Comparisons Between Transparency In The United States of America(US) Corporate Bond Market and European Corporate Bond Market: Criticisms of Transparency In US Markets From European Markets Perspective

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Abstract

This paper investigates the differences between the impacts of transparency in the US and European Corporate Bond Markets by studying the criticisms of transparency in the US markets from European markets perspective. The study makes two assumptions namely as the level of understanding on transparency in the European market increase; the spreads decrease and the volume of trading do not decrease. Then the study construct a regression on the data sets on all of subset of the European market selected that consists of the average best bid-ask spread (presented in proportional spread) and the number of trading volumes. The results from methodology are giving favorable results or advantages of implementation of transparency that is consistent with the phenomenon experienced by US corporate bond markets. Thus, it can be concluded that it would be optimal to introduce transparency in the markets but with some limited post-trade transparency.

Keywords: Transparency, Corporate bond markets, Trading.

1. Introduction

1.1 Definition of Transparency

Bond markets have an important role in the financial systems of the economy. Lenders and borrowers are bought together in the bond markets. Bond markets allow the lenders to invest in reasonably low risk assets and the borrowers to obtain funding from relatively liquid markets. Bond markets determine the prices of other assets. The bank interest rates also will usually follow the market-determined interest rates on the bonds.

Transparency in the bond market is often categorized as pre-trade(ex-ante) transparency, which concerns the dissemination of quotations or other indications of trading interest (such as unexecuted orders in the limit order book), and post-trade(ex-post) transparency, which concerns the dissemination of data about completed trades(Bessembinder, Maxwell, and Venkataraman, 2005). Markets that disseminate little or no price data are referred to as being opaque, or non-transparent. The corporate bond market has traditionally been opaque where trades were reported only to the parties involved, so investors could not compare their own execution price to other transactions. The lack of transparency in the markets have caused institutional investors to invest significant time and effort to obtain market information, and their ability to compare their transaction prices with other investors were limited. Limited information regarding current prices, in the form of "indicative" quotes, was available to institutional investors through a messaging system provided by Bloomberg. Through the system, the investors could indicate their interest in buying or selling a particular issue in an effort to request bids or offers, or could telephone or contact dealers for quotes. But the individual investors will have more difficulty than the institutional investors as they were precluded from accessing virtually all real-time market information. There are less evidence on the microstructure and liquidity of the European bond market compared to the US bond market. The report entitled "European Corporate Bond Markets: transparency, liquidity, efficiency" by Centre for Economic Policy Research (CEPR) is the first substantial empirical work on these issues. It is important in order to provide a useful out of sample robustness check of the results obtained for the US market.

Furthermore, European corporate bond market has not undergone a reform comparable to Trade Reporting and Compliance Engine (TRACE) and is not post-trade transparent market. Hence comparing the liquidity and transaction costs of both markets are only able to help one understand better the consequences of post-trade transparency and the advantages or disadvantages of the impact of transparency in European corporate bond market.

2) Literature Review

2.1 Study on the criticism of transparency in US Corporate Bond Market from European markets perspective

The study determines whether greater opacity in the European market (since the market is yet not post-trade transparent market) could lead to larger spreads

than in the US market. Furthermore, US indicates that excessive transparency has led to a reduction in capital commitment by dealers based from their subjective evidence. This will caused an increased of competitive advantage for the larger institutional investors since they are able to exert leverage on their dealers to continue to provide them with firm quotes at the expense of smaller institutions and retail brokers.

But, the subjective evidence from U.S. corporate debt markets is not readily applicable to the European debate. This is because the affect that Trade Reporting and Compliance Engine (TRACE) has had on the transaction costs for U.S corporate bond market is not comparable to the European corporate bond market since Europe already have tighter spreads than the U.S. and Europe markets tend to have greater pre-trade transparency with more dealers prepared to commit more capital in offering finer prices in larger sizes.

One of the main issues of transparency in both US and UK corporate bond markets is whether they could maintain or increase the market level of liquidity since corporate bonds are only trade at all because of asymmetric information's. Dealers in both markets are free to obtain the amount of information that they need but the information that they obtained could neither be homogeneous information or heterogeneous information. Hence the information acquisition behaviour of the dealers in the markets could have leads to information asymmetries between them.

With post-trade transparency, information asymmetries between dealers could be reduced since each dealer could observe the quotes of his or her competitors. But, it could enhance the competition advantage for the larger institutional investors and thus reduces spreads.

