

Foreign Monetary Policy and Firms' Default Risk

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Abstract

Monetary authorities face a new responsibility: preventing default events that can trigger disastrous economic conditions. We explore the effects of monetary policy on firms' *ex-ante* forward-looking default probability measures. We show that foreign monetary policy's influence on firms' default risk depends on firms' degree of internationalization. We also find a ubiquitous systemic default risk that explains the aggressive monetary policy adopted during the crisis and that displays different responses to the stance of US and Eurozone monetary policies. These results highlight the need for systemic risk supervisors to join efforts in the struggle against large default events.

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“Finally, we should consider whether the creation of an authority specifically charged with monitoring and addressing systemic risks would help protect the system from financial crises [...] Any firm whose failure would pose a systemic risk must receive especially close supervisory oversight of its risk-taking, risk management, and financial condition, and be held to high capital and liquidity standards”

Ben S. Bernanke, Chairman of the Federal Reserve. Speech at the Council on Foreign Relations, Washington, D.C. “Financial Reform to Address Systemic Risk”. March 10, 2009.

“The establishment of the ESRB [European Systemic Risk Board] will be a landmark event in how Europe deals preventively with systemic risk. It forms part of wider developments across the globe, including in the US with the newly created Financial Stability Oversight Council (FSOC). Very much like the ESRB, this council is a collaborative body bringing together the relevant US authorities with the aim of identifying systemic risk and responding to threats. We will aim for close cooperation with the FSOC and other authorities for macro-prudential oversight”

Jean-Claude Trichet, President of the ECB. Speech at the European Banking Congress, Frankfurt am Main. November 19, 2010

Does foreign monetary policy (MP) have any effect on domestic economies? Should systemic risk supervisors pay attention to foreign monetary policies as a source of risk? Unlike the comprehensive literature analyzing the impact of domestic MP on the risk-taking of domestic banks, the existence of crossover effects from different rate policies has not yet been addressed. The stability of the domestic economy and the credit markets depends on domestic monetary policy; however, it may also rely on the policies undertaken by foreign monetary authorities. As a natural extension, we present evidence about the role of external MP in the stability of domestic firms. To our knowledge, no similar study to date has examined the influence of foreign monetary policy on the default risk of domestic firms and how this exposure, to some extent, depends on the firms’ degree of internationalization. The findings of this paper are relevant because identifying foreign risks and uncoordinated policy responses to common threats are major objectives for macro-prudential authorities.

This article empirically addresses the importance of foreign monetary authorities to the default risk of domestic firms. Our primary contribution is twofold. First, we document that foreign monetary authorities influence the default risk of domestic firms. This influence relies on firm characteristics because those companies with higher foreign operations appear to be more exposed to foreign monetary policy. This evidence is robust to controls for business cycles, exchange rates or idiosyncratic firm characteristics. Second, we suggest the existence of an endogenous relationship between systemic default risk and monetary policy. The empirical findings reveal that (i) monetary authorities lower their interest rates under a systemic risk

shock and (ii) there is a heterogeneous effect from different monetary policies on systemic risk. In particular, a monetary tightening in the US leads to a decrease in systemic risk, but a monetary tightening in the Eurozone has limited effect on systemic risk in the long term. These results can be interpreted as a warning call for the different monetary authorities to join efforts in the fight against systemic risk.

Our analysis is conducted from two perspectives. Both micro and macro analyses are needed to better understand the risks deriving from foreign monetary policy. From a micro-perspective, we analyze how the default risk of individual firms is related to external monetary policy. At the individual level, monetary policies have the ability to affect the bank loan supply, the risk taking attitudes of banks, the valuation of assets and liabilities, and the ability of firms to raise external financing. However, there is no evidence about monetary policies' effect on firms' default risk. More interestingly, we study the degree of internationalization as a possible source of foreign policy crossover effects. We innovate a measure of foreign dependence using geographic sales, which allows us to identify the degree of exposure of a firm to a specific foreign monetary policy. We also innovate upon existing literature on monetary policy by employing an extensive database on Credit Default Swaps (CDS), a derivative instrument whose liquidity has increased during recent years because it provides a simple way to short credit. The credit derivatives market allows us to build ex-ante forward-looking default probability measures at different time horizons from market prices, instead of using historical accounting-based measures or past default history.

From a macro-perspective, we are interested in the possible endogenous role of MP with systemic default risk. The financial crisis that started in August 2007 revealed the significant role that MP plays in the stability of the financial system in particular, and the economy in general. In addition to the historical major goals of monetary policy – stable prices, growth, and unemployment (Friedman, 1968) – the interaction between MP and systemic default risk has found room in the current banking research agenda. Not surprisingly, two new institutions, the Financial Stability Oversight Council (FSOC) and the European Systemic Risk Board (ESRB), were recently created to address systemic risk.¹ Regardless of whether these new institutions should be dependent or independent of the central banks, we are interested in analyzing whether monetary policy rates are a valid mechanism to lessen systemic risk. Furthermore, we argue that given the ubiquitous nature of systemic risk across different regions, the different regions' economic conditions (inflation, growth, or

¹In the US, the Dodd-Frank Wall Street Reform and Consumer Protection Act of July 21, 2010, established the Financial Stability Oversight Council (FSOC) to identify risks to financial stability, promote market discipline and respond to threats to the stability of the United States financial system. This regulation is available at <http://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf> . Similarly, in Europe, Regulation (EU) No 1092/2010 of the European Parliament and of the Council of November 24, 2010, established the European Systemic Risk Board (ESRB) to monitor, assess and mitigate exposure to systemic risk. This regulation is available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0001:0011:EN:PDF> .

unemployment), and the different monetary authorities' targets, monetary authorities might exert different effects on systemic risk.

Our results stress the importance of domestic and foreign central banks for the credit stability of the corporate sector during distressed episodes. From a policy perspective, our empirical evidence suggests that domestic monetary policy rates are not designed to address systemic risks without borders and that a coordinated monetary policy might be a more appropriate mechanism to manage large systemic events.²

Thus, this article analyzes the impact of foreign monetary authorities on the default risk of domestic firms, also examining their endogenous relationship with the default risk. The paper is structured as follows. Section 1 discusses the related literature. Section 2 presents the data used to measure firm specific and systemic default risks. Sections 3 and 4 address monetary policies' effect on firms' default probabilities. Section 5 studies the empirical endogenous relationship between monetary policy and systemic default risk. Section 6 summarizes and concludes the paper.

1. Contribution to the existing literature.

This article relies on the cross-sectional effects of different MPs and their role in the default risk of firms. Our paper contributes to three broad strands of literature: the design of monetary policies to prevent financial crises, the bank risk-taking, and the impact of MP on the default risk of firms.

First, our paper contributes to the theoretical literature that has developed three different mechanisms for crisis prevention: an international lender of last resort, cooperation between monetary authorities, and the creation of a monetary policy that responds to credit risk. Fischer (1999) and Goodhart (1999) write about the implications of having an international lender of last resort on top of a national central bank to mitigate the international dimension of an external financial crisis. Obstfeld and Rogoff (2002) and Pappa (2004) discuss cooperation between national monetary authorities. They argue that it is not problematic if countries design their monetary policy in an inward-looking decision-making process and that the gains from cooperation between the Federal Reserve and the ECB are small. Recent discussions consider alternative monetary policy rules that depend on credit conditions. Cúrdia and Woodford (2010) develop a MP rule

²The thought of joining efforts in monetary policy has been gaining importance recently (see 'Central banks must coordinate policy', *Financial times*, February 3, 2014). Examples of coordinated actions by central banks to solve specific issues already exist. For instance, on October 8th, 2008, the Bank of Canada, the Bank of England, the ECB, the Federal Reserve, Sveriges Riksbank and the Swiss National Bank simultaneously announced reductions in policy interest rates. Announcement available at <http://www.federalreserve.gov/newsevents/press/monetary/20081008a.htm>. Additionally, in September 2011, the ECB, the Federal Reserve, the Bank of England, the Bank of Japan and the Swiss National Bank announced three-month dollar loans to banks due to the difficulties European banks had in obtaining dollar funding. Announcement available at <http://www.ecb.int/press/pr/date/2011/html/pr110915.en.html>

through which the policy rate would be lowered when credit spreads increase to prevent the contraction of growth and inflation originated by financial disturbances – such as an increase in loan losses. We provide empirical evidence that MP authorities responded to aggregate credit risk by lowering interest rates. However, due to the uncoordinated MP during the last financial crisis, the impact of a MP tightening by different central banks led to undesirable asymmetric responses in systemic risk.

Second, our paper is related to the discussion on bank risk-taking. The related literature has analyzed the impact of MP on the willingness to take on risk by softening lending standards (Maddaloni and Peydró, 2011, see). On the one hand, some studies address the effect of default risk on the lending supply.³ Altunbas, Gambacorta and Marques-Ibanez (2010) and Gambacorta and Marques-Ibanez (2011) find that banks with higher default risk have supplied fewer loans during periods of rising interest rates. On the other hand, Jiménez, Ongena, Peydró and Saurina (2014) show with bank-firm level data that a lower overnight rate induces less capitalized banks to grant loans to riskier firms with a worse credit history. Within the risk-taking literature, Ioannidou, Ongena and Peydró (2014) and Paligorova and Santos (2013) focus on loan pricing. Ioannidou et al. (2014) study risk pricing by banks from a dollarized country exogenously exposed to the foreign policy of the Federal Reserve, and find that when there is a decrease in the federal funds rate banks lend to riskier firms and underprice the additional risk that they take. Similarly, Paligorova and Santos (2013) show evidence that US banks lower the loan spread difference between riskier and safer Canadian firms during periods of low US policy rates. Our paper complements Ioannidou et al. (2014) and Paligorova and Santos (2013) by studying the influence of foreign monetary policy on firms' default risk and differs from Altunbas et al. (2010), Gambacorta and Marques-Ibanez (2011), and Paligorova and Santos (2013) by using the credit derivatives market to obtain forward-looking market-based measures of default risk.

Finally, the third line of research related to our paper is the study of MP effects on default risk. The above-mentioned papers primarily stress the MP's effect over the supply and/or default risk of loans. In other words, these papers focus on the asset side of the banks' balance sheet. More recently, there is increasing attention on the effects of MP on the liability side of firms and on financial markets. It has been suggested by Bernanke and Gertler (1995) and Bernanke and Kuttner (2005) that tight money can increase a firm's risk due to high interest costs or a weakened balance sheet. Ammer, Vega and Wongswan (2010) find evidence of a demand channel of international policy transmission, as foreign firms with a large degree of foreign sales are more sensitive to US monetary policy. Two primary direct channels for monetary policy's influence on

³It has been widely documented that monetary policy may influence the bank lending supply (Bernanke and Gertler, 1995). This lending channel of monetary transmission has been empirically tested using aggregate (Bernanke and Blinder, 1992; Kashyap, Stein and Wilcox, 1993) and bank specific (Kashyap and Stein, 2000; Jiménez, Ongena, Peydró and Saurina, 2012) measures of lending.

corporations' default stand out: (i) inflation and (ii) leverage. Bhamra, Fisher and Kuehn (2011) note that corporations that issue fixed rate debt have incentives to default through the influence of MP on a decrease in expected inflation. González-Aguado and Suarez (2014) relax the rigidity of the capital structure and build a model in which the policy rate changes the firms' target leverage and, as a result, the aggregate default. Our contribution is that we are able to directly measure the impact of monetary policy on the default risk. Our present setting shares with Ammer et al. (2010) the idea that foreign operations are a source of foreign MP exposure, but we demonstrate in the empirical analysis that the firms' degree of internationalization is a key factor that exposes their default risk to foreign monetary policy. Additionally, we use geographic sales to construct a measure that allows us to better identify the exposure to a specific foreign monetary policy. Our set of large non-bank-dependent corporations with access to the public debt markets (Kashyap, Lamont and Stein, 1994; Chava and Purnanandam, 2011, see) allows us to draw attention away from bank loan supply frictions under a MP change and focus on the international channel of policy transmission highlighted by Ammer et al. (2010).

