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SECURITIZATION MARKETS AND CENTRAL BANKING: POLICY ANNOUNCEMENT EFFECTS

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ABSTRACT

European and US monetary authorities designed policies to revive the issuance of asset backed securities (ABS) after the financial crisis of late 2007 and keep consumer and business funding uninterrupted. I examine how policy announcements affected excess ABS spreads, that is, spreads of newly issued ABS over and above broader financial market spreads, in the context of event studies. Though policy announcements effectively reduced and stabilized excess ABS spreads by late 2009, the volume of new issuance remained significantly low.

JEL: E58, G1

KEYWORDS: Securitization, ABS Spreads, TALF, Central Banking

INTRODUCTION

The United States (US) subprime mortgage crisis in 2007 resulted in a sudden stop in worldwide demand and issuance of Asset Backed Securities (ABS). In response, central banks deemed it was necessary to keep the securitization markets alive so that money flows to financial institutions keep consumer and small business funding uninterrupted. To this end, the European Central Bank (ECB) and the US Federal Reserve (Fed) carried out programs to provide liquidity to issuers and investors of newly issued ABS, respectively. Campbell et al. (2011) find that the Fed's Term Asset Backed Securities Loan Facility (TALF) program announcements reduced excess ABS spreads in the secondary market. However, TALF targeted primary rather than secondary market spreads. Hence, in this study, I examine TALF announcement effects on primary market spreads following Campbell et al.'s event study methodology. In addition, I examine how ECB policy announcements of its credit provisions program affected ABS spreads in the European marketplace. To perform these tasks I examine a dataset of 107,692 ABS deals from Thomson One Banker of Thomson Reuters.

The strongest ECB policy announcement effect on excess ABS spreads is the expansion of financing eligibility to non-European Economic Area ABS issuers on May 25, 2007. ABS spreads (to swaps) were reduced by 86 basis points (bp) more than how broad financial market spreads (LIBOR-OIS spread) changed during the week of the announcement. The Fed's announcement on February 10, 2009 that TALF could possibly expand up to $1 trillion reduced excess ABS spreads by 13bp, while the last TALF ABS subscription on March 4, 2010 reduced them by 10bp. Results are robust to alternative specifications of ABS and broad market spreads. The findings suggest that these policy announcements successfully reduced and stabilized excess ABS spreads by late 2009. Nevertheless, new issuance of private-label ABS remained considerably low, and which, like other quantitative easing monetary policies, can be thought of as "pushing on a string".

Background on Securitization

Securitization is the process of pooling diversified loans and bundling them in securities. The most common loan categories used in securitization are mortgage loans for Mortgage Backed Securities (MBS), and auto, credit card and student loans for Asset Backed Securities (ABS) (I use the term "ABS" with reference to both Mortgage and other Asset Backed Securities without loss of generality unless is otherwise necessary, in which case I make the distinction clear). Cash flows from loan repayments are used as collateral to repay the securities that are sold to investors such as insurance companies, hedge funds and pension funds. ABS are issued in different classes of credit-risk, called tranches. Senior tranches have lower credit risk and are considered safer investments than junior tranches. Senior tranches have repayment priority, pay a lower yield and receive higher investment-grade ratings than junior tranches. Typically, the most junior tranche stays with the originator so that it continues to monitor the original loan repayments. Cash proceeds from the sale of ABS to investors are then used to make new loans. Before August 2007, as much as 60% of private credit creation in the US was distributed onwards through the securitization market and was not held in the books of depository institutions (Dudley, 2009).

The origination of ABS is facilitated by a bankruptcy-remote robot firm, the Special Purpose Vehicle (SPV). The SPV is an off-Balance Sheet vehicle that allows the originator to remove the underlined assets from its balance sheet and lower its capital reserve requirements (Gorton and Souleles, 2005). The SPV finances the purchase of the pool of loans from the originator by issuing and selling ABS tranches to investors. Securitization originally developed in the US in the 1970s by Government Sponsored Enterprises (GSE) —such as Fannie Mae and Freddie Mac— for mortgage assets (MBS) and expanded in the mid-1980s to include non-mortgage assets (ABS) (Agarwal et al., 2010). Securitization later gained popularity among private financial institutions and industrial companies. Figure 1 shows that by year 2003 Private Label issuance from non-government agencies surpassed that of GSE. Since the Fall of Lehman Brothers in the third quarter of 2008, however, GSE issuance has averaged 70% of the total. At the same time that TALF launched, the Fed implemented a different program to buy up to $100 billion of GSE direct obligations and up to $500 billion of their MBS. The question this study seeks to answer is whether the TALF program was successful in reviving Private Label issuance. For this reason, I exclude GSE and investigate only newly issued Private Label ABS deals.

In Europe, securitization started to peak in 2002, when financial institutions began to collateralize European assets in addition to US assets. Figure 2 shows that the turmoil in the US housing market allowed the volume of issuance in the euro area marketplace to soar above US marketplace levels between the second quarter of 2008 and the third quarter of 2010. By 2012, however, issuance in the US marketplace was again higher than in the euro area marketplace, albeit significantly lower volumes in both markets relative to those years prior to 2007. Table 1 presents issuing patterns of Private Label ABS between 1999 —the year the euro was introduced— and 2012. Issuance by nations in the euro area, Great Britain and Switzerland accounted for more than 5.4 trillion dollars, or 35% of the total. Interestingly, the domestic and foreign currency denomination patterns of ABS deals vary significantly between countries but I leave that investigation for future study. The remainder of the paper is organized as follows. In the next section I review the relevant literature. Afterwards, I discuss the data and methodology, and present the timeline of the Fed and ECB program announcements. I then present the empirical results and finally conclude with suggestions for future research.

Figure 1: ABS Issuance in the US: Government Sponsored Enterprises (GSE) vs. Private Label Issuers
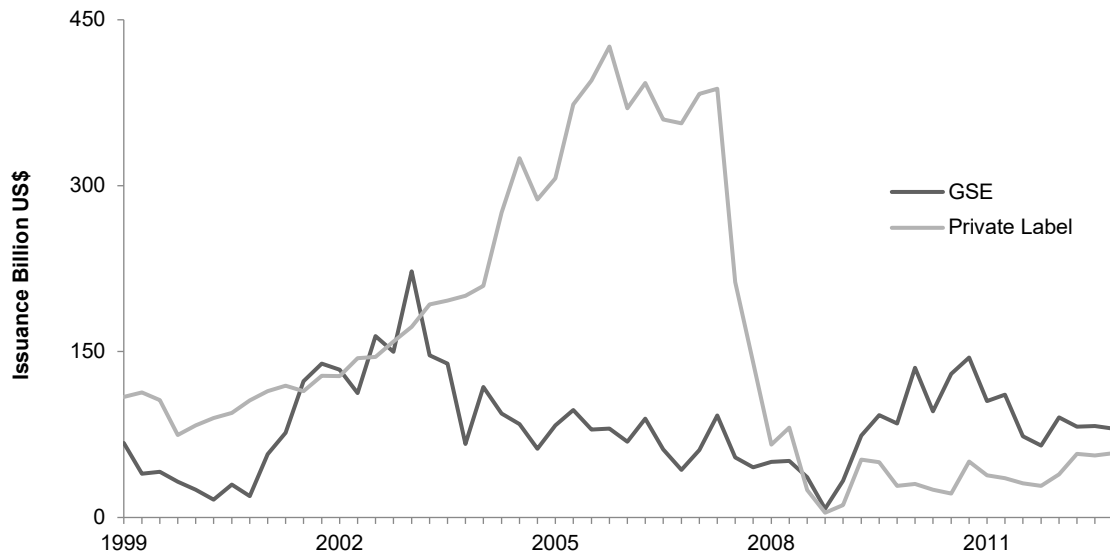
This figure shows issuance of Asset and Mortgage Backed Securities (ABS) in the US marketplace between 1999 and 2012. Government Sponsored Enterprises (GSE) refers to issuance by Fannie Mae, Freddie Mac, Government National Mortgage and SLM Corporation, all with standard industry classification code (SIC) 6111. Private Label refers to non-government sponsored institutions such as Bank of America and Lehman Brothers Holdings Inc. The volume of issuance is reported in billions of US dollars. Data source: Thomson One Banker.