Dealers prefer the market to be opaque in ex-ante (pre-trade) transparency since this increases their expected rents. It can be conclude that information acquisition behaviour of the dealers could reduce the level of transparency of the market. According to a study by Centre for Economic Policy Research (CEPR, 2006), greater information acquisition in the opaque market does not necessarily lead to greater eventual information disclosure. The greater information revealed in the marketplace resulted from the combination of the effect of the acquisition of information and the disclosure of prices. The only cost incurred by dealers in the opaque market is the information acquisition cost (other than the cost of the technological infrastructure). Dealers are willing to incur these costs only if they are convinced that their expected profits from trading on the information will exceed the cost incur.

Transparency would also have an adverse effect in liquidity of the market with informed dealers. Thus, it will cause the profits of the competing informed dealers in the markets to be reduced. It can possibly drive the expected trading profits of the dealers to be below the fixed costs incurred by them. As the effect, dealers are prone to exit the market. If this effect were strong, the advantage of transparency will be diminished whereby the spreads will end up to increase rather than to decrease.

But for actively traded securities, where the volume of the trading activity is sufficiently large, the dealers can cover their costs, even if the market is transparent. But in the case of infrequently traded securities, the ability to recoup fixed costs can be a real problem since there will be less trading volume as compared to the actively traded securities and will result too much transparency could be detrimental to liquidity.

2.2 Mechanism of TRACE

The implementations of transparency in the corporate bond markets begun when the Securities and Exchange Commission(SEC) persuaded the National Association of Securities Dealers (NASD) to create a system that could collect all the transaction reports and disseminate the price information. On January 23, 2001, the Commission had approved NASD's proposal to establish a systems that could report and disseminate the last sale information on corporate bonds that are not traded on an exchange. The system proposed by NASD is known as Trade Reporting and Compliance Engine (TRACE) system. The system was officially launched on July 1, 2002 and is currently implementing in phrases.

Under the NASD's TRACE rules, dealers must report trades on U.S. corporate bonds to the NASD within 45 minutes of trade execution, which was reduced from 75 minutes on October 1, 2003. Prior to TRACE, real-time transparency of investment-grade corporate bonds was limited to those traded on exchanges (a very narrow segment of that market). All trades in TRACE-eligible bonds are reported to the NASD, but not all TRACE data is disseminated to market users at this time (Nazareth, 2004).

This is because the industry is concerns on the adverse effects that the dissemination of price information might cause on the liquidity of the markets. Immediate dissemination of transaction information on anything but the most liquid bonds could discourage dealers from committing capital and assuming risk positions by exposing their intentions to market participants. Thus far, on the basis of available evidence, these concerns remain unsubstantiated.

3) Methodology

3.1 Introduction

Bond market is important in financing most economies. In Europe, the bond market is larger than the equity market.

There are two assumptions that are used in the methodology, which are; as the level of understanding on transparency in the **European** market increase, (from 2003 to 2006), the spreads decrease and as the level of understanding on the transparency in the **European** market increase, (from 2003 to 2006), the volume of trading do not decrease.

The two assumptions are further interpreted as the level of understanding on transparency in the **chosen market where the bond is traded** increase, (from 2003 to 2006), the spreads decrease and as the level of understanding on the transparency in the **chosen market where the bond is traded** increase, (from 2003 to 2006), the volume of trading do not decrease.

The best prices and reliable contracting for both buyers and sellers can be obtained when there are a large number of trading volumes (Martellini and Priaulet, 2004). Liquidity is actually the promise that a security can be traded in the best pricing with the least effort that need to be put in order to attract more buyers and sellers. With the large number of buyers and sellers the number of trading volumes will increase. As result the security will be able to be traded in the best pricing and will further narrow the gap between the prices for buying and selling which is known as the 'bid-ask' spread and it will give a favourable impact on the prices. The liquidity dimensions that are focused in the methodology are width and depth of the price quotes, which could be measured by the bid-ask spread (fixed cost per share) and the number of shares that can be traded at given quotes.

