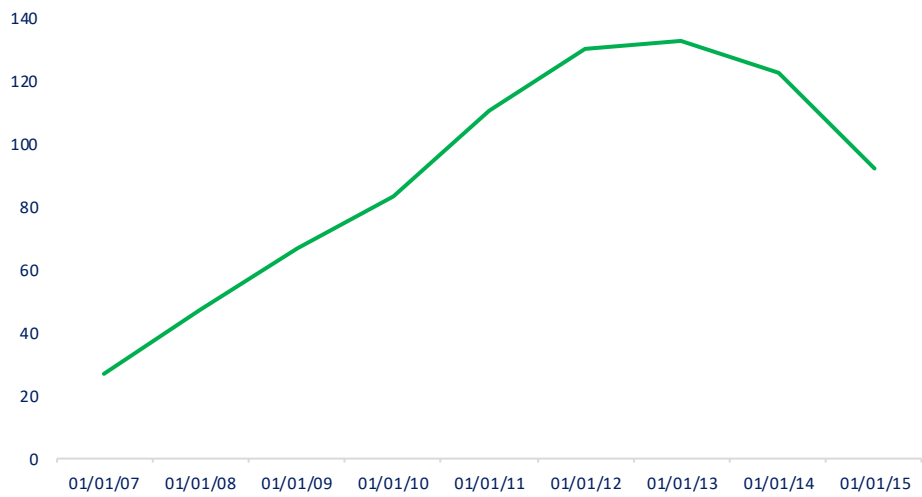
Germany 10y Yield



Greece 10y Yield



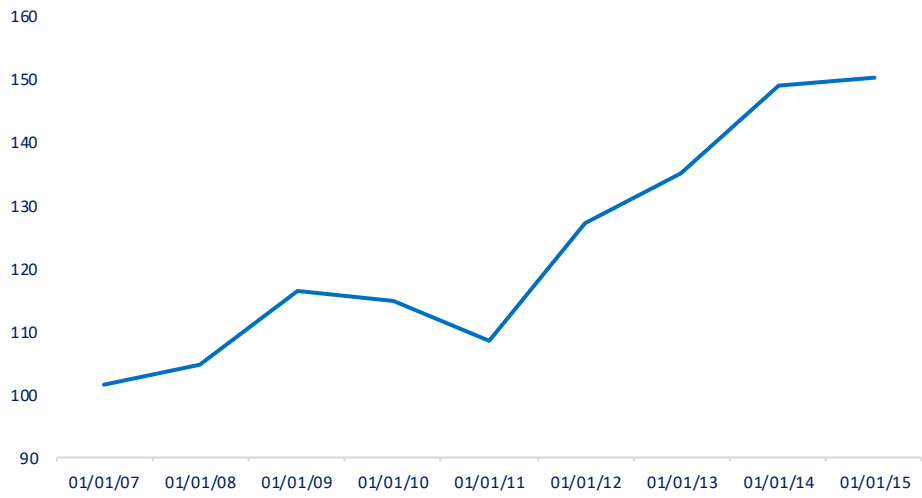
Public Debt % GDP Ireland



Ireland 10y Yield