Figure 2: Private Label ABS Issuance: US and Euro Area Marketplace
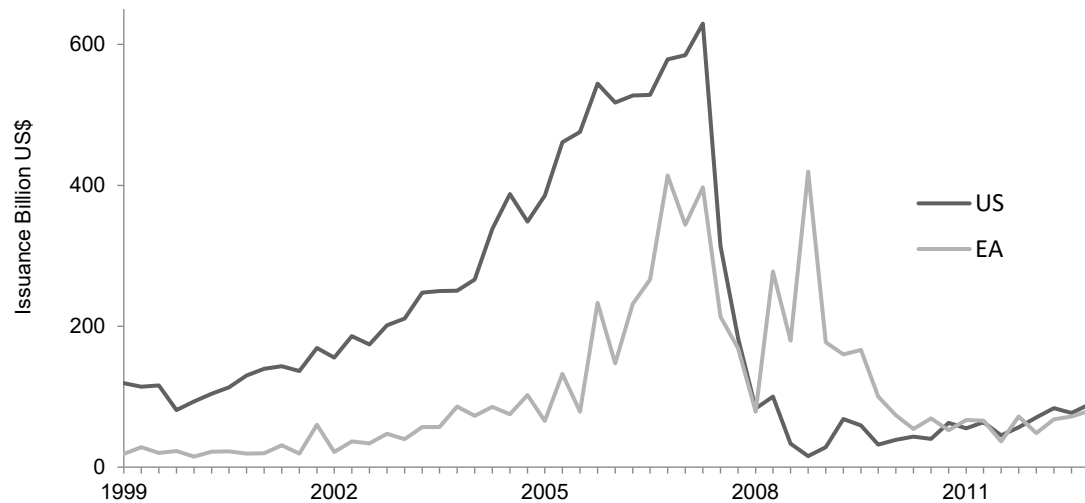
This figure shows issuance of Asset and Mortgage Backed Securities in the US and Euro Area (EA) marketplace between 1999 and 2012. The volume of issuance is reported in billions of US dollars. Data source: Thomson One Banker.

Table 1: Private Label Issuance by Originator Nation

	Total Issuance			Currency Denomination					
	(1999-2012)			(%)					
	(USD million)	(% of total)	Domestic	USD	EUR	GBP	JPY	CHF	Other
United States	8,581,438	55.72%	97.57%	…	1.33%	0.89%	0.04%	0.05%	0.12%
Euro Area countries	2,969,645	19.28%	80.97%	15.74%	…	2.57%	0.20%	0.03%	0.49%
United Kingdom	1,989,347	12.92%	45.79%	24.92%	28.25%	…	0.11%	0.09%	0.84%
Japan	623,004	4.05%	70.37%	27.73%	1.06%	0.79%	…	0%	0.05%
Switzerland	504,017	3.27%	0.32%	95.26%	3.56%	0.21%	0.08%	…	0.89%
Australia	346,472	2.25%	66.14%	21.88%	10.01%	1.83%	0.07%	0.00%	0.07%
South Korea	124,107	0.81%	73.12%	23.72%	2.50%	0.00%	0.52%	0.00%	0.14%
Canada	120,468	0.78%	70.52%	26.37%	2.44%	0.19%	0.24%	0.00%	0.24%
All other countries	86,704	0.92%	46.5%	30.92%	19.58%	1.29%	0.29%	0.00%	1.42%
Euro Area Countries Breakdown									
Spain	659,746	22.22%	86.44%	9.04%	…	4.15%	0.08%	0.07%	0.22%
Germany	518,656	17.47%	48.06%	49.65%	…	1.91%	0.00%	0.00%	0.38%
Italy	467,239	15.73%	93.52%	6.11%	…	0.25%	0.12%	0.00%	0.00%
Netherlands	454,383	15.30%	88.84%	7.07%	…	2.92%	0.00%	0.00%	1.17%
Ireland	362,367	12.20%	81.65%	10.49%	…	6.07%	0.75%	0.10%	0.94%
France	205,171	6.91%	75.14%	21.65%	…	0.95%	1.02%	0.09%	1.15%
Belgium	184,826	6.22%	98.01%	1.91%	…	0.00%	0.00%	0.00%	0.00%
All other EA	117,256	3.95%	96.34%	2.97%	…	0.69%	0.00%	0.00%	0.00%

This table shows issuance of Asset and Mortgage Backed Securities by private financial and industrial entities (Private Label ABS) for the period 1999-2012. For each country, the volume of total issuance is reported in millions of US dollars and is then broken down by ABS currency denomination. The currencies considered are the US dollar, European euro, British Pound, Japanese Yen, and Swiss Franc. All other currency choices are grouped together. Data source: Thomson One Banker

LITERATURE REVIEW

This paper relates to other policy event studies concerned with the global financial recession and that focus on yield spreads. A yield spread is the difference between the yield to maturity of a risky bond and a benchmark riskless bond of the same maturity. Spread data have been associated with business cycle fluctuations in the post-World War II era, as they tend to widen shortly before the onset of recessions and narrow again before recoveries (Gilchrist et al., 2009, Guha and Hiris, 2002). Rising spreads may reflect a decline in economic fundamentals due to a reduction in the expected present value of corporate cash flows prior to a downturn (Philippon, 2009), or the deterioration of corporate and financial intermediaries' balance sheets that disrupts the supply of credit (Bernanke et al., 1999, Adrian and Shin, 2010). Hence, the information in yield spreads contains both credit and liquidity risk premia, and may be indicative of how financial prices affect the real economy (Guidolin and Tam, 2013).

Several papers investigate the effectiveness of policy programs during the global financial crisis on market spreads (he crisis-related programs by the Federal Reserve can be divided into three groups. The first group is about the role of the central bank as a lender of last resort to provide short-term liquidity to financial institutions. These programs were the discount window, the Term Auction Facility (TAF), the Primary Dealer Credit Facility (PDCF), the Term Securities Lending Facility (TSLF) and the bilateral currency swap agreements with 14 foreign central banks. The second group of programs provided liquidity directly to borrowers and investors in key credit markets. These programs were the Commercial Paper Funding Facility (CPFF), the Asset Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), the Money Market Investor Funding Facility (MMIFF) and the Term Asset Backed Securities Loan Facility (TALF). The third group of programs is about expanding open market operations to support credit markets and put downward pressure on long-term interest rates. Such programs included the purchase of Government Sponsored Enterprise debt and Mortgage Backed Securities). Adrian et al. (2010) and Dwyer and Tkac (2009) find that the Commercial Paper Funding Facility (CPFF) was generally effective in averting a run on money market funds and easing liquidity into the commercial paper funding markets. Baba (2009) finds that the Fed's currency swap lines met the demand needs for US dollar from money market mutual funds.