3.2 Constraints of the study

A suitable data collection for the study can be obtained from a system known as TRAX. As reported by Centre for Economic Policy Research(2006) all the London based members of International Capital Market Associatio(ICMA) which consist of great majority of the dealers in the European corporate bond market and all members of the Council of Reporting Dealers, irrespective of their location, need to report their trades to the self regulatory organization, through TRAX. The system will capture most of the professional business in continental Europe and UK. The TRAX information will go to national regulators, such as the Financial Services Authority (FSA) in London, the National Bank of Belgium and, previously the AMF in Paris, which will use it for monitoring and surveillance. Since the trades data will be used for monitoring and surveillance by FSA, the data collections from European corporate bond market are not easily accessible.

As a compatible substitution the study will use data collections of government bond from a Market and Data Description for the European Bond and Repo database (MTS Time Series) instead; by ignoring the differences of the credit risk between corporate and government bonds.

3.3 Data Collections

Using the information provided by the MTS database, the effect of transparency is analysed. The MTS database contains daily cash and repo information and high frequency trade and quote data, for a large number of European sovereign bond markets. The coverage of the database is bound to increase along with the planned expansion of MTS into new markets (Dufour and Skinner, 2005). Therefore, for the sake of this introduction, the data contained in the first month of the database, April 2003 is referred.

As the data collected in the database started on April 2003 until September 2006, the impact of transparency in the European market are analysed based on the understanding that by 2006, there are higher understanding on the implementation of transparency and mechanism of TRACE and its effect on the liquidity into the transparency in European market. So there should be a relative difference on the 'bid-ask' spread and the number of trading volumes *before* European market have a full understanding on the implementation of transparency and mechanism of TRACE and *after* European market have a full understanding on the implementation of transparency and mechanism of TRACE. Thus, the effect of liquidity should be reflected in the relationship on both variables ('bid-ask' spread and the number of trading volumes).

Then, a qualitative comparison are use to compare the results or the outcome obtained from the data analysis to the published and established results on the transparency effect in the US market.

For the purpose of the methodology, four variables from the daily cash data(CashSummary) are used. They are the **MarketCode**, **RefVerb**, **TotVolume** and **Avgspread**. The **MarketCode** is the code for the market where the bond is traded. The **RefVerb** is the indicator variable for the sign of the last trade at or before 5pm CET with a possible values of 0 for buy, 1 for sell and (.) for missing value if there are no trades for the day. The **TotVolume** is the sum of nominal value of fill volume on the particular day.

The **Avgspread** is average best bid-ask spread (presented in proportional spread) throughout the particular day.

4) Finding and Analysis

Let, average best bid-ask spread (presented in proportional spread) throughout the particular day (Avgspread) of a market code, $_{MC}$ for the market where the bond is traded at time,t denoted by $\mathbf{Spread_{MC,t}}$ and sum of nominal value of fill volume on the particular day (TotVolume) of a bond,b of a market code, $_{MC}$ for the market where the bond is traded at time,t denoted by $\mathbf{Volume_{MC,t}}$.

Market code, $_{MC}$ for the European market where the bond is traded, denoted by **EBM** for EuroMTS, **ESP** for MTS Spain, **FRF** for MTS France, **GEM** for MTS Germany, **IRL** for MTS Ireland, **MTS** for MTS Italy and **PTE** for MTS Portugal.

Denotation of time,*t* represent the two periods of investigation that are concentrated on; which are all the trades that happened from **2003 to 2004**(can be considered as ***before*** European market have a full understanding on the implementation of transparency and mechanism of TRACE) and from **2005 to 2006**(can be considered as ***after*** European market have a full understanding on the implementation of transparency and mechanism of TRACE).

In the analysis, the study introduced a dummy variable that is used to depict the relationship between the spreads and the impact of transparency. From the co-efficient value of the dummy variables, interpretations on the assumption used at the beginning of the methodology are done which are as the level of understanding on the implementation of transparency in the European market increase and the level of understanding on the mechanism of TRACE increase, average best bid-ask spread throughout the day decreased. The dummy variable is denoted by $\mathbf{D_{0n,\,MC}}$ whereby *n* is the number of dummy variables used. The study focused on cases where there are trading for the day and discarded bonds with missing quotes and has no trades for the day.