2. Empirical framework and the dataset

Our empirical analysis involves the matching of several data sources to address monetary policy's influence on individual and aggregate default risks. At the individual level, our empirical strategy performs a panel data analysis to identify the source of foreign MP exposure. At the aggregate level, we measure the endogenous relationship between MP and default risk with a multivariate representation of the aggregate economy. This section also presents and describes in detail the set of control variables employed.

2.1. The sample

Our study pays attention to foreign monetary policies and is based on two representative developed monetary regions: the US and the Economic and Monetary Union of the European Union (EMU), which issue the dollar and the euro currencies, respectively. They are two of the world's major economies; according to the IMF, between 2000 and 2009, the US and the Eurozone accounted for 27% and 21% of the world GDP, respectively. They are also large trading partners. For example, US exports to EMU countries represent 19% of total exports, and US imports from EMU countries reach 17%.⁴ This economic integration is mutual, and multinational firms in one region are likely to make investments in the other region. As the domestic parent

⁴The Bureau of Economic Analysis of the United States Department of Commerce provides detailed information for each country on exports, imports and foreign direct investment (FDI) made by multinational corporations. More information is available at <http://www.bea.gov/international/index.htm>

companies depend on foreign trade (exports and imports) and on their foreign affiliates, they are likely to depend on foreign monetary policy as well.

Our sample consists of corporate default swap contracts that belong to the US and the EMU monetary regions. In particular, we select the constituents of the CDX and iTraxx investment grade indexes, two standardized portfolios that comprise the most liquid corporate CDS contracts from the US (CDX) and Europe (iTraxx). This selection offers two primary advantages. First, firms belonging to those indexes are the most liquid in the CDS market, so our conclusions are less likely to be biased by liquidity frictions. Second, the index constituents correspond to large and internationalized non-bank-dependent firms, which usually present a large debt outstanding in the market. This circumstance potentially exposes these firms to foreign monetary authorities.

The dataset comprises a full spectrum of CDS spreads with maturities ranging from 6 months to 30 years. Our analysis primarily focuses on the probabilities extracted from the 5-year CDS spreads – the most liquid maturity – but we also extend our estimations to other maturities for robustness. The period under study comprises from Jan/2000 to Dec/2009. The first CDS spread observation is available in Jan-2001, as the credit derivatives market has only been recently developed. We use end-of-month observations of CDS spreads. For US firms, we use CDS contracts denominated in US dollars with the Modified Restructuring clause, and for European firms, we use CDS contracts denominated in Euros with the Modified-Modified Restructuring clause.⁵ As a result, we have data for 210 firms from the US and Europe, of which 169 are investment grade.

In addition to the information about a firm's specific default risk provided by default swaps, our dataset also provides information about aggregate corporate credit risk. In more detail, we use the CDX and iTraxx indexes and tranche quotes from Markit. The payoff structure of these indexes equals to that of a collateral debt obligation (CDO), where the payments are allocated following a priority rule. According to their risk, equity (senior) investors agree to suffer the first (last) losses within the portfolio.⁶ The CDO tranches have different risk exposure than the single-name counterparts, and the senior CDO tranches resemble the

⁵The restructuring clause defines the credit events that trigger settlement. The primary difference is the maximum maturity of the deliverable obligation in the case of a restructuring: 30 months in the Modified Restructuring clause and 60 days in the Modified-Modified Restructuring clause.

⁶As the market requires upfront payments, we follow O'Kane and Sen (2003), Amato and Gyntelberg (2005) and Houdain and Guegan (2006) to transform the upfront payment to a running spread. Thus, a tranche with an upfront payment of 37.5%, a running spread of 500 basis points and a risky duration of 3.75 is equivalent to a contract with a running spread of $(37.5 \cdot 100 / 3.75) + 500$ basis points = 1,500 basis points. We assume a risky duration of 3.75 to translate upfront payments into running spreads. Additionally, to compute a systemic default risk measure, we also need the default-free term structure. We use the LIBOR-swap curve for the US and the EURIBOR-swap curve for Europe by the bootstrapping method, which is usual in credit derivatives pricing.

behavior of bonds that default under severe economic conditions (Coval, Jurek and Stafford, 2009). CDO tranches are frequently used as a measure of systemic risk because they contain prices on the default of a large number of firms. The data sample spans from Jul/2005 to Dec/2009. Other periods have been dropped because of liquidity concerns.

2.2. Firm specific measures of default risk

Traditionally, the banking literature has measured firms' specific default risk by means of historical accounting information (Altunbas et al., 2010; Gambacorta and Marques-Ibanez, 2011, see). An important caveat of these measures is that they reflect ex-post default risk and past credit histories (Delis and Kouretas, 2011; Jiménez, Lopez and Saurina, 2013, e.g.). Taking an innovative step, we introduce information from the credit market that reflects ex-ante the forward-looking probabilities of default at different time horizons (from 6 months to 30 years ahead). These market-based variables have an advantage in that they specifically price the default risk of a firm. Moreover, their premium not only includes compensation for default risk, but also rewards the expected future changes in the creditworthiness of the issuer (Jarrow, Lando and Yu, 2005; Berndt, Douglas, Duffie, Ferguson and Schranz, 2005; Díaz, Groba and Serrano, 2013). In this way, Gilchrist, Yankov and Zakrajšek (2009) and Gilchrist and Zakrajšek (2012) find that credit spreads are a robust predictor of future economic activity. Surprisingly enough, the predictive ability of credit spreads primarily comes from the price of the default risk rather than from the default risk itself.

We employ information from the credit derivatives market to extract (risk-neutral) default probabilities.⁷ In particular, we use the credit default swap (CDS) contract, a credit derivative that provides insurance against the default of a reference entity. The CDS spread is the amount paid (in basis points) on a quarterly basis by the protection buyer to the protection seller. CDSs are traded in a lower friction market than the bond market, and there exists a consensus within the financial literature on using CDS spreads as measures of default risk (Longstaff, Mithal and Neis, 2005). To build a simple estimator of the default probabilities from CDS spreads, we follow Berndt and Obreja (2010), where the conditional probability of default ($\lambda_t^{\mathbb{Q}}$)

⁷Alternatively, we also employ actual default probabilities from the Expected Default Frequency (EDF) estimates of Moody's KMV. The EDF data are forward-looking default probability measurements built with a version of the Merton (1974) model that combines accounting and stock market information. The EDF default probabilities are comparable to credit ratings. The literature suggests that EDFs provide a higher predictive power than credit ratings (Kealhofer, 2003; Vassalou and Xing, 2004; Korablev and Dwyer, 2007; Bharath and Shumway, 2008; Campbell, Hilscher and Szilagyi, 2008). EDFs have already been used in the related literature by Altunbas et al. (2010) and Gambacorta and Marques-Ibanez (2011). More recently, some papers (Bharath and Shumway, 2008; Campbell et al., 2008) argue that the default prediction can be improved by using a reduced-form econometric approach, although they still stress the high default predictive power of measures based on the Merton (1974) model.

in a small time interval Δt results in

$$\lambda_t^{\mathbb{Q}}(T) = 4 \log \left(1 + \frac{CDS_t(T)}{4LGD_t} \right) \quad (1)$$

with $CDS_t(T)$ as the CDS spread with maturity T and LGD_t as the loss given default, both obtained from Markit. To translate these conditional default probabilities into cumulative (risk-neutral) default probabilities we just replace the default intensity estimates in the following formula

$$Q_t(T) = 1 - e^{-\lambda_t(T) \times T} \quad (2)$$

where the default probability depends on the constant default intensity of a homogeneous Poisson process.

2.3. Aggregate measure of default risk

To obtain a time-varying estimate for the probability of a market-wide event that affects the entire economy we employ the model of Longstaff and Rajan (2008). Their model is based on the prices for a standard portfolio of CDSs.⁸ The value of this portfolio depends on the default of its constituents, i.e., the higher the default probability, the higher the portfolio's value. Longstaff and Rajan (2008) captures the losses of the portfolio (L_t) with the unpredictable arrival of three independent Poisson processes

$$L_t = 1 - e^{-\bar{\gamma}_1 N_{1,t}} e^{-\bar{\gamma}_2 N_{2,t}} e^{-\bar{\gamma}_3 N_{3,t}} \quad (3)$$

representing the probability of an idiosyncratic, sector or market-wide impact on the portfolio, respectively. The initial value of the portfolio is set to $L_0 = 0$, and $0 \leq L_t \leq 1$. The independent Poisson processes $N_{i,t}$ have default intensities λ_{it} , with $i = 1, 2, 3$. The impact of the default arrival is captured by the constant $\gamma_i = 1 - e^{-\bar{\gamma}_i}$. Having the largest proportion of default loss in a portfolio of firms, the third process is interpreted as a measure of systemic default risk.

⁸This credit derivative is known as a Collateralized Debt Obligation (CDO). There are several liquid CDOs that are permanently traded in the market such as the CDX NA IG index, which comprises the 125 most liquid CDS contracts of US firms. Similarly, the iTraxx index represents the 125 most liquid European CDS firms. The CDO issues claims with different priorities against the cash flows generated by the portfolio. These derivatives are called CDO tranches, and they vary from high (equity tranche) to low (senior tranche) default risk in terms of the payoffs. It is important to highlight that approximately 30% of the firms contained in the iTraxx do not belong to the Eurozone. As we will explain later, we find a ubiquitous systemic risk measure in the CDX and iTraxx tranches, which diminishes the importance of European Non-EMU firms being included in the EMU systemic risk measure.

2.4. Monetary policy variables

The primary monetary policy tool used by Monetary Authorities is the short-term interest rate market. This market is a conventional mechanism to affect the cost of external financing for all of the agents in the economy. The policy rates represent the general stance of monetary policy.

The general functioning of the short-term interest rate is the following. The monetary authority sets the nominal or target interest rate, and then, the effective interest rates at which participant banks borrow will be close to the target rate. The ECB considers the following to be key rates: the interest rates on the Main Refinancing Operations (ECBMRO), deposit facilities and marginal lending facilities. Marginal lending facilities and deposit facilities determine the range within which the effective overnight reference rate for the euro (EONIA) moves. The ECBMRO interest rate is the target rate for the EONIA.⁹ In the US case, the Federal Reserve publishes a target rate (FEDTRG) for the Effective OverNight Federal Funds rate (FEDON).¹⁰ The ECBMRO and the FEDTRG represent the general stance for monetary policy in Europe and the US. For a more detailed description of these two markets, refer to Benito, León and Nave (2007) and Piazzesi (2005).