Various studies find that the Term Auction Facility (TAF) successfully reduced Libor-Fed spreads (Ceccheti, 2009, Christensen et al. 2009, Frank and Hesse, 2009, Sarkar, 2009, and Wu, 2001) though Taylor and Williams (2009) do not. Hancock and Passmore (2011) find that the Fed's MBS purchase program reduced risk premiums in mortgage rates. Ashcraft et al. (2011, 2012) find that the TALF program reduced spreads of legacy (previously issued) CMBS that were accepted as TALF collateral, but only by a small amount. Campbell et al. (2011) find that the TALF program reduced secondary market spreads without subsidizing individual securities, and at a very low loss risk to the US government. Contrary to these studies, I evaluate the effects of these programs on primary market spreads (at issuance) rather than on secondary market spreads, as the explicit goal of the Fed's TALF and the ECB's credit provisions programs were to boost new ABS issuance that came to a halt. Secondary market spreads are not based on actual transactions. Instead, they depend on dealer quotes and pricing matrices. They can be affected by the overall stance of the economy and not just by ABS-related factors, which makes identification of policy effects solely on the ABS market difficult. As Vink and Fabozzi (2009) note, reliable secondary market spread data is typically challenging to obtain, while issuance spreads are a more accurate measure for the actual cost of debt and risk premium demanded by investors. Primary ABS spreads have previously been studied by Adelino (2009). He finds that spreads (other than AAA-rated) can predict future downgrades and defaults, even after controlling for the initial credit rating. Vink and Fabozzi (2009) find that non-US ABS spread determinants at issuance can be explained by credit ratings and bond market conditions. Obviously, the Fed and ECB policy announcements are expected to have a positive impact on the targeted primary market ABS spreads. This study, however, examines the impact of these programs on "excess" ABS spreads, that is, how much more ABS spreads have been affected relative to broad market spreads during the weeks of policy announcements. The methodology draws on Campbell et al. (2011).

DATA AND METHODOLOGY

Event Study Methodology

Event studies have been widely used to assess short-run response to policy announcements (See Campbell et al. (1997) and Kothari and Warner (2007) for the econometrics of event studies used in Finance). Their main strengths are simplicity and parsimony. An application to short-term changes of excess ABS spreads avoids the need to model the time-varying properties of its level such as trends, structural breaks, nonlinearities and non-stationarity. In addition, focusing on short time intervals allows one not to specify an underlying spread model. Although the basis of policy evaluation is narrow in event studies, they can still be suggestive of policies' long-term effectiveness. Positive immediate market reactions may be self-fulfilling and lay the ground for sustained policy success (Ait-Sahalia et al., 2012).

Nevertheless, event studies have certain limitations. Most importantly, they cannot control for all the possible factors that market participants may be reacting to and that occur simultaneously with the policy under study. An event study will assign any market response solely to the specific program's announcement. The caveat applies to this event study as well, as central banks carried out a series of programs simultaneously in response to the crisis. In addition, the timing of policy announcements and the market reaction to them is state-contingent. In the current context, the collapse of Lehman Brothers must have certainly made the perceivable appropriateness of policy programs and market reaction to them stronger than if such event had not occurred. I try to ameliorate these problems by considering alternative measures of financial market distress that capture market participants' responses to risk and liquidity, assessing in this way the robustness of the results. I also keep the event window short to a weekly frequency. The intuition of an event study on ABS spreads is to gauge whether program announcements reduce ABS spreads more than they reduce broader market spreads. If that is the case, then this study provides suggestive evidence that the programs had a positive liquidity effect on the ABS market during the week of an announcement.

The identification assumption is that the announcements come as a surprise to market participants, and in the absence of TALF announcements ABS spreads during each event window would be unchanged relative to broad market indices (Campbell et al., 2011). I employ event study techniques to assess the impact of TALF and ECB program announcements on newly issued ABS spreads in the US and euro area marketplaces, respectively. The procedure follows Campbell et al. (2011) and involves the following steps: (i) construct ABS spreads, (ii) proxy general (broad) market spreads, (iii) obtain ABS excess spreads as the difference of ABS and general market spreads and, (iv) regress weekly excess ABS spreads changes on program announcement dummies to evaluate how each announcement affected ABS spread weekly changes over and above broad market spread weekly changes.

Data Description

The ABS dataset used in this paper is obtained from Thomson One Banker Deal Analytics. It consists of micro-level characteristics of ABS deals based on actual transactions on the date of issuance. Deal data fields contain security identifiers for the Originator entity and Special Purpose Vehicle (SPV), asset type description (e.g. mortgage, credit-card, auto-loans), collateral nation (origin of asset type), principal amount, coupon rate type (fixed, floating), maturity date, average life, the marketplace in which the deal is offered for sale, and credit ratings from Standard & Poor's, Fitch and Moody's, where available. The original dataset comprises of 107,692 ABS deals in the years between 1999 and 2012. To my knowledge, this newly constructed dataset has not been previously used in ABS policy evaluation studies. Data on the overall stance of the economy, such as interest and credit default swap rates, is obtained from Datastream.

I drop US Government Sponsored Enterprises (GSE) deals from the original dataset and focus on the effects of the TALF program on the private sector (Government Sponsored Enterprises (GSE) refer to the US Federal and federally sponsored entities identified by the Standard Industry Classification (SIC) code 6111. They include Fannie Mae, Freddie Mac, Government National Mortgage, Farmer Mac and PA Higher Education Assistance). This amounts to ABS issuance originating from private financial and industrial institutions, or Private Label. I then drop deals with low credit ratings that would not be accepted as eligible collateral by either the Fed's TALF or the ECB's credit provisions program. Unfortunately, I cannot explore differences between the eligible and non-eligible ABS deals because non-AAA rated ABS tranches almost disappear during the post-Lehman panic, due to investor risk aversion. The sporadic and non-eligible deals vary significantly in terms of size, rating, maturity, collateral asset type and coupon rates. Thus, it would be unwise to consider them jointly as a control group and compare against the eligible (treated) group. I also drop floating-rate securities that are indexed over the LIBOR rate. I examine only fixed coupon-rate securities that have a pre-specified rate of return at the date of issuance. I do not consider Collateralized Debt Obligations (CDO) ABS whose rate of return depends on managerial performance. Finally, I winsorize the remaining deals using the coupon variable at the 1% level to eliminate observations that are clear mistakes in data entries, following Adelino, (2009). This leaves 12,839 ABS deals in the US marketplace and 776 in the euro area marketplace. The limited number of ABS deals in the euro area marketplace during the crisis does not permit a time series analysis of announcement effects on any single asset class. I assume that the ABS deal selection criteria outlined previously can reasonably minimize the differences across asset classes and enable the analysis of ECB policy announcement effects on the group of all eligible, newly issued, investment-grade, fixed coupon-rate ABS asset classes jointly. In the US marketplace, only auto ABS deals have frequent issues in the post-Lehman era. Hence, I evaluate the Fed's TALF program announcement effects solely for this asset class.