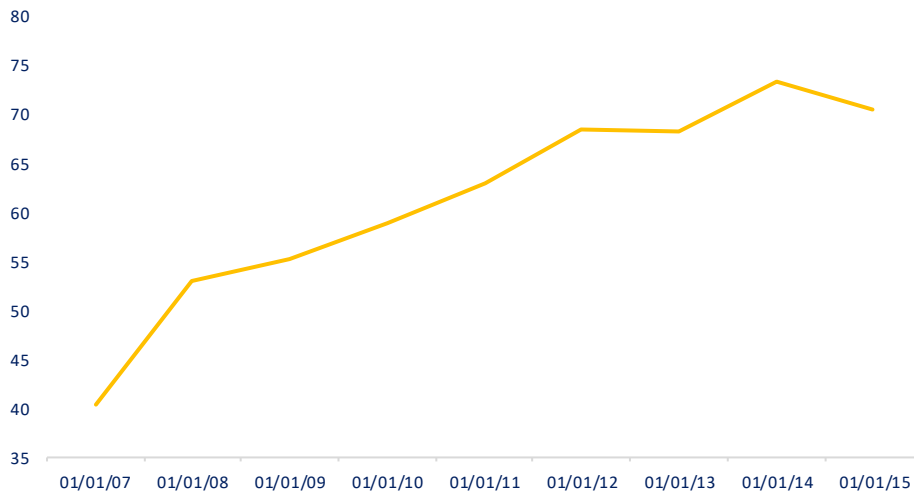
Public Debt % GDP Italy



Italy 10y Yield



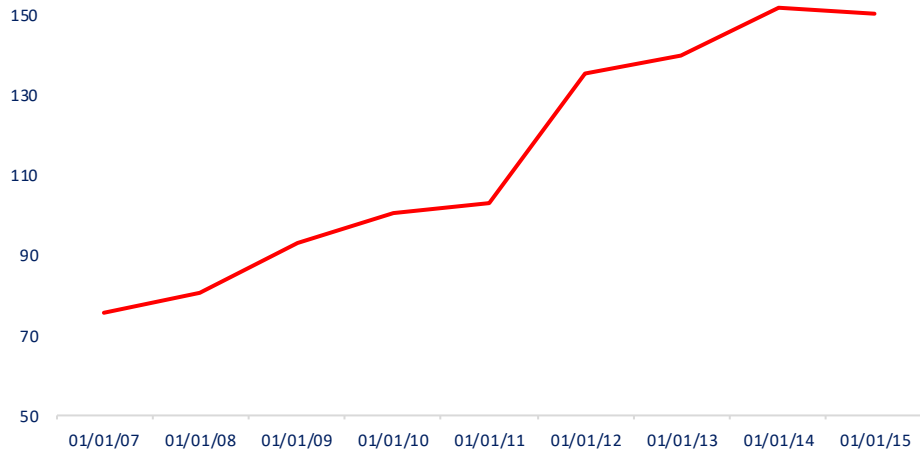
Public Debt % GDP Netherlands



Netherlands 10y Yield