2.5. Control variables

Finally, we control for observable firm characteristics that can affect firms' sensitivity to monetary policies. In particular, we use three main firm characteristics, similar to Jiménez et al. (2012): asset liquidity (LIQ), measured as Cash and Receivables over Total Assets; capital ratio (CAP), measured as Shareholders' Equity over Total Assets; and asset size (SIZE), measured as the natural logarithm of the Total Assets. These variables capture stylized ideas about demand related factors – the balance sheet channel. Firms may hold liquid assets to face future adverse shocks (Kashyap et al., 1994; Holmström and Tirole, 2000). Poorly capitalized firms are the first to lose their financing under a reduction of the lending supply (Holmstrom and Tirole, 1997). The size of firms proxies for credit constraints and access to external funds (Perez-Quiros and Timmermann, 2000; Ehrmann and Fratzscher, 2004), and under monetary tightening, Gertler and Gilchrist (1994) show that small firms' sales decline faster than large firms' sales.

We also include some control variables that potentially might affect the default risk of firms. For example, the dollar-euro exchange rate (USD-per-EUR) is a standard control for the possible currency exposure of firms. Within the context of our analysis, we consider the exchange rate to be an exogenous variable. Although this issue could be controversial in the case of a currency crisis; Kaminsky and Reinhart (1999) do

⁹For more information, go to <http://www.ecb.int/stats/monetary/rates/html/index.en.html> and <http://www.euribor.org>

¹⁰For more information, go to <http://www.newyorkfed.org/markets/omo/dmm/fedfundsdata.cfm>

not find a clear causal link between currency crises and banking crises. Both causal directions are possible between the two types of crises. These authors find that, in general, the banking crises begin before the currency collapses, and that the consequences are more severe when a currency crisis and a banking crisis happen together than when they are isolated.

Another common macroeconomic control is the term spread, measured as the difference between the 10- and 2-year government bond yields, as an indication of overall economic health (Collin-Dufresne, Goldstein and Martin, 2001; Ericsson, Jacobs and Oviedo, 2009). More precisely, we employ US and German government bonds (TERM-US and TERM-EMU, respectively). The reason behind this choice is that in times of low short-term interest rates, when new stimuli are needed, central banks proceed with unconventional policies to facilitate government borrowing. On November 3rd, 2010, the Fed announced the purchase of \$600 billion of Treasury securities to avoid deflation risk.¹¹ Krishnamurthy and Vissing-Jorgensen (2011) and Gilchrist and Zakrajšek (2013) use an event study approach to analyze the channels through which the Federal Reserve's announcements of long-term bond purchases – known as Quantitative Easing – lower long-term interest rates and corporate rates. On September 21st, 2011, the Fed announced the purchase of \$400bn in long-dated Treasuries financed with the sale of short-term securities. This move was nicknamed as 'Operation Twist' because it sought to change the shape of the yield curve.¹² Similar policies were conducted by the ECB to calm the bond markets of the weakest countries. Central banks are able to affect the shape of the term structure through unconventional purchases of long-dated securities. However, most of these policies took place outside of our sample period.

3. The Crossover effects of monetary policies: a firm level approach

This section analyzes the existence of a crossover effect where the decisions of foreign monetary authorities impact a firm's specific default risk. We stress the role of firm internationalization as a transmission channel for foreign monetary policies.

3.1. Measuring exposure to foreign monetary policies

We suggest that firms with more foreign operations are more affected by foreign monetary policies. In this way, our primary assumption is that the degree of internationalization enables a risk transmission channel from external monetary policies to national firms: the larger the foreign business is, the higher the impact of foreign policy. Although this assumption is not new, we depart from previous literature by extending this

¹¹ See the announcement on: http://www.newyorkfed.org/markets/opolicy/operating_policy_101103.html

¹² See the announcement on: http://www.newyorkfed.org/markets/opolicy/operating_policy_110921.html

idea to the corporate sector and by studying the effect on the default risk. For example, banks and firms hold an important amount of their assets and liabilities in foreign currencies (Grammatikos, Saunders and Swary, 1986; Kedia and Mozumdar, 2003; Lane and Milesi-Ferretti, 2007; Tille, 2008). Foreign holdings are exposed to exchange rate risk and interest rate risk, and even if the currency exposure is hedged, foreign interest rate risk arises whenever a firm mismatches the maturities of its foreign currency assets and liabilities (Grammatikos et al., 1986).

To empirically analyze exposure to foreign monetary policies, we first identify the firms' degree of internationalization. The most common measure of internationalization is Foreign Sales as a Percentage of Total Sales (TFSALEP). This variable measures the exposure to foreign sources of income, and it is available in Compustat for US firms.¹³ The external sources of costs might offset and reduce the foreign exposure of the firm because the TFSALEP variable only includes foreign sales. To control for this issue, we define the variable FORINC as the ratio of foreign income or loss over the total amount of domestic plus foreign income or loss. To construct the variable FORINC, we use domestic and foreign pre-tax income.¹⁴

Similar variables to measure foreign exposure have been previously employed in the literature. For example, Sullivan (1994) created an aggregate measure of the degree of internationalization of a firm based on five different ratios.¹⁵ Bodnar and Weintrop (1997) demonstrate the importance of foreign earnings for multinational firms because domestic and foreign earnings changes have significant positive associations with excess stock returns. Other literature links foreign operations with currency exposure. Jorion (1990) and Pantzalis, Simkins and Laux (2001) find that firms' stock returns' currency exposure is related to the fraction of total sales made overseas by US multinationals. For this reason, other research, such as Geczy, Minton and Schrand (1997) and Allayannis and Weston (2001), use foreign operations (measured by foreign sales or foreign pre-tax income) as proxies for foreign exchange-rate risk. In more detail, they find that firms using currency derivatives have greater foreign operations; the use of foreign currency derivatives is positively associated with firm market value in firms with foreign operations, and it is not associated with firm market value for firms without foreign operations. Moreover, firms with larger foreign operations are

¹³Since 1997, firms are required to disclose this information by the Statement of Financial Accounting Standards (SFAS, 131). This regulation is available at <http://www.fasb.org/pdf/fas131.pdf>. However, the Compustat database only keeps track of the last 7 years, and thus we can only obtain the size of foreign sales since 2005.

¹⁴ $FORINC = (|Foreign\ Pretax\ Income|) / (|Domestic\ Pretax\ Income| + |Foreign\ Pretax\ Income|)$. We employ absolute values because firms could have negative domestic and/or foreign income, which complicates the construction of a simple measure of foreign exposure for firms. It is mandatory for firms to report the foreign and domestic components of pre-tax income according to SEC Regulation §210.4-08(h). This regulation is available at <http://www.gpo.gov/fdsys/pkg/CFR-2011-title17-vol2/pdf/CFR-2011-title17-vol2-sec210-4-08.pdf>.

¹⁵Unfortunately, this procedure is not suitable for us. First, the information needed to construct the measure of Sullivan (1994) is not available for our entire sample. Second, the effect of foreign monetary policy on the firm's default risk depends on the nature of international exposure: a long or a short position.

more likely to issue foreign currency debt to hedge their exposure (Kedia and Mozumdar, 2003).

The degree of foreign sales allows us to measure foreign exposure. However, identifying the influence of a specific foreign monetary policy on a firm is a challenge. This paper takes a step further by measuring the direct exposure to a specific monetary policy using geographic sales. For this purpose, we create the proportion of US sales over total sales (USSALEP) and the proportion of European sales over total sales (EURSALEP) to better identify exposure to the Federal Reserve's and the ECB's policy changes, respectively. We construct these two variables with the geographic segments information extracted from Compustat Historical Segments available in the Wharton Research Data Services (WRDS) database. We build USSALEP and EURSALEP by adding the US- and EMU-related segment sales, respectively, as reported by US firms and European firms that list American Depositary Receipts (ADRs) on US exchanges.¹⁶ To the best of our knowledge, this paper is the first to use geographic sales to uniquely identify the exposure to a specific monetary policy.

3.2. *Sample descriptive statistics*

Table 1 provides detailed information on the country of origin for the firms that appear in the most popular rankings of largest foreign investments: the Forbes and UNCTAD rankings. Forbes magazine has a ranking of the top 100 largest foreign investments in the US.¹⁷ By 2002, out of these 100 firms, 43 belonged to the Eurozone, and 22 of them are in our sample. With respect to the UNCTAD ranking, our sample includes 51 out of the 100 top non-financial corporations by absolute total foreign assets from 2000 to 2008.¹⁸ When considering the top 50 financial corporations by foreign-to-total affiliates and number of foreign affiliates for the period 2003 to 2009, 14 out of 50 firms are in our sample. Not surprisingly, our sample is composed of large firms as the total asset value of the US firms in the sample was estimated at \$6.439 trillion during 2007, representing 46% of the GDP of the United States. In the European case, our sample was worth €14.726 trillion during 2007, representing approximately 163% of the GDP of the Eurozone.

[INSERT TABLE 1 ABOUT HERE]

¹⁶We manually consider whether each segment name can be considered US- or EMU-related. Our firms have reported 78 different EMU-related segment names and 18 different US-related segment names. For instance, we consider that the following segment names measure EMU exposure: 'Asia,Europe,Australia,Canada', 'Central and Eastern Europe', 'Euro Denominated', 'Continental Europe', 'Denmark', 'Europe,Germany', 'Europe,Great Britain', 'European Markets', 'Finland', 'France', 'Germany', 'Other Europe', 'Other European Union', 'Spain', or 'The Netherlands'. For example, we consider that the following segment names measure US exposure: 'Africa,North America', 'America', 'CIS & North America', 'North America', 'U.S.', 'United States', 'United States & Canada', or 'United States & Puerto Rico'.

¹⁷Forbes magazine ranks foreign firms by the absolute amount of revenue they receive from US investments. This information is available at http://www.forbes.com/free_forbes/2002/0722/foreign.html

¹⁸The UNCTAD classification ranks the world's top transnational corporations (TNC). The ranking is included in the World Investment Report and is available at <http://unctad.org>

Table 2 summarizes all of the firm-level accounting information that we could collect from Compustat Global Vantage, Compustat North America, Compustat Historical Segments and UNCTAD's rankings. Unfortunately, the variables TFSALEP and FORINC are not available for banks, and they are only observable in 62% of the original sample of US firms. For EMU firms, we only have at our disposal the information in the UNCTAD rankings about the foreign-to-total Sales (TFSALEP), foreign-to-total Assets (FORASS), and foreign-to-total Employment (FOREMP), and this information is only available for 47% of the EMU firms in our sample. When we also consider the information in UNCTAD on FORASS and FOREMP for US firms, we only have information on 17 US companies. In our sample, an average firm has a foreign-to-total Sales ratio of 32% in the US and 62% in EMU countries. This result means that it is likely that our EMU sample is more biased toward more international firms than the US sample. Our two measures of specific foreign exposure reveal a comparable crossover exposure of the two samples as the 25% of sales to US by EMU firms (USSALEP) is closer to the 18% of sales to Europe by US firms (EURSALEP). This large percentage of sales between the two regions highlights that there exists a high level of economic integration that can potentially expose the firms to the foreign US and Eurozone monetary policies. Whereas we argue that USSALEP and EURSALEP are more suitable variables for measuring specific foreign exposure, the question remains as to what extent all the measures of foreign dependence provide similar information.