ABS Yield Spreads

I construct the ABS (yield) spread, s_t^i, for an ABS deal i issued at date t, as the difference of its fixed coupon rate and the swap interest rate of the closest maturity at the day of issuance. AAA-rated ABS have

an average life of two years. Hence, if the ABS deal is offered for sale in the US marketplace, I subtract the two-year US interest rate swap from the coupon rate, and if the ABS deal is offered for sale in the euro area marketplace, I subtract the two-year euro interest rate swap (Datastream mnemonics for the two-year swap rates are ICUSD2Y for the US dollar and TREUR2Y for the Euro). The choice of ABS spreads to swaps is based upon market practices. For example, the European Banking Federation (EBF) considers the swap index to be the derivative market's reference rate for the euro. In addition, Campbell et al. (2011) obtain indicative dealer quotes on secondary market ABS spreads from J.P. Morgan trading desk that are also reported as spreads to swaps. ABS spreads could alternatively be specified over benchmark government bond yields or AAA-rated corporate bond yields. The correlation coefficient between the weekly changes of ABS spreads to swaps and these alternatives ranges between 0.952 and 0.998 in the period considered for the event studies. This indicates that results reported for ABS spreads to swaps would be qualitatively the same had these alternative spreads been used instead.

Broad Market Spreads

The primary proxy variable to assess broader market conditions is the LIBOR-Overnight Index Swap (LIBOR-OIS) spread, s_t^M, which is the spread between the three-month unsecured interbank borrowing rate (LIBOR) and a proxy for the risk-free rate, the three-month overnight index swap rate (OIS). The LIBOR rate increases as market conditions deteriorate for two reasons. The first is counterparty risk, as the borrowing bank's probability of default increases. The second is liquidity risk, as the fear of declining asset prices increases bank capital requirements and leads banks to precautionary hoard cash. On the other hand, the fixed OIS rate is considered risk-free for the following reasons. First, it is set by central banks and as such, it is relatively stable (The Overnight Index Swap (OIS) rate is the federal funds target rate for the US and the Euronia rate for the euro area. The respective Datastream mnemonics for these two series are OIEUR3M and USFDTRG). Second, in an OIS transaction the loan amount is notional, so no money is changing hands. Instead, the two parties agree to exchange only the accrued interest differential that results from a floating versus a fixed interest rate loan, at loan maturity. In case of default, the loss is limited to the accrued interest spread. Thus, OIS is considerably less risky than an actual LIBOR loan. Still, there is interest rate risk, reflecting the uncertain expectations of how interest rates will move in the future. Subtracting OIS from LIBOR will remove interest rate expectations inherent in all interest rates, so liquidity and credit risk are the two remaining components of the LIB-OIS spread.

LIBOR-OIS spread has been widely used as a measure of counterparty risk and/or liquidity in the banking system (Gorton, 2010, Gorton and Metrick, 2012, McAndrews et al., 2008, Taylor, 2009, Taylor and Williams, 2009, Wu, 2011). A natural alternative to LIBOR-OIS for general market spreads would be the TED spread, defined as the difference between the three-month LIBOR and the three-month Treasury bill rate. As Wu (2011) notes however, the T-bill rate is not a good proxy for the risk-free rate in periods of financial turbulence, as "flight to quality" increases the demand for Treasury bills more than in normal conditions. Campbell et al. (2011) alternatively proxy broader market conditions with indicative quotes on the 5-year CDX Series 9 index of investment grade corporate credit default swaps (CDS) from Markit. I consider all three variants of general market spreads to assess the robustness of the results for the TALF program evaluation. For the ECB program evaluation, I consider a fourth alternative, the three-month LIBOR-Repo spread. Financial institutions in Europe widely use repurchasing agreements (repo market) with the ECB to borrow against ABS collateral. Gorton and Metrick (2012) consider the financial crisis of 2007-09 as a bank run on the repo market.

Excess ABS Spreads

To get the excess spreads of a particular ABS deal i, I subtract the general market spread (e.g. LIBOR-OIS spread), s_t^M, from the ABS spread, s_t^i, at the day of issuance. I then obtain weekly average excess spreads, W_t, for all n AAA-rated fixed-coupon ABS deals as shown in Equation 1:

$$W_t = \frac{1}{n} \sum_{i=1}^{n}\left(s_t^i - s_t^M\right) \tag{1}$$

In weeks where there is no ABS issuance, I use linear interpolation to fill in the missing values of excess ABS spreads. Lastly, weekly excess ABS spreads changes, ΔW_t, form the dependent variable in a regression on program announcement dummies. Dummies take the value 1 in the week of the announcement and are zero otherwise. The interpretation of the dummy coefficients then is, how much more ABS spreads to swaps changed relative to broad market spreads from the previous week. A negative coefficient of 10 indicates that the TALF program announcement (or the ECB announcement in the case of the euro area marketplace study) reduced weekly ABS spreads by 10 basis points more than how weekly broad market spreads changed, relative to the previous week. The regression model is shown in Equation 2:

$$\Delta W_t = b_0 + b_1 An_1 + b_2 An_2 + \cdots + b_n An_n + \varepsilon_t \tag{2}$$

Securitization Policies

The Fed's Term Asset Backed Securities Loan Facility (TALF) Program

In the United States, housing prices started to fall in mid-2006, but the severe market shock occured when Lehman Brothers –a colossus investment bank– closed its subprime lender BNC Mortgage LLC on August 22, 2007 and later filed for Chapter 11 bankruptcy on September 15, 2008. Noting that new issuance of MBS and ABS sharply declined, The Federal Reserve Board noted the sharp decline in ABS issuance and responded by announcing the Term Asset Backed Securities Loan Facility (TALF) on November 25, 2008. To increase investor demand for newly issued ABS, the Federal Reserve Bank of New York (FRB-NY) would lend up to $200 billion to holders/investors of AAA-rated ABS backed by newly and recently originated consumer and small business loans. The loans were on average 90% of the ABS collateral value. The remaining 10% of the ABS value would have to come out of investors' own funds, called the loan "haircut" (Adrian and Shin (2010), Ashcraft et al. (2011), Brunnermeier and Pedersen (2009), and Gorton and Metrick (2009) study the role of increasing haircuts in the Panic of 2007-2008). Loans were non-recourse, which means that investors could put an ABS back to the Fed if its value declined. Thus, the maximum amount investors could potentially lose was the loan haircut.

On December 19, 2008, the Federal Reserve released detailed operational aspects of the TALF loans: eligible collateral included student, auto, credit card, and loans guaranteed by the Small Business Administration (SBA); loan maturity extended from one to three years, and loans would be provided to all borrowers with eligible collateral rather than through an auction. On February 6, 2009 the Fed released additional terms and conditions of the TALF, including loan rates and collateral haircuts. On February 10, 2009, the Board of Governors announced that the size of the TALF could increase up to $1 trillion. In addition, eligible collateral expansion was under review to include newly issued AAA-rated commercial mortgage-backed securities (CMBS), private-label residential MBS, and other ABS. The program launched on March 3, 2009. The first funds from the TALF disbursed on March 25, 2009 with student, auto, credit card, and SBA guaranteed loans being the eligible ABS asset classes. The program would make monthly funding subscriptions until December 2009. On March 19, 2009, the set of eligible collateral for the April 2009 subscription expanded to include ABS backed by mortgage servicing advances, leases relating to business equipment, leases of vehicle fleets and floor-plan loans.