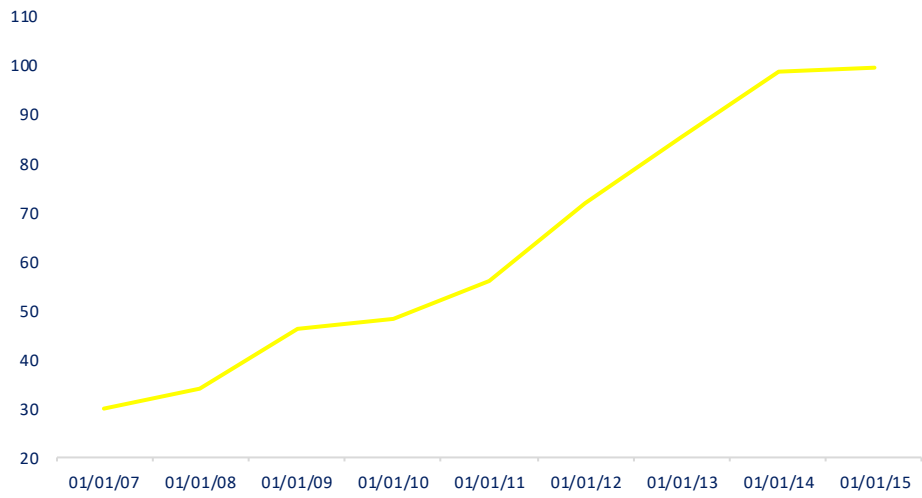
Public Debt % GDP Portugal



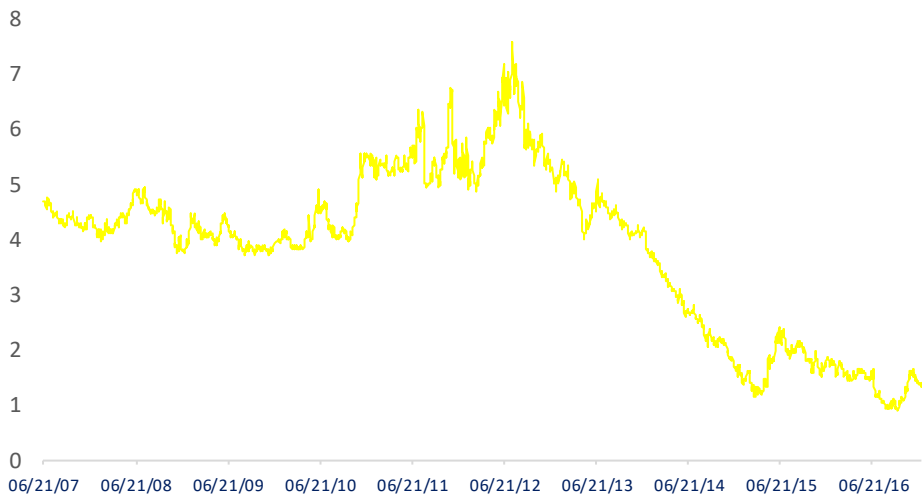
Portugal 10y Yield



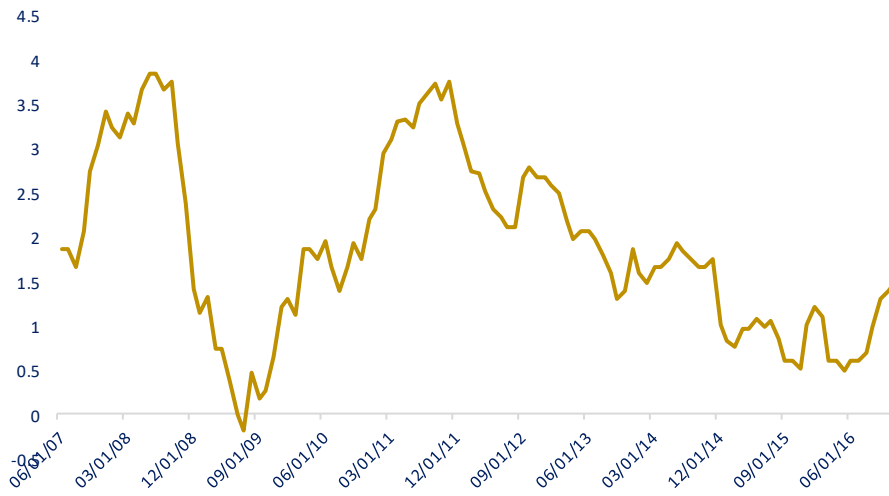
Public Debt % GDP Spain