[INSERT TABLE 2 ABOUT HERE]

The high degree of correlation observed in Table 3 between the aggregate measures of foreign exposure is in agreement with the previous findings of Sullivan (1994) and Kedia and Mozumdar (2003). In the empirical research these variables are sometimes dropped due to multicollinearity, because they do not provide additional information by themselves regarding the level of internationalization or foreign operations. Despite the high degree of correlation, the proxies can provide significant information about the impact of foreign monetary policy on the firms' default risk. Furthermore, the sign of foreign monetary policy influence on default risk can differ depending on the type of foreign exposure. For this reason, we keep the measures of internationalization separate, instead of using one single measure as in Sullivan (1994). More interestingly, the high degree of correlation between the geographic sales and TFSALEP, especially in US firms, helps to validate the use of TFSALEP as a measure of exposure between the two countries and to overcome the problem of smaller sample size when using EURSALEP and USSALEP in the empirical analysis.

[INSERT TABLE 3 ABOUT HERE]

The accounting information obtained from Compustat and UNCTAD’s rankings is scarce; it is not available for all firms and certainly not available for every year. For each firm, the variables LIQ, CAP and SIZE are transformed from annual to monthly frequency using linear interpolation for the years 1999 to 2010.¹⁹ Regarding the proxies for foreign exposure, the variables TFSALEP, FORINC, FORASS, FOREMP, US-SALEP and EURSALEP are unobserved for many years and interpolation is not possible. For that reason, we only use the sample average from 2000 to 2009 as a measure of the degree of internationalization.

3.3. The relationship between MP and default risk

Figure 1 represents our two-monetary-authority world with regional targets (unemployment, inflation and growth).²⁰ We point out that the MP rates can affect domestic firms or foreign firms with foreign exposure. In this fashion, foreign monetary authorities can contribute to the domestic banks’ loan supply and to the financial (in)stability of domestic firms. At an aggregated level, a large systemic event can give rise to periods of low economic activity, high inflation and high unemployment. The possible endogenous relationship between aggregate credit risk and MP will be tested in Section 4. In this section, we empirically study which types of firms are more likely to be affected by a foreign monetary policy – the crossover effect.

[INSERT FIGURE 1 ABOUT HERE]

We want to empirically analyze the influence of short-term monetary policy on firms’ default risk as seen by the credit markets. We are especially interested in identifying whether firms with more foreign operations are more affected by foreign monetary policy. Our empirical strategy is based on running panel regressions for each monetary region with the following general specification

$$\begin{aligned}
 \text{logit}(PD_{it}(M)) &= \beta_1 \text{SRate}_{t-1} + \beta'_1 \text{Firm}_{it-1} \times \text{SRate}_{t-1} + \beta''_1 \text{DOI}_i \times \text{SRate}_{t-1} & (4) \\
 &+ \beta_2 \text{Foreign SRate}_{t-1} + \beta'_2 \text{Firm}_{it-1} \times \text{Foreign SRate}_{t-1} + \beta''_2 \text{DOI}_i \times \text{Foreign SRate}_{t-1} \\
 &+ \text{CONTROLS}_{t-1}(\text{USD/EUR, GDP growth, Inflation, LRate, Term Spread}) \\
 &+ \beta_0 + \beta'_0 \text{Firm}_{it-1}(\text{Firm Dummy, Financials Dummy, LIQ, CAP, SIZE}) \\
 &+ \beta''_0 \text{DOI}_i(\text{TFSALEP, FORINC, EURSALEP, USSALEP, FORASS, FOREMP}) + \varepsilon_{it}
 \end{aligned}$$

where $\text{logit}(PD_{it}(M))$ is the logistic transformation $\ln(PD_{it}/(1 - PD_{it}))$ of the probability of default measure $PD_{it}(M)$ for firm i at month t for the horizon M . This logistic transformation ensures that the

¹⁹The results of our empirical findings remain regardless of the type of interpolation and even if we only use the sample average because the accounting characteristics are important sources of firm information in the cross-section but not in the time dimension.

²⁰We are aware that the Federal Reserve pursues different goals than the ECB: the ECB’s primary objective is price stability. Regarding this issue, we are impartial, and we include the three primary goals for both countries in the empirical study.

probability of default is defined in the zero-one interval. The error term ε_{it} captures all other factors not captured by the macroeconomic variables used that affect the firms' default probability. We cluster the standard errors by firm and month in case the residuals are correlated across firms or along time. In the robustness analysis, we also use GLS estimation and the dynamic model of Arellano and Bond (1991).

The variables $S\text{Rate}_{t-1}$ and $\text{Foreign } S\text{Rate}_{t-1}$ are the domestic and foreign short-term interest rates at time $t - 1$. We use the target interest rate as a measure of short-term monetary policy, but in the robustness analysis, we also employ the effective short-term interest rate and the Taylor rule residuals.

To identify the type of firms that are more exposed to monetary policy, we interact the short-term interest rates with three types of firm characteristics. First, we use a dummy variable for financial firms (FIN). The reason for this decision is that the financial sector is the first sector to directly suffer from monetary policy changes. However, the number of financial firms in our sample is too small to derive further general statements. Second, we use the capital ratio, the liquidity ratio and the firms' size, as done in Jiménez et al. (2012), as basic and aggregate firm-risk characteristics. Third, we use measures for the degree of internationalization or the degree of foreign operations (DOI) for every firm.²¹ The use of DOI variables reduces the sample substantially. For instance, the foreign-to-total sales ratio is only available for half of the original sample. Notice that the capital, liquidity and size have been interpolated to monthly frequency, and for the DOI variables, we only use the sample average due to a lack of data. It is important to highlight that the results do not change due to the interpolation or the interpolation methodology because the firm characteristics primarily provide cross-sectional information and not time-series information.

To isolate the effect of short-term interest rates on bank loans' lending standards from other macroeconomic variables, Maddaloni and Peydró (2011) use the 10-year long-term government bond interest rate (LTrate), GDP growth, and the inflation rate. In our study, the business cycle is a relevant control because the rate of default tends to increase with poor economic conditions. To obtain a monthly measure of the business cycle, we use the annual growth on quarterly nominal GDP and interpolate it to monthly frequency, as done by Jiménez et al. (2012). The results are unaffected if we do not interpolate. In the baseline model, we only consider the domestic macroeconomic controls. In the robustness check, we also include foreign macroeconomic controls, and the primary findings remain.

The empirical strategy consists of initially performing the panel regression with domestic and foreign monetary policy and adding stepwise the macroeconomic, firm and DOI controls.

²¹The DOI measures are not available for banks.

3.3.1. Empirical results

The primary results that we find in our empirical study are summarized in Tables 4, 5, and 6. These tables display different specifications for the 5-year risk-neutral default probability. We proceed by adding stepwise the macroeconomic, firm and DOI controls.

[INSERT TABLE 4 ABOUT HERE]

Models I-II in Table 4 show the most naive specification with only domestic and foreign target monetary policy interest in our two monetary regions, the US and the EMU. In model II, we include firm dummies that proxy for unobservable time-invariant firm specific characteristics, such as risk management ability. The estimations show that an increase in the Fed rates decreases the default probabilities, but an increase in the ECB rates increases the default probabilities. The effect is more pronounced for financial firms. This very general empirical finding is robust to the specification of the regression, the data that we use (CDS or EDF), and even the maturities (unreported).

To control for other missing variables, we include the macroeconomic controls in models III-IV. A lower USD/EUR exchange rate, lower domestic GDP growth, higher domestic inflation rate, and lower domestic long-term interest rates lead in general to higher default probabilities in the US, although in Europe, their statistical significance depends on the specification.

There exists the possibility that domestic monetary policy is endogenously affected by domestic firms' default probabilities. We believe that domestic monetary policy has been fairly exogenous to firms' default risk for two reasons. First, monetary authorities did not decisively show their intentions toward macro-prudential regulation until 2010 with the creation of the Financial Stability Oversight Council and the European Systemic Risk Board. Second, at the individual firm level, monetary policy is quite exogenous to a firm's unconditional default probability. Monetary authorities are more likely to endogenously respond to aggregate measures of systemic default events that lead to a large number of firms defaulting together. We will analyze this possibility in the next section. Nevertheless, we exclude domestic monetary policy in model III, and the sign of foreign monetary policy remains.

Why do the US and EMU short-term interest rates affect negatively and positively – respectively – the firms' default risk? The interpretation is not so clear. We can think of two straightforward and complementary explanations for this behavior. First, the FEDTRG and the ECBMRO are not in sync, as we see in Figure 2, because both monetary authorities pursue different economic targets. The default probabilities might have a common movement between US and EMU firms, as appears in Figure 3. The different MP rates and the similar timing of default probability levels would explain the different signs of the coefficients.

Second, and most interestingly, the signs of the monetary policy rates would make sense if the firms in our sample held euro-dependent assets and dollar-dependent liabilities. This intuition is partially corroborated by the negative sign of the exchange rate control for US and EMU firms. A US firm with assets denominated in euros facing an increase in the exchange rate would have a higher dollar value for its assets and a lower default probability. Correspondingly, a European firm with dollar denominated liabilities facing an increase in the exchange rate would have a lower euro value for its liabilities and therefore a lower default probability. This possibility might be too simplistic. In practice, it is not possible to know the exposure of a firm to foreign interest rates if we do not know the composition of domestic and foreign assets and liabilities, their maturity structure (Grammatikos et al., 1986) or their derivative contracts.

[INSERT FIGURE 2 ABOUT HERE]

[INSERT FIGURE 3 ABOUT HERE]

Theory that directly relates the effects of monetary policy to firms' default risk is scarce. Bhamra et al. (2011) explain that fixed-income corporate obligations with a fixed nominal coupon increase the incentives of firms to default due to the monetary policy influence on expected inflation. In the dynamic model of González-Aguado and Suarez (2014), the effect of monetary policy on default rates is heterogeneous across firms in the short-term. A positive shift in the risk-free rate leads all firms, especially more indebted firms, to default in the short-term because they need to adjust to the lower target leverage. Instead, a negative shift in the risk-free rate allows more indebted firms to reduce the default risk in the short-term but makes firms at their target leverage riskier as they can increase their leverage right away. In the long-term, the model predicts a decrease (increase) of the aggregate default following an increase (decrease) in the interest rate. Following the importance of firm heterogeneity, as highlighted by González-Aguado and Suarez (2014), we introduce cross-sectional variables in our empirical approach. We will describe evidence that the degree of international operations for our set of large and international firms influences their exposure to foreign monetary policy.

What type of firm in our sample is more exposed to monetary policy? The models V-VI include the capital, liquidity and size controls and their interactions with the short-term rates to identify the firms. The firm controls show, as expected, that the market assigns higher risk to firms with lower liquidity and capital, although for EMU firms, the controls are not significant unless we add further controls. Based on the interaction of firm controls with short-term interest rates, we can identify which types of firms are more exposed to monetary policy. When we exclude domestic monetary policy in specification V, a tightening of foreign monetary policy decreases the probability of default for larger firms. In model VI, domestic

monetary tightening has a greater effect on larger firms, but the sign is different for US firms than for EMU firms. So far, we have not been able to identify a firm characteristic that, when interacted with monetary policy, is systematically significant, keeps a consistent sign across all specifications, and is able to explain the monetary exposure identified in models I-IV.

[INSERT TABLE 5 ABOUT HERE]

Does the degree of foreign operations explain the foreign monetary policy exposure? Models VII-VIII in Table 5 feature the same regression as model VI but include the variables that measure the firms' degree of internationalization and their interaction with short-term interest rates. The disadvantage is that by including DOI variables, our sample decreases by approximately half, and does not include banks.