4.1 The regression equations for the average best bid-ask spread (presented in proportional spread), $\boldsymbol{Spread_{MC,2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ *and the sum of nominal value of fill volume,* $\boldsymbol{Volume_{MC,\ 2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ *from* ***2003*** *to* ***2004*** *and from* ***2005*** *to* ***2006***

$\mathbf{Spread_{MC,2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ **= Intercept +**
(Co-efficient) $\mathbf{Volume_{MC,\ 2003\text{-}2004,2005\text{- }2006}}$ +
(Co-efficient)$\mathbf{D_{01,MC}}$

The analysis is done by running a regression on the data sets on each of the subset of the European market selected that consists of the average best bid-ask spread (presented in proportional spread), $\mathbf{Spread_{MC,2003\text{ - }2004\text{ , }2005\text{ – }2006}}$, the sum of nominal value of fill volume (for the purpose of displaying the regression coefficient we present the volume unit in billions), $\mathbf{Volume_{MC,\ 2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ from 2003 to 2004 for the period whereby ***before*** European market have a full understanding on the implementation of transparency and mechanism of TRACE and from 2005 to 2006 for the period whereby ***after*** European market have a full understanding on the implementation of transparency and mechanism of TRACE and one dummy variables, $\mathbf{D_{01,MC}}$. The investigation periods are segregated into two periods that are **2003** to **2004** and **2005** to **2006**. $\mathbf{D_{01,MC}}$ is used to represent the changes in spreads (either it will be larger or smaller) during the year of 2003 to 2004 in respect to 2005 to 2006.The result of the regressions is given in Table 4.1;

Table 4.1: The regression equations for the average best bid-ask spread (presented in proportional spread), $\mathbf{Spread_{MC,2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ and the sum of nominal value of fill volume, $\mathbf{Volume_{MC,\ 2003\text{ - }2004\text{ , }2005\text{ – }2006}}$ from **2003** to **2004** and from **2005** to **2006**

Market code, $_{MC}$	$\mathbf{Volume_{MC,\ 2003\text{ - }2004\text{ , }2005\text{ – }2006}}$	$\mathbf{D_{01,MC}}$	**Intercept**
EBM	0.5688	**70.0603**	-199.1778
ESP	0.9036	**0.2951**	2.5443
FRF	3.1094	-21.3890	11.5814
GEM	3.7554	-28.4922	-1.17953
IRL	0.9469	-0.0707	0.6723
MTS	-0.1782	-14.5436	82.7859
PTE	0.2315	-0.0897	2.7712

The t-ratio for all of the coefficients and the value of 'r square' are not statistically significant since the study only consider sovereign trade data of Spain, France, Germany, Ireland, Italy, Portugal and Euro benchmark bonds from the MTS database. These European sovereign markets data are chosen because they have the highest daily cash and repo information and high frequency trade and quote data compared to other sovereign trade data. And the numbers of observation for the methodology is also insufficient since the availability of data's could be obtained from MTS are only from April 2003 to September 2006.

It can be conclude that overall the average best bid-ask spread for each of the subset of the European market selected in **2003** to **2004** for the period whereby ***before*** European market have a full understanding on the implementation of transparency and mechanism of TRACE are larger the average

best bid-ask spread in **2005** to **2006** for the period whereby ***after*** European market have a full understanding on the implementation of transparency and mechanism of TRACE based on the co-efficient of respective $\mathbf{D_{01,FRF}}$, $\mathbf{D_{01,GEM}}$, $\mathbf{D_{01,IRL}}$, $\mathbf{D_{01,MTS}}$, and $\mathbf{D_{01,PTE}}$. But there are only two exceptions noted for EuroMTS and MTS Spain. Based on the value of the co-efficient of $\mathbf{D_{01,EBM}}$ **and** $\mathbf{D_{01,ESP}}$, the average best bid-ask spread in **2005 to 2006** is larger than the average best bid-ask spread in **2003 to 2004.** It may due to the effect of transparency that would have an adverse effect in liquidity of the markets that have higher informed dealers' population and caused the profits of the competing informed dealers in the markets to be reduced. It can possibly drive the expected trading profits of the dealers to be below the fixed costs incurred by them. As the effect, dealers are prone to exit the market. If this effect were strong, the advantage of transparency will be diminished.

5) Conclusions

A handful of studies are conducted on market transparency, but neither the theoretical predictions nor the empirical evidence could be used to conclude whether market quality is enhanced by increased transparency. The study shows favorable results or advantages of implementation of transparency in European market, which is consistent with the phenomenon experienced by US corporate bond markets. Through observation on the study up to this point, it would be optimal to introduce transparency in the markets but with some limited post-trade transparency.

It is suggested that those who are interested to do research similar to the topic of the paper to use more sovereign trade data and longer period of investigation.

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