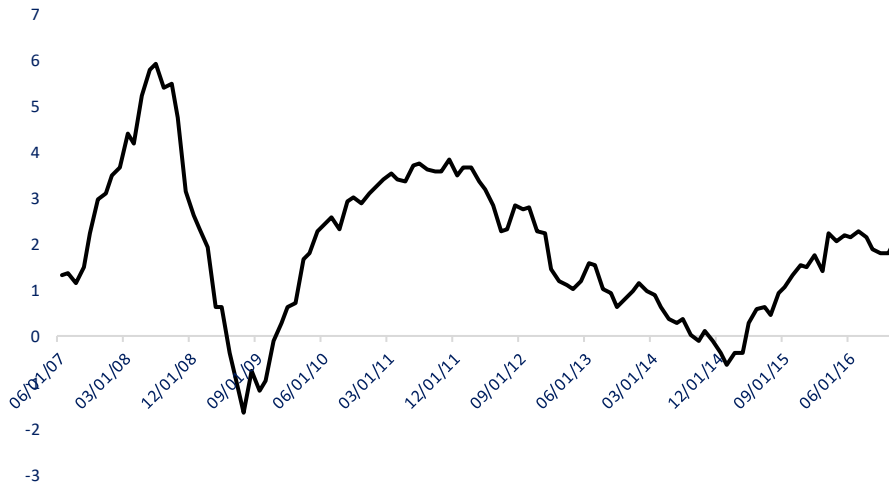
Spain 10y Yield



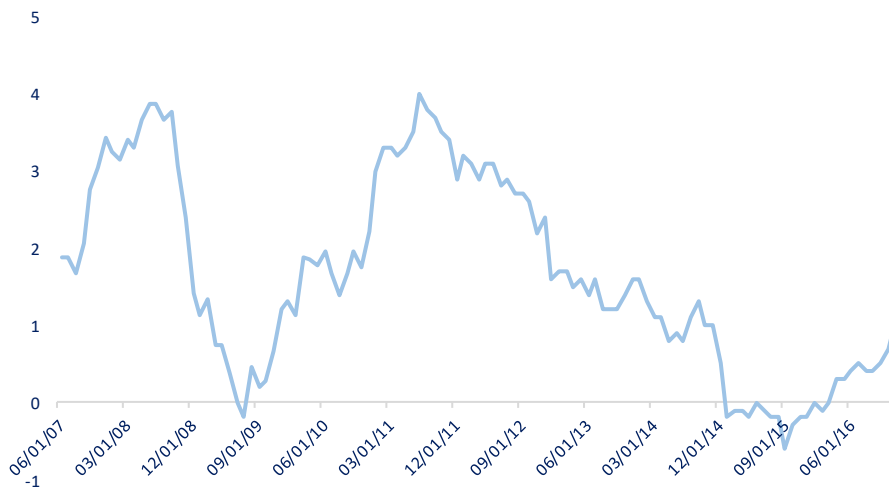
Austria Core CPI



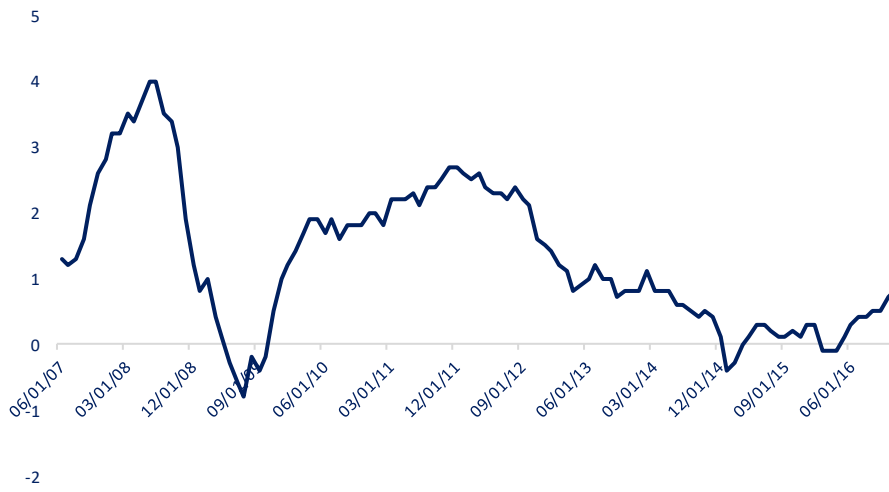
Belgium CPI