In the case of US firms, model VII yields an interesting result: a loosening of foreign monetary policy increases the default probability of firms with higher foreign-to-total sales. In model VIIb we repeat the estimation, but instead of the foreign-to-total sales ratio, we use our measure of foreign income or loss (FORINC). The variable FORINC measures the degree of internationalization for a firm, taking into account the netted foreign expenses, which can decrease long foreign exposure, but not considering the sign of the foreign exposure (positive or negative foreign income). Similarly, the effect of foreign monetary policy is stronger for firms with higher FORINC.

The variables TFSALEP and FORINC measure foreign exposure without specifying the origin of the exposure, which could lead to incorrectly concluding that US firms are exposed to the ECB's decisions on rates. For this reason we have constructed the variable EURSALEP that specifically measures the percentage of sales to Europe. In model VIIc, the interaction of Euro-related sales with ECB's rate maintains a highly statistically significant negative coefficient and reassures that the empirical relation is due to the exposure to ECB's interest rates.

In general, US firms with a higher degree of foreign sales or income increase – with respect to firms with no foreign dependence – their default probability when the foreign monetary authority loosens the interest rates. Model VIII includes the interaction with the variables FORASS and FOREMP, which we were able to collect for a few firms from UNCTAD rankings, but they are not highly significant, and the negative sign of the interaction with TFSALEP remains. The dotted coefficients reported come from variables dropped due to multicollinearity. The interaction with the dummy variable FIN is dropped because there are no financial firms with available FORASS and FOREMP. The variables TFSALEP, FORASS, and FOREMP are dropped due to their high level of correlation reported in Table 3 and in the studies of Sullivan (1994) and Kedia and Mozumdar (2003).

In the case of EMU firms, models VII-VIII repeat the same specifications. Similar to US firms, size appears to be an important characteristic for monetary policy exposure in some specifications, but it is not robust to all specifications. Again, we cannot obtain a general conclusion regarding liquidity, or capital being the source of foreign monetary policy exposure. The model VIIc displays similar results found for US firms because European firms with a larger percentage of sales to US experience larger increases of default probability following a decrease in the Federal Reserve's rates than European firms without sales to US. Contrary to the US, the variable FOREMP – which proxies the structural costs that a firm faces abroad – is also a highly significant source of exposure to the Federal Reserve short-term interest rates. The sign of the interaction is the opposite of the interaction between TFSALEP and foreign MP interest rates. Both variables TFSALEP and FOREMP are a measure of DOI, but their nature differs. The former proxies for foreign resources, and the latter proxies for foreign obligations. This different nature explains the opposite signs of their interactions with foreign monetary policy.

[INSERT TABLE 6 ABOUT HERE]

Finally, the Table 6 repeats model VII but includes the interaction between growth and DOI measures. The purpose of this interaction is to test whether the monetary policy effect remains once we take into account the foreign growth effect on firms with a large DOI. The interaction of TFSALEP with foreign monetary policy remains a significant source of foreign monetary policy exposure.

In general, loosening the monetary policy in the US or tightening the monetary policy in the Eurozone can lead to higher default probabilities for any firm in any country and for any maturity (unreported). In the cross-section, US firms with a larger proportion of foreign sales have higher exposure to foreign monetary policy. EMU firms with a higher foreign-to-total employment ratio are more exposed to foreign monetary policy. The magnitude of the estimated coefficients implies a reasonably economically significant relationship between the default probability and the interaction of foreign monetary policy with the degree of foreign operations.

For example, based on specification VIIc of Table 5, an average EMU non-financial firm with a cumulative 5-year market implied default probability of 5.3%, a liquidity ratio of 21.31%, a capital ratio of 22.80%, a log-size of 10.84, and a ratio of US-to-total sales of 25.51% during a period of average Fed interest rates of 3% would decrease its default probability to 5.12% if monetary policy decreased 2% (the sample standard deviation) to 1%.²²

²²The calculation for an average EMU firm with average US sales is $1/(1 + \exp(-(\ln(0.053)/(1 - 0.053)) + (165.50 - 54.46 * 0.2131 - 4.20 * 0.2280 - 13.25 * 10.84 - 29.39 * 0.2551) * (-0.02))) = 5.12\%$

On the contrary, an identical firm without US sales, would decrease its default probability to 4.43% if monetary policy decreased from 3% to 1%.²³ In this case, a foreign monetary policy shock leads only to a 3.37% decrease in the default probability if the firm has the average US-to-total sales ratio, and to a decrease of 16.23% for a firm without US sales.

3.3.2. Robustness checks

In this section, we conduct a series of robustness checks. First, we check other definitions of monetary policy. Second, we reduce the frequency from monthly to quarterly. Third, we test other estimation methodologies.

The target interest rate does not determine by itself the short-term interest rates. For instance, in the Eurozone, the effective interest rate depends not only on the rate of the Main Refinancing Operations, but also on the marginal lending facility, the deposit facility, and the type of auction (Benito et al., 2007). For this reason, we display EMU firms in Table 10 with the same specification used for model VIII from Table 5, where instead of the target interest rate, we use the effective interest rate. Moreover, we repeat the regression for all horizons available with CDS implied default probabilities and EDF real default probabilities. Across all maturities and default measures, the firms with more foreign employment are more exposed to the Federal Reserve's monetary policy. The coefficient is relatively constant for every maturity. In other words, in general, under an increase in foreign monetary policy, the change in the log odds ratio is the same for all maturities, and the change in the default probability is higher for higher horizons.

[INSERT TABLE 10 ABOUT HERE]

Another concern is that the MP rates are partially determined by other macroeconomic variables. In the simplest monetary policy rule of thumb, the Taylor rule, the monetary authority sets the target interest rates depending on the levels of GDP growth and inflation (Taylor, 1993, 2009). Figure 4 plots the residuals of the Taylor rule. The residuals represent how tight or how loose monetary policy is with respect to the simplest Taylor rule. As an example, Table 11 displays US firms with the same specification of model VII from Table 5, but we use the Taylor rule residuals as a measure of tightness in monetary policy instead. The results show across all maturities and default measures that a tightening of ECB monetary policy under the Taylor rule has a different effect on firms with a higher proportion of foreign sales.

[INSERT FIGURE 4 ABOUT HERE]

²³The calculation for an average EMU firm without US sales is $1/(1 + \exp(-(\ln(0.053/(1 - 0.053)) + (165.50 - 54.46 * 0.2131 - 4.20 * 0.2280 - 13.25 * 10.84 - 29.39 * 0) * (-0.02)))) = 4.43\%$

[INSERT TABLE 11 ABOUT HERE]

There are two other concerns in the results shown so far. To begin, if the errors are autocorrelated, the estimated parameters might not be appropriate. We reduce the frequency from monthly to quarterly to alleviate both the possibility of autocorrelated errors and the importance of the interpolation applied to some variables that are not observed at high frequencies. Lastly, there might be unobservable or omitted time-variant macroeconomic variables; hence, we will perform the regressions including a quarter dummy.

Table C.10 reports the results of three different models at quarterly frequency. Model I is estimated by OLS assuming iid errors, and its significance is tested with clustered standard errors by firm and quarter. Model II reports GLS coefficients imposing heteroscedastic errors across firms and a firm-specific AR(1) structure. The GLS estimates are known to be more efficient, but efficiency comes at the price of imposing an error structure.

[INSERT TABLE C.10 ABOUT HERE]

The model III directly measures the persistence of the log odds ratio transformation of market implied default probabilities and assumes contemporaneous shocks from exogenous variables. Jiménez et al. (2013) estimated a similar dynamic model in which their dependent variable is the log odds transformation of the non-performing loans ratio, an ex-post measure of bank risk-taking. Delis and Kouretas (2011) estimated a similar dynamic model and used the ratio of risk assets to total assets and the non-performing loans ratio as dependent variables that measure bank risk-taking. In our dynamic model, the firm characteristics and their interactions with domestic monetary policy (x_{it}) can be endogenous if they respond to past shocks in the firms' specific default probabilities. Technically, variable x_{it} is endogenous if $E[x_{it}\varepsilon_{is}] \neq 0$ for $s \leq t$ and $E[x_{it}\varepsilon_{is}] = 0$ for all $s > t$. We apply the estimation methodology of Arellano and Bond (1991) and use up to four lags of the firm characteristics and their interactions with domestic monetary policy to instrument for these potentially endogenous variables.

In the US monetary region, models I to III confirm that the degree of foreign sales is an important source of foreign monetary policy exposure. In the Eurozone, models I to III again identify the proportion of foreign employment as a relevant source of foreign monetary policy exposure. In comparison, models Ib, IIb, and IIIb, substitute the proportion of foreign sales for EURSALEP and for USSALEP to capture the specific exposure to the foreign monetary policy in the EMU and in the US. The results provide strong evidence for crossover effects because firms with a large percentage of geographic sales in a foreign region are subject to the specific monetary policy of that region.

Using the CDS prices to construct a measure of market implied default probabilities, we find evidence that *firms' default risk exposure to foreign monetary policy depends on the firms' degree of internationalization*. This statement is relatively robust to numerous macroeconomic controls (exchange rate, business cycle, inflation, long-term interest rates, term spread), firm controls (liquidity, capital ratio, size, firm fixed effects), unobservable time-varying factors (time dummies), geography (US or EMU), frequency (monthly or quarterly), the definition of monetary policy (target interest rate, effective interest rate or Taylor-rule residuals), the measure of foreign exposure (foreign or geographic specific sales), the type of forward default probability (market implied or real default probability), the horizon of the default probability (from 6 months up to 30 years), and the methodology (pooled panel data regression and dynamic panel data with endogenous domestic monetary policy).

3.4. *Unexpected monetary policy shocks*

So far, we have focused on the overall credit market relationship with foreign monetary policy. This section focuses on the immediate impact of monetary policy on the credit market and studies the relationship between the degree of foreign exposure and the immediate impact of foreign policy changes. Understanding the direct links between monetary policy and asset prices is important for understanding the policy transmission mechanism (Bernanke and Kuttner, 2005).

The empirical approach summarized in equation (5) presents some obstacles to safely concluding that foreign monetary policy indeed affects international firms' default probabilities. Among the primary concerns are endogeneity, simultaneity, omitted foreign monetary policies, other omitted variables, stickiness of the monetary policy or non-conventional monetary policies at near-zero interest rates. Furthermore, asset markets are forward looking and tend to incorporate information about future monetary policy (Bernanke and Kuttner, 2005). These empirical issues make it difficult to safely disentangle the effect (if any) of foreign monetary policies on market implied default probabilities.

Most recent studies try to circumvent these concerns by measuring unexpected changes in the monetary authorities' target rate. These studies use the overnight interest rate futures market forecast errors as measures of exogenous, unforeseeable changes in the stance of monetary policy (Piazzesi and Swanson, 2008). To construct unexpected changes in US and European monetary policy, we need futures contracts based on effective short-term interest rates. For the US, we use the 30-Day Federal Funds Futures from the Chicago Board of Trade, and for the Eurozone, we use the EUREX One-Month EONIA Futures.²⁴ We follow the

²⁴More information is available at
http://www.cmegroup.com/trading/interest-rates/stir/30-day-federal-fund_contractSpecs_futures.html
<http://www.eurexchange.com/exchange-en/products/int/mon/14664/>

and

approach of Kuttner (2001) to construct the unexpected changes from futures on the interest rates controlled by the monetary authorities.²⁵ Assuming that no further monetary policy changes are expected within the month and that the premium embedded in the futures market does not change from one day to the next in the event of a monetary policy change, this method provides a good gauge of a 1-day surprise target change (Kuttner, 2001, see). Because the risk premia embedded in the futures change at business-cycle frequencies, one-day changes in near-term futures on the day of a monetary policy announcement can be safely interpreted as a measure of monetary policy shock robust to the presence of risk premia (Piazzesi and Swanson, 2008; Hamilton, 2009).