On March 23, 2009, the Federal Reserve announced that it considered including certain legacy (previously issued) securities in the list of eligible asset types for TALF loans. On April 21, 2009, the FRB announced two new interest rates for fixed-rate ABS with weighted average lives to maturity (WALM) of less than two years. On May 1, 2009, the FRB announced that commercial MBS (CMBS)

and insurance premium loans would become eligible collateral under the TALF, and loan maturities would increase from three to five years starting in June. On May 16, 2009, the first new-issue CMBS subscription was carried out. On May 19, 2009, the Fed announced that starting in July, certain high-quality MBS issued before January 1, 2009 (legacy CMBS) would also become eligible collateral. These CMBS would be reviewed by the FRBNY, had to have at least two triple-A ratings from credit rating agencies (CRAs), and be the most senior in payment priority to all other tranches of an ABS deal.

On May 26, 2009, Standard and Poor's (S&P) CRA announced its intention to change its rating procedures in a way that would significantly reduce the amount of Legacy MBS eligible for TALF loans. The initial subscription date for TALF loans collateralized by newly issued CMBS was set for June 16, 2009. In June 25, 2009, the Federal Reserve announced extensions and modifications to a number of its liquidity programs, but the TALF expiration date remained unchanged to December 31, 2009. On June 26, 2009, S&P proceeded with their proposed changes, putting many AAA-CMBS in downgrade watch. The first legacy CMBS subscription took place on July 16, 2009. On August 17, 2009, the Federal Reserve and Treasury approved an extension of the TALF program through March 31, 2010 for ABS and through June 30, 2010 for newly issued CMBS. On October 5, 2009, the Federal Reserve proposed rules to promote competition among Nationally Recognized Statistical Rating Organizations (NRSRO) that provided credit ratings for ABS. It also announced that starting with the November 3 subscription, the FRB-NY would conduct a formal risk assessment of all proposed collateral, in addition to requiring AAA-ratings from two NRSRO. On November 17, 2009, the first newly issued CMBS deal took place. On December 4, 2009, the FRB announced the adoption of the October 5 proposal on the NRSRO eligibility for credit ratings. The final ABS, legacy CMBS and new-issue CMBS subscription dates were on March 4, March 19, and June 18, 2010, respectively.

When the TALF program closed on June 30, 2010, only $70 billion out of the $200 billion that the FRB authorized were extended in TALF loans, and only $43 billion were outstanding. Despite loan maturity ranging between three to five years, many loans were repaid early due to the interest rate structure of the TALF loans; they were lower than the market rates in the midst of the financial crisis in 2008 but higher than in normal times, giving investors an incentive to repay the loans once financial markets normalized.

The European Central Bank's Eligible Collateral Program for Credit Provisions

National central banks and financial institutions in Europe can borrow from the Eurosystem's credit operations only on a repurchase agreement (repo) collateralized basis (Repurchase agreements (repos) are collateralized lending transactions. One party agrees to sell securities to the other against a transfer of funds. At the same time, the parties agree to repurchase the same or equivalent securities at a specific price in the future. Consider this hypothetical example: the market value of the assets backing an ABS is $100 billion, but the ABS is issued at $80 billion. The eligible issuer can borrow $80 billion against the ABS from the Eurosystem and agree to repurchase it for $88 billion. In this example, the ABS is over-collateralized by a 20% haircut/margin, and the repo haircut/rate is 10%). Assets accepted as collateral must fulfill certain criteria that the European Central Bank (ECB) publicizes and frequently updates. It is worth noting that unlike the US Fed's TALF program which allotted money to investors of ABS, the ECB program allotted money to the issuers of ABS. To my knowledge, this is the first event study to examine how ECB's changes in eligibility criteria for Asset Backed Securities (ABS) affected the issuance of newly issued ABS in the euro area marketplace.

On January 13, 2006, Asset Backed Securities (ABS) were accepted for the first time as collateral if they were issued by an entity established in the European Economic Area (EEA), had at least a single-A credit rating or higher, and were denominated in euros (The European Economic Area consists of the 27 countries of the European Union, plus Iceland, Liechtenstein and Norway). ABS securities originated by entities based in the United States, Canada, Japan, or Switzerland were not eligible until May 25, 2007.

The same credit rating and euro-currency denomination criteria applied to these deals once they became eligible. On October 15, 2008, the list of eligible assets temporarily expanded to include ABS issued in three currencies other than the euro, but only if they were issued in the euro area marketplace. Specifically, these currencies were the US dollar, the British pound and the Japanese yen. The temporary measures were to remain in effect until the end of 2009, but the operative date would be determined later. These instruments were subject to a uniform haircut add-on of 8%. On the same date, the Eurosystem started to offer US dollar liquidity through foreign exchange swaps (Goldberg et al (2011) review the literature on the Temporary Reciprocal Currency Arrangements that the Federal Reserve established with fourteen foreign central banks (dollar swap lines) between 12/2007 and 02/2010). On November 12, 2008, the ECB announced that non-euro denominated ABS would become eligible collateral as of November 14, 2008. As outlined, these securities ought to be issued by an issuer established in the EEA, be held or settled in the euro area, and fulfill all other eligibility criteria as set by previous decisions.

On January 20, 2009, the Eurosystem raised the bar on credit ratings requirements, requiring a triple-A (AAA/Aaa) rating up from a previous single-A rating from an accepted external credit assessment institution (ECAI) at issuance, for all ABS issued as of March 1, 2009. Previously issued (legacy) ABS would have to retain the single-A rating requirement over the lifetime of the ABS. On May 7, 2009, the Governing Council of the ECB decided to prolong the end of the temporary expansion of the list of eligible assets, from year-end 2009 to year-end 2010.

Table 2: Announcements Considered in the ECB and TALF Program Event Studies

Date	Program	Announcement Description
01/13/2006	ECB	ABS eligible for Eurosystem credit operations must be denominated in euros, issued by entities established in the European Economic Area (EEA) and have at least one A-rating from a credit rating agency (CRA). Currently excludes the United States, Canada, Japan and Switzerland.
05/25/2007	ECB	ECB expands eligibility to issuers of the four non-EEA G10 countries: the United States, Canada, Japan and Switzerland. ABS must still be denominated in euros.
08/09/2007	ECB	ECB injects 94.8 billion euros in overnight credit into the interbank market, after the French Bank BNP Paribas froze redemptions for three investment funds, citing its inability to value structured products.
10/15/2008	ECB	ECB announces eligibility expansion to marketable debt instruments denominated in non-euro currencies, namely the US dollar, the British pound and the Japanese yen, and issued in the euro area. The Eurosysten starts offering US dollar liquidity through foreign exchange swaps.
11/12/2008	ECB	ECB announces that eligibility expansion to non-euro marketable debt instruments will start on November 14, 2008.
11/25/2008	TALF	Fed announces the TALF program
12/18/2008	TALF	TALF details announcement. Focus still on ABS, maturity of TALF loans extended from one to three years.
01/20/2009	ECB	ECB requires a triple-A rating from a CRA.
02/10/2009	TALF	TALF possible expansion to $1 trillion. CMBS mentioned as a possible collateral type. Under the Treasury's Financial Stability Plan, the Treasury would use $100 billion to leverage up to $1 trillion in lending (up from $20 billion and $200 billion respectively).
03/03/2009	TALF	TALF launches. First consumer ABS TALF subscription announcement
08/17/2009	TALF	TALF extension until March 31, 2010 for Asset Backed Securities
11/20/2009	ECB	ECB requires two triple-A ratings from CRAs
03/04/2010	TALF	Last commercial ABS subscription
03/19/2010	ECB	ECB announces that as of January 1, 2011, non-euro denominated ABS will no longer be eligible collateral
06/30/2010	TALF	TALF closes

This table shows the timeline and description of ABS policy announcements considered in the event studies. The ECB program refers to the European Central Bank's Eligible Collateral program for credit operations with the Eurosystem. TALF refers to the Fed's Term Asset Backed Securities Loan Facility (TALF) program.