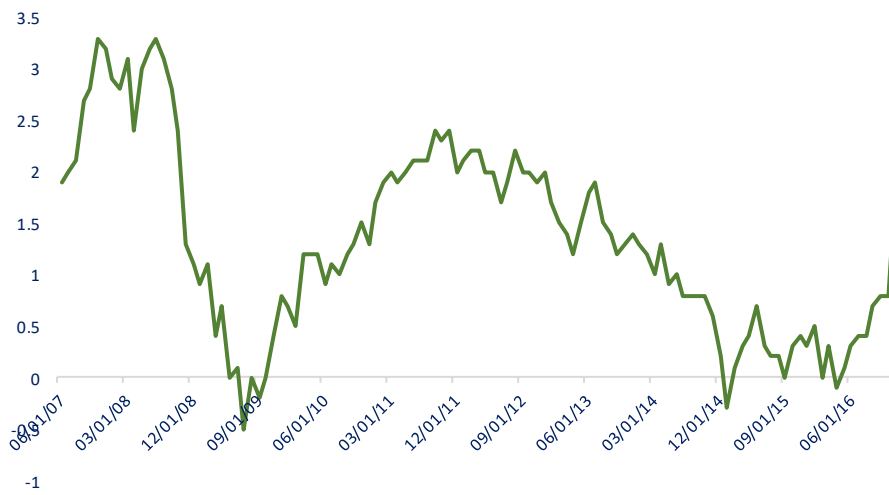
Finland CPI



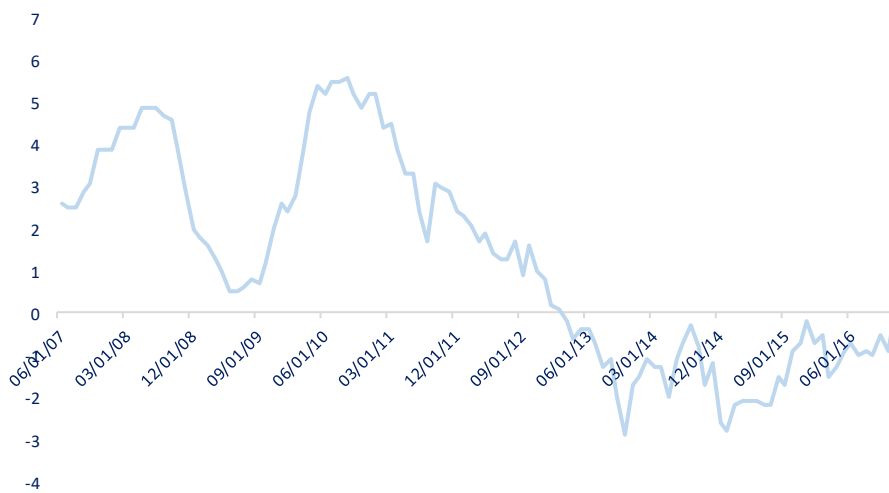
France CPI

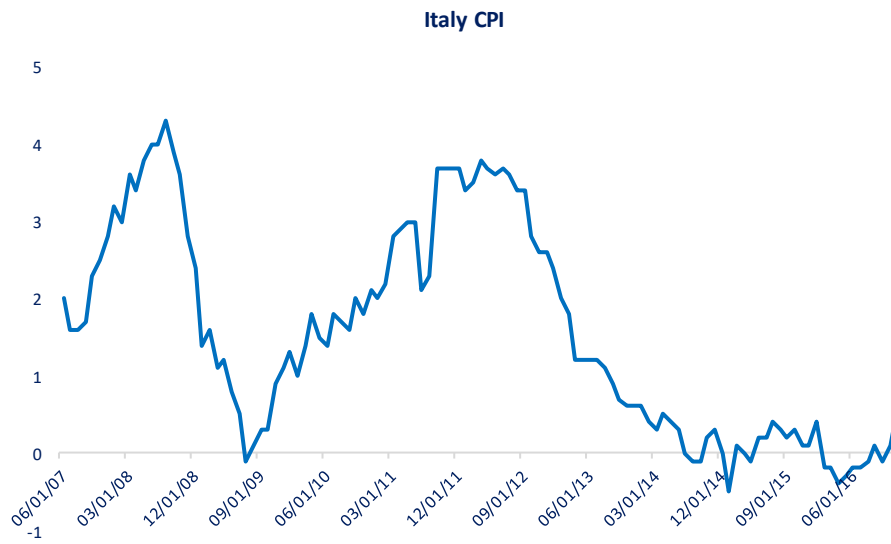
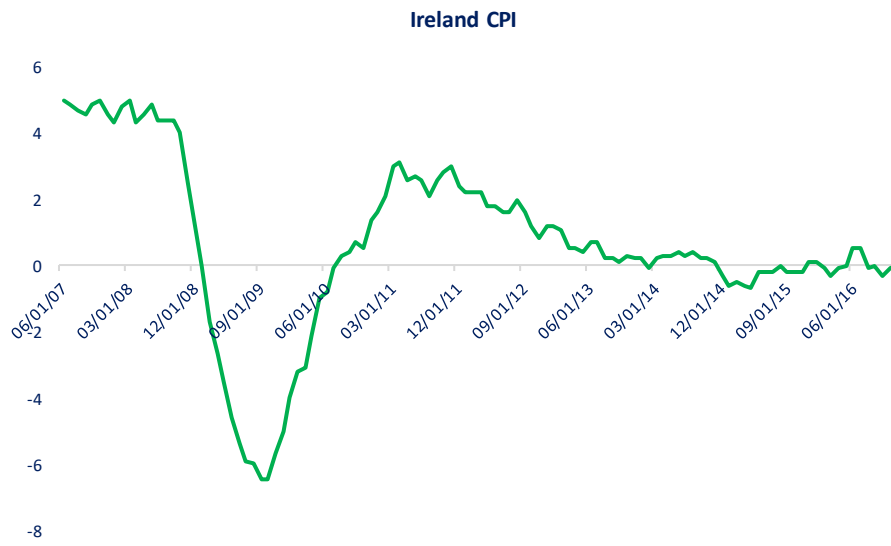