The vast majority of the empirical research on the reaction of financial markets to policy surprises is focused on the stock market. Bernanke and Kuttner (2005) document that an unanticipated 25-basis-point cut typically leads to a 1% increase in the stock market index. They hypothesize that there might be two primary causes behind this phenomenon. First, tight money could increase the risk-aversion of investors. Second, that tight money increases the firm's riskiness due to higher interest costs or weaker balance sheets. To identify the source of the reaction, Ehrmann and Fratzscher (2004) and Basistha and Kurov (2008) study the cross-sectional reaction of stocks that belong to the S&P500. These authors find that firms with higher credit and financial constraints are more affected by domestic monetary policy. Our empirical approach focuses on the default risk channel of monetary policy transmission using ex-ante measures of default risk to better identify cross-sectional effects on credit risk.

The related literature has also studied foreign stock market reactions to decisions by the Federal Reserve (Wongswan, 2006; Ehrmann and Fratzscher, 2009, eg.). Wongswan (2009) and Hausman and Wongswan (2011) find that the cross-sectional response of foreign equity indexes to surprise changes in the federal funds rate depends on the degree of financial integration with the United States, measured as the percentage of each country's equity market capitalization owned by US investors. At the firm level, Ammer et al. (2010) study foreign stocks and find stronger stock price reactions to US monetary policy surprises for firms with a higher ratio of foreign sales to total sales.

Following a similar approach to the literature on monetary policy surprises, we estimate the firms'

²⁵The policy surprise is defined as $\Delta i^u = D/(D-d)(f_{m,d}^0 - f_{m,d-1}^0)$ where $f_{m,d}^0$ is the current-month futures rate. The change in the futures price on day d is scaled by the number of days $D-d$ remaining in month m . Similar to Kuttner (2001) and Bernanke and Kuttner (2005), we use the unscaled change in the futures rate to calculate the funds rate surprise when the change occurs within the last 3 days of the month. Additionally, in the case of an event occurring on the first day of the month, we use the 1-month futures rate from the last day of the previous month $f_{m-1,D}^1$ instead of $f_{m,d-1}^0$. Monetary policy changes by the Fed, ECB and other central banks on September 17th, 2001, after the twin towers attack, have been removed from the sample. We also exclude from the analysis October 8th, 2008, because the Bank of Canada, the Bank of England, the ECB, the Federal Reserve, Sveriges Riksbank and the Swiss National Bank simultaneously announced reductions in policy interest rates.

default risk response to surprises in monetary policy rates as described in equation (5). More specifically, we conduct an event study where the daily change in the log-odds ratio reacts to unexpected changes in monetary policy on the days that the Federal Reserve or the ECB decide to change interest rates.

$$\begin{aligned}
\Delta \logit(PD_{i,t}(M)) &= \beta_0 + \beta_1 FedEvent + \beta_2 Surprise_{j,t} & (5) \\
&+ \beta_3 Surprise_{j,t} \times FedEvent \\
&+ \beta_4 Surprise_{j,t} \times Firm_{i,t} \text{ (LIQ, CAP, SIZE)} \\
&+ \beta_5 Surprise_{j,t} \times Firm_{i,t} \text{ (LIQ, CAP, SIZE)} \times FedEvent \\
&+ \beta_6 Surprise_{j,t} \times DOI_{i,j} \text{ (SALEP, FORASS, FOREMP)} \\
&+ \beta_7 Surprise_{j,t} \times DOI_{i,j} \text{ (SALEP, FORASS, FOREMP)} \times FedEvent \\
&+ \beta_8 Firm_{i,t} + \beta_9 DOI_{i,j} \\
&+ \varepsilon_{it}
\end{aligned}$$

Related research, such as Cenesizoglu and Essid (2012) and Zhu (2013), found that corporate bond yield indexes widen (narrow) following an unexpected tightening (easing) in monetary policy during periods of distress. In equation (5), we measure the effect of domestic and foreign monetary policy shocks on firm level measures of default risk. The regression (5) pools together US and EMU firms. The surprises of both the Fed and the ECB that occur at disjointed events are included in the variable $Surprise_{j,t}$ where j represents the monetary region.²⁶ Next, we introduce two types of cross-sectional reaction in the default probabilities. First, the variable $SALEP_{i,j}$ introduces the different reactions depending on the firm's degree of exposure to monetary region j . Second, the dummy variable $FedEvent$ distinguishes the Fed changes from the ECB changes in interest rates.

We have created the variable $SALEP_{i,j}$ to measure the percentage of sales to the monetary region j that suffers a policy shock at time t . This variable is measured as one minus the foreign-to-total sales ratio in the case of firms experiencing a shock in domestic monetary policy. The variable is measured as $EURSALEP$ in

²⁶Gürkaynak, Sack and Swanson (2005) provide evidence that aside from the target surprise introduced by Kuttner (2001), surprise deviations from the expected path of future monetary policy (path surprise) are also needed to fully capture monetary policy surprises. For example, Wongswan (2009), Ammer et al. (2010) and Hausman and Wongswan (2011) measure the path surprise by running a regression of the daily change in 1-year-ahead Eurodollar interest rate futures and the target surprise around the FOMC's change in the target rate. However, we do not include the path surprises because they rarely exert a significant impact on credit spreads (Zhu, 2013). Moreover, due to data limitations, we can only measure 17 ECB surprises, and the small sample would not allow us to construct the path surprises in the Eurozone.

the case of US firms experiencing an ECB surprise and is measured as USSALEP in the case of EMU firms experiencing a Fed surprise. This definition of SALEP allows us to pool all of the surprises into one single regression and accurately measure the effect of a policy surprise, as opposed to doing the analysis separately for the US and Europe.

The results shown in Table 15 reinforce our previous statement that foreign monetary policy leads to higher default risk change for firms with a higher degree of foreign exposure. The US firms with greater exposure to Europe experience a decrease in their default probability when facing an unexpected tightening event by the ECB. European firms with greater exposure to the US suffer a decrease in their default probability when there is an unexpected tightening of the interest rate in a Fed event. Whereas domestic monetary policy surprises increase default risk.

[INSERT TABLE 15 ABOUT HERE]

4. The endogenous relationship between MP and aggregate default risk

This section discusses the endogenous relationship between monetary policy and the aggregate level of default risk. We provide a brief review of the literature on systemic risk measurement and evaluate the sensitivity of our systemic risk measure to the impact of intervention rate shocks.

4.1. Systemic risk modeling

Previous empirical evidence in Section 3 shows a significant effect from (external) monetary policies on individual default risk. An interesting question is whether monetary policy mechanisms are useful for handling the aggregate level of default risk in the economy. In this way, this section extends our study to broader aspects of credit risk.

The measurement of aggregate default risk constitutes a major issue for academics and regulators. On the regulatory side, policy authorities have created specific institutions to monitor systemic risks, such as the Financial Stability Oversight Council in the US or the European Systemic Risk Board in the Eurozone. With regard to the academic side, one promising area of research is the analysis of systemic events.²⁷ Das and Uppal (2004) define systemic risk as the risk of infrequent events that are highly correlated across a large number of assets. They study the effects of this risk in portfolio diversification, concluding that systemic

²⁷Classifying a certain event as systemic is often a judgment call. For instance, the Federal Reserve rejected a bail out of Lehman Brothers in September 2008, the largest bankruptcy in the US at the time. Two days after, the Fed rescued the insurance company AIG for its large exposure to the credit derivatives market, which could have resulted in a collapse of the entire financial system.

risk reduces the gains from international diversification and penalizes investors for holding levered positions. More recently, systemic risk has been associated with the common exposures of financial institutions.

The latest developments provide indicators of systemic risk as large losses in the financial system. For example, Lehar (2005) and Huang, Zhou and Zhu (2009) build aggregate indicators of systemic default risk for a portfolio of banks using their equity and credit market prices. Acharya, Pedersen, Philippon and Richardson (2010) and Adrian and Brunnermeier (2011) consider a systemic event to be one in which bank capital or bank assets in the financial system fall below a certain threshold, and they are able to identify which financial institutions are more exposed to the overall systemic risk.

4.2. Measures of systemic risk

Macro-prudential supervision and monetary policy seek the stability of the banking system and the stability of firms that belong to other sectors. Within the context of our modeling framework, we define systemic default risk as the instantaneous probability of an event that produces a market-wide default of firms. Under this definition of systemic risk, some recent crises with large default consequences, as the dot-com bubble, could be considered to be systemic, even though they did not originate from the financial system. Along these lines, our definition agrees with Das and Uppal (2004) or Longstaff and Rajan (2008), who consider the possibility of an event that affects the entire economy, instead of focusing on a particular firm or sector.

Using data from the CDS indexes and their tranches, Longstaff and Rajan (2008) provide an econometric approach to estimate the parameters of model in equation (3). Contrary to other measures that rely on discretionary thresholds to define systemic events (Lehar, 2005; Huang et al., 2009; Acharya et al., 2010; Adrian and Brunnermeier, 2011, see), our approach endogenously determines the time evolution of the systemic risk. Table 16 displays the estimates of the Longstaff and Rajan (2008) model. The results correspond to those with the best model fit. We run the optimization with different initial parameters until convergence. The parameter γ_3 has a size of approximately 50% to 60%. Roughly speaking, the estimated systemic default risk is the probability that approximately 50% to 60% of the debt in the portfolio defaults in a small time period. On average, in the period from Jul/2005 to Dec/2009, there is a $0.007\Delta t$ conditional probability of a systemic event happening in a small time interval Δt .

[INSERT TABLE 16 ABOUT HERE]

Figure 5 depicts the evolution through time of our proxies for the systemic default risk in the US (SYS-US) and in Europe (SYS-EMU). This figure shows the ubiquitous nature of systemic risk. Even though

we have employed data from different economic regions, the paths of systemic risk share a common trend behavior, which may suggest that systemic risk is highly transferable between regions.

[INSERT FIGURE 5 ABOUT HERE]

4.3. *Monetary policy and systemic default risk*

We turn next to exploring the endogenous relationship between monetary policy and our measure of aggregate default risk. Cúrdia and Woodford (2010) suggest that the aggressive monetary policy of the Federal Reserve since late 2007 was not explained by growth or inflation. We argue that it is possible that monetary authorities have reacted to shocks in the systemic default risk of the economy (Figure 1). It is also possible that monetary policy exerts power on the systemic risk undertaken by the economy. We empirically test this endogenous relationship with a multivariate representation of the aggregate economy. This methodology is a common practice in the literature to assess the responses of aggregate variables to the stance of monetary policy. For instance, see the examples in Bernanke and Blinder (1992), Bernanke and Gertler (1995), Thorbecke (1997), Stock and Watson (2001) or Benati and Surico (2009).