On November 20, 2009, the Eurosystem required at least two triple-A ratings from an accepted ECAI for all ABS issued as of March 1, 2010. On April 10, 2010, the ECB confirmed that the US dollar, pound sterling and Japanese yen denominated marketable debt instruments issued in the euro area would no longer be accepted collateral as of January 1, 2011. On April 23, 2010, the Eurosystem launched preparatory work on the establishment of loan-level information requirements for ABS deals in its collateral framework. The goal was to increase transparency and restore confidence in the market. Evidently, the ECB's eligibility criteria not only depended on collateral asset classes, but to issuer demographics and currency denomination. Table 2 provides a short description of the announcements

considered to have an effect on excess ABS spreads, for either the ECB or the TALF program event studies.

RESULTS AND DISCUSSION

In this section, I present the results of event studies on how the announcements of the Fed's Term Asset Backed Securities Loan Facility (TALF) and the ECB's eligible collateral program for credit operations with the Eurosystem affected ABS excess spreads in their jurisdictions.

Term Asset Backed Securities Loan Facility (TALF) Program Evaluation

The sampling period for the TALF program evaluation is from March 4, 2008 to March 06, 2011. Excess spreads are constructed for AAA-rated, fixed-coupon auto ABS deals at the day of issuance. Then they are averaged at a weekly frequency as described in Equation 1. Right after Lehman Brother's collapse on September 15, 2008, there are no AAA-rated ABS deals in the Thomson One database until the announcement of the TALF program on November 25, 2008. Issuance has resumed since, but in low volumes and infrequent issues. Most of it comprises auto ABS. Private-Label issuance of Mortgage Backed Securities and of student loans practically disappeared in the period under study.

Credit-card issuance is present but with very infrequent deals, not allowing for a separate weekly horizon event study analysis for this specific asset class. For these reasons, the event study on the TALF program uses only the AAA-rated, fixed-coupon auto ABS asset class. Out of 156 weeks in the sample, excess spreads for 76 weeks are linearly interpolated since there are no auto ABS deals to match the criteria: Private-Label, fixed-coupon, AAA-rated, offered for sale in the US marketplace. Three alternative measures of general market spreads were considered: (1) three-month LIBOR-OIS spread, where OIS is the federal funds target rate; (2) three-month TED spread, the difference between LIBOR and the Treasury bill rate in the secondary market; and (3) the CDS weekly spread, the weekly change of the credit default swap index CMA CDX of investment grade securities in the Fall of 2007, in North America (Datastream mnemonic DCIG9S5). Figure 3 plots auto ABS spreads to swaps, the TED spread and the LIBOR-OIS spread for the period March 4, 2008 to March 6, 2011.

The LIBOR-OIS and TED spreads spiked in mid-October 2008. They began to fall thereafter as the $700 billion Treasury-run Troubled Assets Relief Program (TARP) restored liquidity in the broad financial markets capital through its capital injections. Note, however, that ABS spreads and counterparty risk continued to rise. This warranted the Fed to step in and design a program specifically for ABS, namely the TALF program. The first two announcements of the TALF program did not seem to affect ABS spreads, but spreads started to decline in early 2009. The picture is consistent with Figure 2 in Campbell et al. (2011) on secondary market spreads.

Figure 3: Auto ABS and General Market Spreads in the US Marketplace for the Period 03/2008 to 03/2011
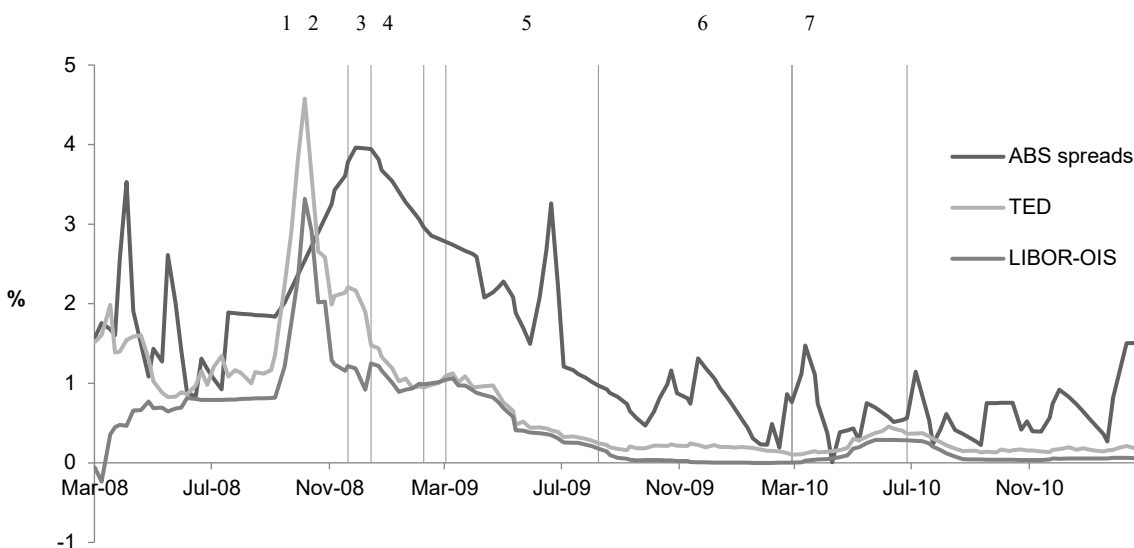
This figure shows ABS excess spreads and general market spreads in the US marketplace for the period March 2008 to March 2011. ABS spreads are defined as the difference between newly issued, AAA-rated, fixed-coupon rates of auto ABS and two-year interest rate swaps. LIBOR-OIS is the spread between the 3-month unsecured US dollar interbank borrowing rate (LIBOR) and the federal funds target rate, a proxy for the risk-free rate; TED is the spread between the 3-month LIBOR and the 3-month Treasury bill in the secondary market. The vertical lines represent the seven program announcements considered in the TALF event study: (1) Initial TALF program announcement, (2) program details, (3) possible expansion to $1 trillion, (4) program launches its first ABS subscription, (5) program extension, (6) last ABS subscription, (7) program closure. ABS deal data is obtained from Thomson One Banker and general market spreads data from Datastream.

Table 3 presents the regression results of excess ABS spreads under the three alternative specifications of general market spreads. The initial announcement of the TALF program on November 25, 2008, did not reduce ABS spreads. In fact, ABS spreads continued to rise over all three alternative broad market spreads. Weekly changes of ABS spreads were 14 basis points (bp) higher than the weekly LIBOR-OIS spread changes, 9bp higher than the TED, and 7bp higher than the CDS, indicating that credit and liquidity risk in the US securitization market continued to rise. The second event date on December 19, 2008, specified which asset classes are eligible for TALF loans. ABS spreads rose 19bp over CDS spreads and by 32bp over TED spreads. Both are statistically significant at the 1% level. The spreads over LIBOR-OIS were 3bp lower, but not statistically significant.