Germany CPI

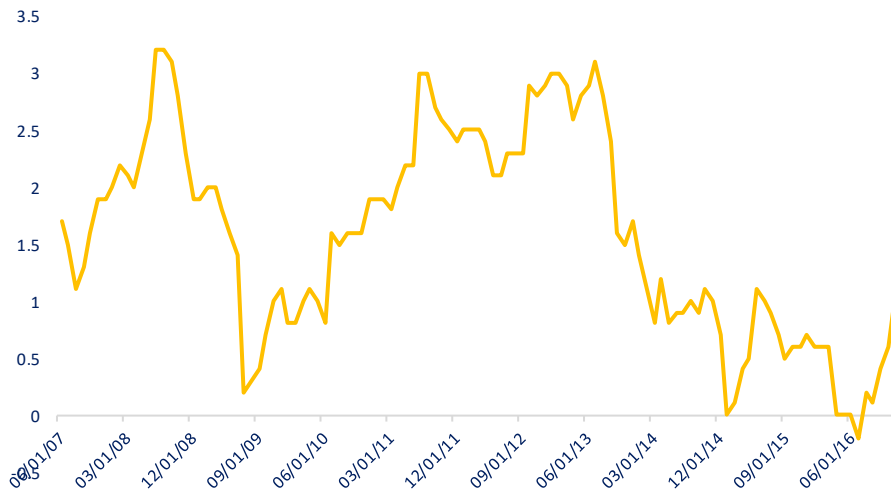


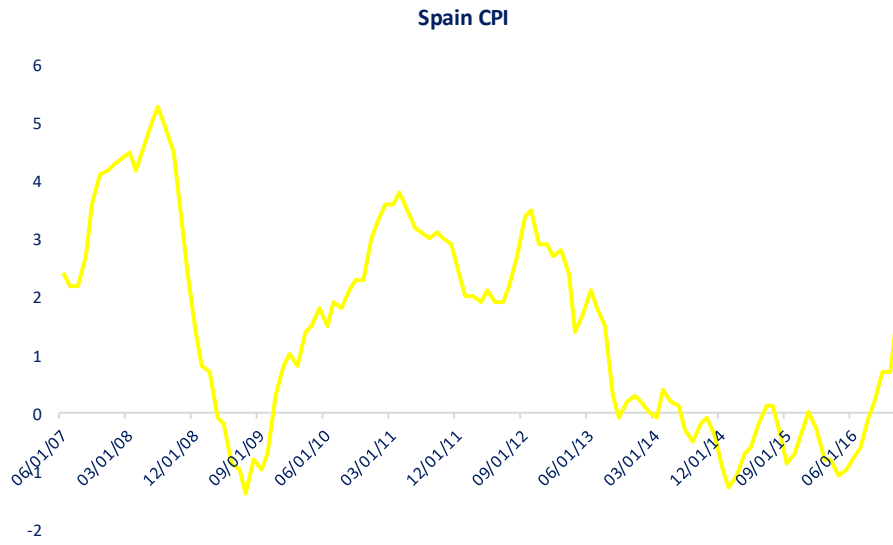
Greece CPI





Netherlands CPI





Note: All the data used for drawing the tables in the previous pages was retrieved from Thomson Reuters.