We use a Vector Error Correction Model (VECM) to examine the relationship between monetary policy (MP), inflation (INF), unemployment (UNEMP), GDP growth (GDPG) and our proxy for systemic default risk (SYS) during the period from Jul/2005 to Dec/2009. To better understand the results, we conduct an impulse-response analysis between the monetary policy rates and the systemic risk for each economic region. Figure 6 depicts the results of the impulse-response simulation. On one side, a systemic default risk increment is followed by a gradual loosening of monetary policies over time. The loosening of policy rates is not equal, being five times larger in the US than in the Eurozone. On the other side, a tightening of monetary policy results in an asymmetric response in systemic risk for both regions. For example, monetary tightening in the US leads to a permanent decrease of systemic risk in every subsequent month. In Europe, monetary tightening leads to an increase in systemic risk in the long term. Moreover, the US has more power to exert influence on systemic risk, as can be seen from the larger responses of systemic risk. Unreported impulse-response simulations of a positive shock in the systemic risk measure predict consistent economic consequences: an increase in unemployment and a decrease in GDP growth.

[INSERT FIGURE 6 ABOUT HERE]

Table 17 reports the k-month forecast-error variance decomposition of the VECM for each monetary region separately. Panel A shows the fraction of the forecast-error variance in the MP variable at a given horizon due to orthogonal shocks in the endogenous variables MP, INF, UNEMP, and GDPG. As to the MP

itself, it is dominated by its own shock, especially in Europe. The response by monetary authorities is clearly different. A shock to systemic risk has a larger contribution to the forecast-error variance of the MP in the US model than in the EMU model. The ECB appears to be unresponsive to a systemic default risk shock, whereas a systemic risk shock explains a substantial fraction of the Federal Reserve's MP. The model shows that a systemic default risk shock would explain 18% of the variability in the Federal Reserve's interest rate after 6 months and 30% after five years. The Federal Reserve is more responsive to shocks in systemic risk than to shocks in the traditional targets of monetary policy.

Panel B displays the proportion of the forecast-error variance in the variables MP, INF, UNEMP, and GDPG after a monetary policy intervention. Monetary policy plays a more important role on systemic risk in the US than in Europe, especially at long forecast horizons. For example, at the 1-year horizon, 45% of the error in the forecast of the systemic risk is attributed to an unexpected intervention by the Federal Reserve. The ECB plays a less important role, accounting for only 15% of the variability in systemic risk at the same 1-year horizon. Furthermore, the contribution of an intervention by the ECB decreases with the forecast horizon.

[INSERT TABLE 17 ABOUT HERE]

These asymmetric responses by the two monetary authorities cast doubts on their ability to manage ubiquitous systemic risks. Theoretical research in a two-country world has evaluated the possibility of cooperation between a domestic and a foreign monetary authority. The theoretical work of Rogoff (1985) argues that under certain circumstances, monetary policy cooperation can be counterproductive and leads to higher inflation. Moreover, even in a world tightly linked with world productivity shocks, it is not necessarily problematic that countries unilaterally design their monetary policy in an inward-looking decision-making process (Obstfeld and Rogoff, 2002). On the contrary, Pappa (2004) concludes that for the Fed and ECB to cooperate, one must assume a high degree of trade links between US and the Eurozone. Our results stress the importance of domestic and foreign central banks to firms' credit stability during difficult episodes. Coordinated monetary policy might be a more appropriate mechanism to address large systemic events.

In summary, we document the existence of an endogenous relationship between monetary policy and systemic default risk. Although monetary policy rates are not designed to fight against systemic risk, the last evidence suggests that monetary authorities have responded to an increase in systemic risk by lowering interest rates. However, we find an asymmetric impact from monetary policy on systemic risk. More long-term coordinated action in policy rates might be needed to solve a systemic crisis.

5. Conclusions

The monetary authorities have started an evolutionary process towards greater financial risk awareness and macro-prudential oversight. We have used a new source of information to learn about the ex-ante forward-looking default probability of a firm: the credit derivatives market. We have also paid attention to the influence of foreign monetary policy on a firm's default risk. Furthermore, the data suggest that the monetary authorities have tried to attenuate systemic events by using their monetary policy rates as a mechanism.

From a micro-perspective, firms' default risk depends on the state of foreign monetary policy. Moreover, we document that a foreign monetary policy can have an important effect on international firms that are highly exposed to foreign countries. Our findings indicate that, in general, *foreign monetary policy's influence on firms' default risk depends on the firms' degree of foreign operations*. This result is quite robust to the definition of monetary policy, the type of default probability, the type of foreign operations, the horizon of cumulative default probability, the frequency, macroeconomic controls, unobservable firm and time effects, geography (US and EMU), firm controls, and the empirical model. More interestingly, we find that firms with foreign exposure facing surprise loosening of the foreign monetary policy experience higher default probabilities than firms with lower foreign exposure.

From a macro-perspective, we study how the monetary authorities have affected and reacted to systemic risk. Systemic defaults are not frequent and predictable events; however, past empirical evidence suggests that due to the ubiquitous nature of the systemic default risk across countries that we find in our data and the different regional specific monetary targets, monetary policy might not be an effective tool to manage systemic risk. There has been an imbalance in the aggressiveness of the two policy authorities, the Federal Reserve being more aggressive under a ubiquitous systemic shock than the ECB. In the long term, we generally find a negative response in systemic risk to a monetary contraction in the US but a weak response to a contraction in the Eurozone. This paper opens the debate about the institutional role of the newly created systemic risk supervisors and about whether or not the international authorities should agree to coordinate policies to circumvent common credit market disruptions.

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Figure 1: Risk transfer flowchart

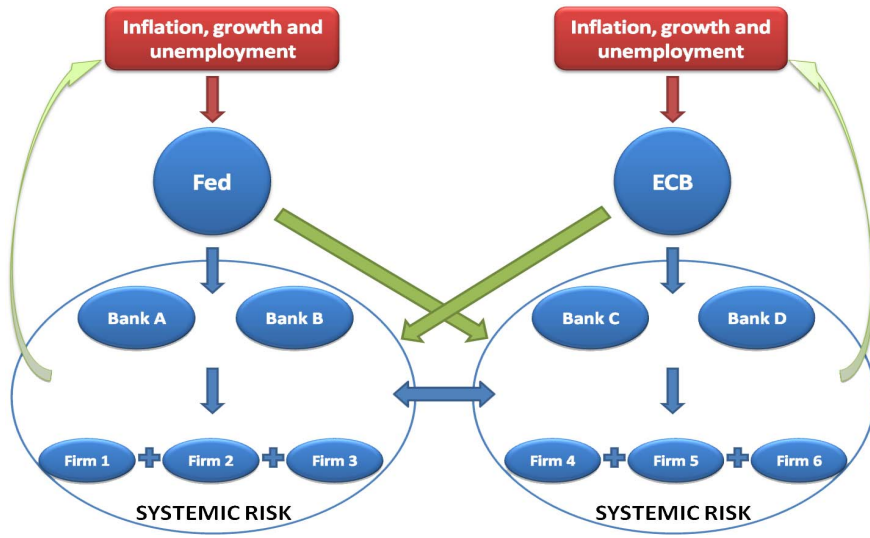
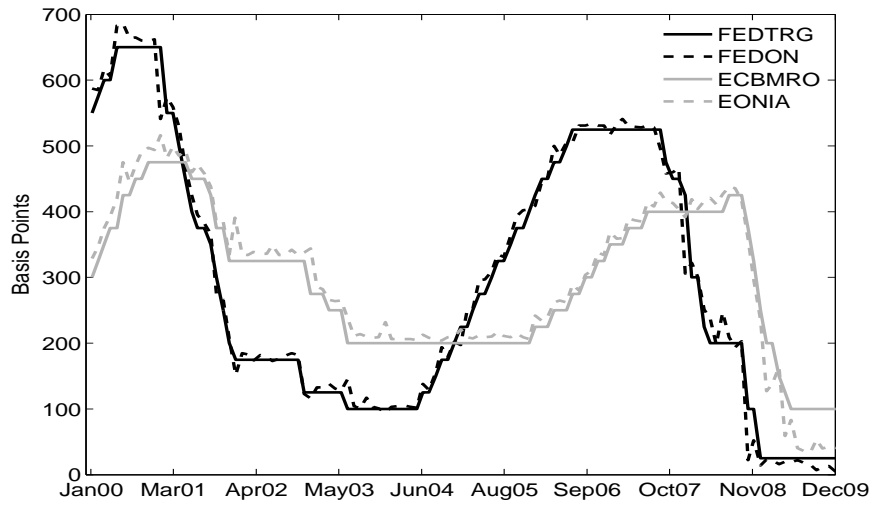
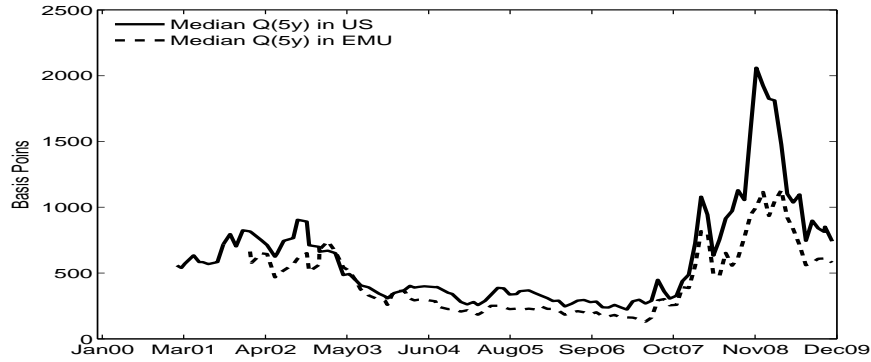


Figure 2: Monetary Policy Rates



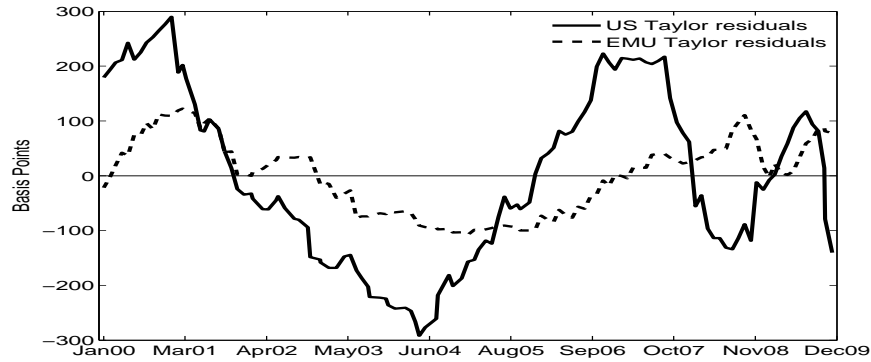
End of month observations. The period goes from Jan/2000 to Dec/2009.

Figure 3: Median default probabilities implied from CDS spreads



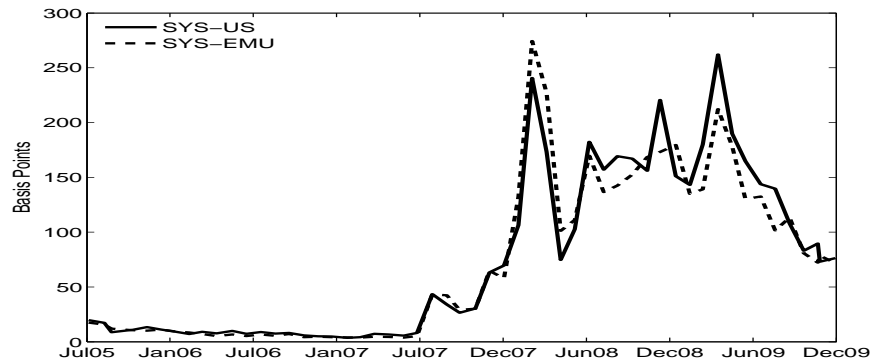
End of month observations. The period goes from Jan/2000 to Dec/2009.