The differences in these results arise because the TED spread was reduced in the period between the two announcements, while the LIBOR-OIS spread remained relatively constant, as we see in Figure 3. Since 2009, LIB-OIS and TED spreads co-move very closely. The next three announcements in year 2009 reduced excess ABS spreads under all three market spread specifications. The strongest announcement effect was the potential expansion of the program up to $1 trillion on February 10, with excess ABS spreads falling by 13bp over the LIBOR-OIS spread. Similar results were obtained under the other two measures. The first loan subscription on March 3 reduced excess ABS spreads by 3bp over LIBOR-OIS, 6bp over TED and 12bp over CDS spreads. The announcement on August 17, that the program would extend from year-end 2010 to March 2011, reduced spreads by 2-3bp but not with statistical significance. The last TALF ABS subscription in March 4, 2010 reduced excess ABS spreads by 10bp over LIBOR-OIS and TED spreads, or 3bp over CDS spreads. When the program closed in June 30, 2010, ABS spreads did not change significantly over general market spreads. Overall, the event study finds that the TALF program announcements effectively reduced ABS spreads of newly issued auto ABS relative to broad market spreads, by decreasing counterparty risk and increasing liquidity in the US securitization market.

Table 3: Changes in Excess Spreads of AAA-Rated Auto ABS Around TALF Policy Announcements

Announcement	(1) LIBOR-OIS	(2) TED	(3) CDS
11/25/2008, (first announcement)	0.14%***	0.09%***	0.07%**
	(4.93)	(3.06)	(2.18)
12/18/ 2008, (details)	-0.03%	0.32%***	0.19%***
	(-0.95)	(10.79)	(5.74)
02/10/2009, ($1 trillion expansion)	-0.13%***	-0.08%***	-0.11%***
	(-4.36)	(-2.81)	(-3.33)
03/03/2009, (launch)	-0.03%	-0.06%**	-0.12%***
	(-1.10)	(-2.03)	(-3.77)
08/17/2009, (extension)	-0.02%	-0.03%	-0.02%
	(-0.78)	(-1.12)	(-0.7)
03/04/2010, (last subscription)	-0.10%***	-0.10%***	-0.03%
	(-3.55)	(-3.28)	(-0.83)
06/30/2010, (closure)	0.03%	0.06%*	-0.05%
	(0.88)	(1.89)	(-1.56)
R^2	0.00	0.00	0.00
N	156	156	134

This table shows regression results for the Fed's Term Asset Backed Securities Loan Facility (TALF) event study. The estimated equation is $\Delta W_t = b_0 + b_1 An_1 + b_2 An_2 + \cdots + b_n An_n + \varepsilon_t$. The sample is weekly and covers the period March 4, 2008 - March 6, 2011. The dependent variable is the weekly change of average excess auto Asset Backed Security (ABS) spreads. Excess ABS spreads are defined as the ABS spreads over general market spreads. ABS spreads are the coupon rates of newly issued, AAA-rated, fixed-rate auto ABS offered for sale in the US marketplace, minus the two-year interest rate swap. Three alternative general market spreads are considered. (1) LIB-OIS is the spread between the 3-month unsecured US dollar interbank borrowing rate (LIBOR) and the federal funds target rate, a proxy for the risk-free rate. (2) TED is the spread between the 3-month LIBOR and the 3-month Treasury bill in the secondary market. (3) CDS is the weekly change of the credit default swap index CMA CDX in North America of Investment grade securities in the Fall of 2007. ABS data is obtained from Thomson One Banker and general market spreads from Datastream. Each column corresponds to a different OLS regression that uses an alternative general market spread specification. Each row shows the coefficient estimate resulting from a regression of the relevant dependent variable on TALF announcement dummies. The coefficients capture how each announcement affected ABS spread weekly changes over and above broad market spread weekly changes. Results are reported in percentage points with t-statistics in parenthesis. The constant is omitted. ***,**, and * indicate statistical significance at the 1, 5 and 10 percent levels respectively.

The findings are qualitatively similar to those of Campbell et al. (2011) who also find that excess ABS spreads start to decline after March 3, 2009. However, the magnitude of announcement effects is smaller for the actual, primary market ABS data used in this study relative to Campbell et al.'s on indicative, secondary market spreads. This study finds that newly issued ABS spreads on AAA-rated, fixed-coupon auto ABS deals were reduced from a high of 396bp when the TALF was announced to 76bp when the program closed. This translates into a reduction of excess ABS spreads over general market spreads (LIBOR-OIS) from 266bp at the start of the program to 28bp at the close of the program.

ECB Eligible Collateral for Eurosystem's Credit Operations Program Evaluation

The sampling period for the ECB program evaluation is from September 5, 2006 to September 6, 2010. Excess spreads are constructed for all AAA-rated, fixed-coupon ABS deals at the day of issuance. Then they are averaged at a weekly frequency as described in Equation 1. Out of 261 weeks in the sample, 43 weeks have no ABS deals that match the study's criteria: Private-Label, fixed coupon rate, AAA-rated, offered for sale in the euro area. For these 43 weeks, the values of excess spreads are linearly interpolated. Four alternative measures of general market spreads are considered: (1) LIBOR-OIS, the spread between the 3-month unsecured euro interbank borrowing rate (LIBOR) and the 3-month euro Overnight Interest Swap (OIS) rate, a proxy for the risk-free rate; (2) LIBOR-Repo, the spread between the 3-month LIBOR and the 3-month repo rate used in repurchase agreements; (3) TED, the spread between the 3-month LIBOR and the 3-month AAA-rated government bond redemption yield; (4) CDS, the weekly change of the credit default swap index series ITRXTSF5 for investment-grade, senior financial institutions in the euro area. Table 4 presents the regression results of excess ABS spreads under the four alternative

specifications on eight ECB announcement dummy variables. Each dummy variable is equal to 1 on the week of the announcement, and is equal to 0 otherwise. The coefficient on each dummy is interpreted as the weekly change in ABS spreads relative to broad financial market spreads in the week of the announcement. ECB criteria initially supported ABS denominated in euros and issued by entities in the European Economic Area (EEA). The relevant announcement, on January 13, 2006, reduced ABS spreads by 6 basis points (bp) more than general market spreads.

Namely, the LIBOR-OIS and LIBOR-Repo spreads. However, this difference is not statistically different from zero. It is likely that market participants found the current eligibility criteria restrictive. The three-month TED spread and the iTRAXX CDS index were not available in early 2006 so no coefficient values are reported for specifications (3) and (4) in Table 4. The second announcement expanded eligibility to ABS issued by entities established in the US, Canada, Japan or Switzerland, in May 25, 2007. Here, excess ABS spreads are reduced by 86bp under the three-month LIBOR-OIS or LIBOR-repo spreads, by 89bp under the TED spread and by 87bp under the CDS spread. Out of all ECB policy announcements considered in this event study, this one had the strongest effect. The third announcement considered, on August 9, 2007, is not related to the ABS eligibility program but is added as control for a major event. ECB injected 94.8 billion euros in overnight credit in the interbank market after French bank BNP Paribas froze redemptions for three investment funds, citing its inability to value structured products (Brunnermeier, 2009). The LIBOR rate shot up at 440bp, but ABS spreads to swaps did not react much differently than our proxies for general market spreads. Excess spreads are 3, 2 and 5bp below the first three LIBOR related proxies, and 10bp above the CDS market proxy. None is statistically significant. This is a positive finding, as the underlying assumption in this event study is that in the absence of ABS related announcements, ABS spread changes should not be any different from broad market spread changes.

Table 4: Changes in excess ABS Spreads in the Euro Area Around ECB Policy Announcements

Announcement	(1) LIBOR-OIS	(2) LIBOR-Repo	(3) TED	(4) CDS
01/13/2006, (€ currency)	-0.06% (-1.25)	-0.06% (-1.28)	-	-
05/25/2007, (US,CA,JP,CH issuers)	-0.86%*** (-17.36)	-0.86%*** (-17.42)	-0.89%*** (-13.10)	-0.87%*** (-12.63)
08/09/2007,(€94.8 billion injection)	-0.03% (-0.55)	-0.02% (-0.32)	-0.05% (-0.71)	0.10% (1.42)
10/15/2008, (non-€ announcement)	-0.22%*** (-4.46)	-0.23%*** (-4.72)	-0.29%*** (-4.28)	-0.12%* (-1.73)
11/15/2008, (non-€ start)	-0.22%*** (-4.46)	-0.23%*** (-4.72)	-0.29%*** (-4.28)	-0.12%* (-1.73)
01/20/2009, (AAA rating required)	-0.41%*** (-8.30)	-0.41%*** (-8.30)	-0.42%*** (-6.24)	-0.46%*** (-6.74)
11/20/2009, (two AAA ratings required)	-0.34%*** (-6.87)	-0.32%*** (-6.54)	-0.40%*** (-5.85)	-0.32%*** (-4.65)
03/19/2010, (only € as of 01/01/2011)	0.27%*** (5.49)	0.27%*** (5.42)	0.26%*** (3.80)	0.26%*** (3.72)
R^2	0.01	0.01	0.01	0.01
N	261	261	184	178

*This table shows regression results for the European Central Bank's (ECB) Eligible Collateral Program for Credit Provisions event study. The estimated equation is $\Delta W_t = b_0 + b_1 An_1 + b_2 An_2 + \cdots + b_n An_n + \varepsilon_t$. The sample is weekly and covers the period September 6, 2005 to September 6, 2010. The dependent variable is the weekly change of average excess Asset Backed Security (ABS) spreads. Excess ABS spreads are defined as the ABS spreads over general market spreads. ABS spreads are the coupon rates of newly issued, AAA-rated, fixed-rate ABS offered for sale in the euro area marketplace, minus the two-year EONIA interest rate swap. Four alternative general market spreads are considered. (1) LIBOR-OIS, the spread between the 3-month unsecured euro interbank borrowing rate (LIBOR) and the 3-month euro Overnight Interest Swap (OIS) rate, a proxy for the risk-free rate. (2) LIBOR-Repo, the spread between the 3-month LIBOR and the 3-month repo rate used in repurchase agreements. (3) TED, the spread between the 3-month LIBOR and the 3-month AAA-rated government bond redemption yield; (4) CDS, the weekly change of the credit default swap index series ITRXTSF5 for investment-grade, senior financial institutions in the euro area. ABS data is obtained from Thomson One Banker and general market spreads from Datastream. Each column corresponds to a different OLS regression that uses an alternative general market spread specification. Each row shows the coefficient estimate resulting from a regression of the relevant dependent variable on ECB announcement dummies. The coefficients capture how each announcement affected ABS spread weekly changes over and above broad market spread weekly changes. Results are reported in percentage points with t-statistics in parenthesis. The constant is omitted. ***,**, and * indicate statistical significance at the 1, 5 and 10 percent levels respectively.*

On October 15, 2008, ECB announced that non-euro denominated ABS will become eligible asset classes, but the effective date was unknown. That same week the Eurosystem started to offer US dollar liquidity through foreign exchange swaps. On November 12, 2008, ECB announced the beginning of non-euro ABS eligibility. Both of these announcements had the same effects. Excess spreads over LIBOR related market spreads were reduced by 22 to 29bp, and by 11bp over the CDS spreads. The difference between the LIBOR related excess spreads findings and the ones over the CDS measure can be attributed to liquidity, as LIBOR market spreads capture both liquidity and credit risk, whereas the CDS measure only credit risk. The next two announcements raised the credit-rating eligibility requirements. The January 20, 2009 announcement required one triple-A rating up from a single-A rating, while the November 20, 2009 announcement required two triple-A ratings. These announcements reduced ABS excess spreads by 41 and 34bp over the LIBOR-OIS spread.

The negative sign on the coefficients is not surprising as the event study uses only the vintage of ABS that these announcements favored, the triple-A rated. Data on non-AAA rated securities are limited and spreads vary considerably across asset classes and credit ratings, making it impossible to assess and compare announcement effects with the "control" group of the program. The last announcement considered is on March 19, 2010, when ECB announced that the temporary expansion of non-euro eligible assets would stop as of January 2011. Excess ABS spreads rose by 27bp because of these negative news. Results are robust under alternative broad market conditions specifications. Coefficients on announcement dummy variables carry the expected sign and are statistically significant at the 1% for most ABS related announcements. This offers supporting evidence that the event study captures the direction and perhaps the magnitude of the short-run market response to ECB policy announcements, as reflected in the movement of newly issued excess ABS spreads.

CONCLUDING COMMENTS

This study follows the event study methodology of Campbell et al. (2011) to examine how the Fed's Term Asset Backed Securities Loan Facility (TALF) program announcements affected auto ABS spreads. Campbell et al. examine indicative, secondary market spreads whereas I examine primary market spreads of newly issued auto ABS based on actual transactions. I find that the Fed's TALF program announcements reduced and stabilized primary market spreads, consistent with the findings of Campbell et al., but my results are lower in magnitude. The most effective announcement was that the TALF program could expand to $1 trillion, on February 10, 2009. This reduced excess ABS spreads by 13 basis points. I also examine the ECB's announcement effects on a separate event study. In particular, the eligible collateral program for Eurosystem credit operations on the European ABS marketplace. I find that the announcement that lowered excess ABS spreads the most was on May 25, 2007, when the ECB extended eligibility to non-European Economic Area issuing institutions. ABS spreads fell by 86 basis points more than broad market spreads during the week of this announcement.

A closer look at the policy announcements from the Fed and the ECB reveals that the two central banking institutions might have been coordinating their policy responses. First, non-euro denominated securities in the euro area marketplace became eligible collateral at the same time when swap lines expanded between the two institutions and other European National banks, which aimed to provide European financial institutions with dollar liquidity. Second, the credit rating requirements for ECB eligibility were initially set to a single-A rating, but once the TALF program got underway specifying a triple-A rating requirement, the ECB followed suit and matched the criteria. Third, as the TALF was closing its final consumer ABS subscription in March of 2010, the ECB announced that the temporary eligibility expansion to non-euro denominated securities would expire in January of 2011. Co-ordination between the two monetary authorities might have been the key to success for both of their programs.

Future research should examine whether these programs had long-term effects in the ABS markets and whether they had any spillover effects. The event study methodology followed in this paper falls short in identifying these long-term effects. The identification assumption in these event studies is that the presence of an announcement is the sole reason why ABS spreads change more than broad market spreads during each short event window. This assumption is reasonable for short-term policy responses, but not for longer event windows; ABS market participants may be reacting to various factors other than one particular program's announcement. Other avenues for future research include the comparison of eligible to non-eligible TALF/ECB program asset classes as suggested by Sundaresan (2011). This study failed to control for such comparisons due to limited data on non-eligible ABS tranches. I note the linear interpolation of missing values for ABS spreads and the aggregation of asset classes in the case of the ECB program evaluation as additional caveats to my methodology due to data limitations.

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