Figure 4: Taylor rule residuals



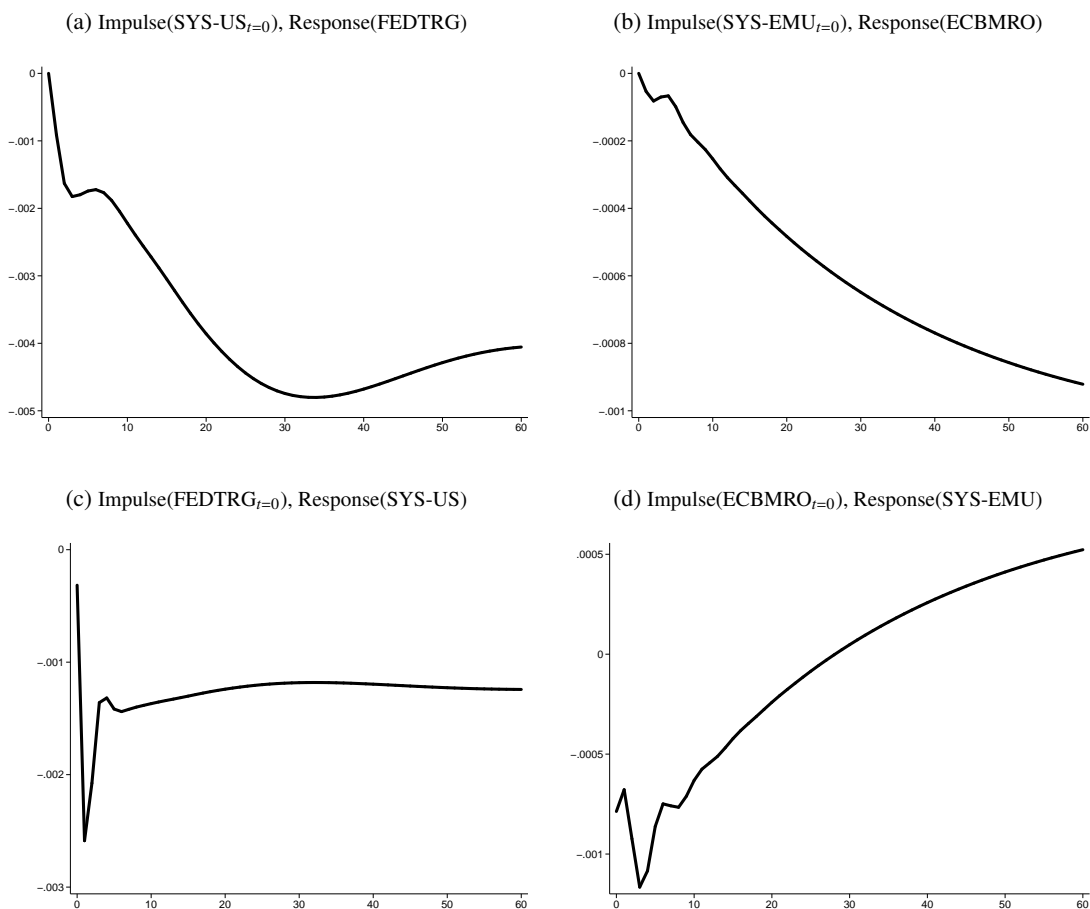
The graph shows the Taylor rule residuals at monthly frequency. Taylor rule residuals are the residuals of the regressions of FEDTRG and ECBMRO rates on their respective GDP growth and inflation over the period Jan/2000 to Dec/2009. The annual GDP growth has been linearly interpolated from quarterly to monthly frequency.

Figure 5: Systemic risk in the US and Europe.



Systemic risk measured as in Longstaff and Rajan (2008) with the CDX.NA.IG and iTraxx indexes and their tranches. End of month observations from Jul/2005 to Dec/2009

Figure 6: Impulse-response graphs for the VECMs



Orthogonalized impulse-response for the VECMs. The ordering of the variables is MP, SYS, INF, UNEMP, and GDPG. The horizontal axis represents the months after the shock event. The lag of the VECM is selected according to the Schwarz Bayesian Information criterion. The number of cointegrated equations is chosen according to the Johansen's cointegration test.

Table 1: Number of largest foreign firms by ranking

	US	US sample	Europe	EMU	EMU sample
Largest foreign investments in US			65	43	22
World's top 100 non-financials (2000-2008)	39	17	85	61	34
World's top 50 financials (2003-2009)	16	2	47	32	12

Each row is related to a ranking made by Forbes or UNCTAD. The first row is the 2002 Forbes' ranking titled "The Largest Foreign Investments In The US". It is a ranking of the 100 largest investments in the US from foreign firms by the revenue they make in the US. The second row is the 2000-to-2008 UNCTAD's annual rankings of "The world's top 100 non-financial Transnational Corporations" by the size of the foreign assets. The third row refers to the 2003, 2004, 2006, 2008, and 2009 UNCTAD's annual rankings of "The Top 50 financial Transnational Corporations" ranked by the foreign-to-total affiliates ratio and the number of host countries. The columns represent the number of firms that belong to the regions where the firm is headquartered (US, Europe, or EMU), and the number of firms that belong to our US or EMU sample.

Table 2: Accounting numbers

Variable	US (millions of US dollars)					EMU (millions of Euros)						
	# Firms	Obs.	Mean	Std. Dev.	Min	Max	# Firms	Obs.	Mean	Std. Dev.	Min	Max
		(firm-year)						(firm-year)				
Panel A.- Annual Reports												
Total Assets (<i>AT</i>)	138	1360	37786.61	83227.01	1061.6	1060505	72	716	155581.2	298330.6	-4049	2202423
Equity (<i>SEQ</i>)	136	1342	9705.416	14755.51	-3532	152027	72	716	13953.92	13111.59	-9951	69501
Domestic Pretax Income (<i>PIDOM</i>)	86	623	1051.218	5668.84	-105179	16239						
Foreign Pretax Income (<i>PIFO</i>)	86	623	1098.83	2179.012	-3582	14957						
Panel B.- Ratios												
LIQ ($(CHE + RECT)/AT$)	136	1342	.1624036	.1309679	.0007407	.6744421	72	716	.2131364	.1367624	.0029687	.9040849
CAP (SEQ/AT)	136	1342	.321075	.1517489	-.1440755	.8097345	72	716	.2279833	.1448286	-.0933604	.6865051
Foreign-to-total Sales (<i>TFSALEP</i>)	87	388	.324949	.2222151	0	1	34	123	.6304407	.1864184	.1775217	.9651292
FORINC ($(PIFO)/(PIDOM + |PIFO|)$)	86	623	.3403981	.2741099	0	.999						
FORASS	17	204	.5357274	.1952422	.0594807	.9975873	34	122	.56041	.195678	.0840584	.9526457
FOREMP	17	204	.4979036	.1897753	.0399986	.9655092	34	121	.5732295	.1742303	.0512187	1
EURSALEP	44	343	.1855874	.1110861	.0012488	.6999553	33	228	.5579125	.2543655	.1270797	1
USSALEP	127	1123	.773226	.2331536	0	1	25	174	.2551513	.1890515	.0001943	1

This table summarizes annual corporate information for the firms in our sample during the period 2000-2009. The data are mainly obtained from Compustat Global Vantage. The Compustat Mnemonics are between brackets. For US firms, the variables SALE, TFSALEP, PIDOM and PIFO are obtained from Compustat North America. EURSALEP and USSALEP are manually constructed from Compustat Historical Segments. For EMU firms, the variables TFSALEP, FORASS and FOREMP are obtained from the 2000-to-2008 UNCTAD's annual rankings of "The world's top 100 non-financial Transnational Corporations". The accounting numbers are reported in millions of US dollars for US firms and in millions of Euros for EMU firms. The variables LIQ, CAP, TFSALEP, FORINC, FORASS, FOREMP, EURSALEP and USSALEP are ratios between 0 and 1.

Table 3: Pairwise correlations

	US									EMU								
	LIQ	CAP	SIZE	TFSALEP	FORINC	FORASS	FOREMP	EURSALEP	USSALEP	LIQ	CAP	SIZE	TFSALEP	FORINC	FORASS	FOREMP	EURSALEP	USSALEP
LIQ	1.0000									1.0000								
CAP	0.1194	1.0000								0.1492	1.0000							
SIZE	-0.1383	-0.1253	1.0000							-0.2898	-0.5783	1.0000						
TFSALEP	0.3183	-0.0471	0.1402	1.0000						0.1732	0.2639	-0.5263	1.0000					
FORINC	0.3501	-0.0405	0.1328	0.6978	1.0000									1.0000				
FORASS	0.2110	0.3911	-0.5511	0.6531	0.7168	1.0000				-0.1550	0.3444	-0.6466	0.7078		1.0000			
FOREMP	0.3363	0.2561	-0.4832	0.7023	0.7243	0.7780	1.0000			-0.0707	0.3220	-0.6524	0.7164		0.7585	1.0000		
EURSALEP	0.2462	0.0708	0.3166	0.7160	0.3842	0.2477	0.2336	1.0000		-0.3098	-0.0417	0.2005	-0.5664		-0.2457	-0.4556	1.0000	
USSALEP	-0.3665	0.0775	-0.1585	-0.9052	-0.7700	-0.6893	-0.8052	-0.6575	1.0000	-0.0044	-0.2335	-0.1905	0.4168		0.2461	0.3239	-0.7225	1.0000

This table reports pairwise correlations in the period 2000-2009. The data are obtained from Compustat Global Vantage and Compustat North America. For each firm, the variables LIQ, CAP and SIZE are linearly interpolated from year to monthly frequency using the Compustat Global Vantage dataset from 1999 to 2010. EURSALEP and USSALEP are manually constructed from Compustat Historical Segments. For the variables TFSALEP, FORINC, FORASS, FOREMP, EURSALEP and USSALEP we only use the sample average between 2000 and 2009 because the large number of missing values does not allow for interpolation.

Table 4: Panel regression for 5-year implied default probabilities on target interest rates

Dependent variable Monetary region Model	logit($Q_{it}(5Y)$)											
	US			EMU								
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
Cons.	-2.84***	-3.37***	-2.27***	-2.08***	-3.23**	-3.07**	-3.12***	-3.29***	-2.10***	-3.04***	-10.91***	-10.13***
US Monetary policy												
FEDTRG _{t-1}	-29.26***	-30.16***		-8.78	28.44**		-32.63***	-32.40***	10.00	2.44	32.68**	40.88***
FIN _t ×FEDTRG _{t-1}	-22.69***	-21.04***		-21.26***	-17.99***		-14.42***	-14.14***	-8.24***	-13.91***	-4.67	-8.25**
LIQ _{t,t-1} ×FEDTRG _{t-1}					0.61						-2.23	-0.70
CAP _{t,t-1} ×FEDTRG _{t-1}					-6.15						1.13	-7.35
SIZE _{t,t-1} ×FEDTRG _{t-1}					-3.54***						-2.42***	-3.63***
EMU Monetary policy												
ECBMRO _{t-1}	32.62***	35.56***	31.69***	37.53***	69.98***	39.63**	31.67***	30.71***	42.33***			-7.80
FIN _t ×ECBMRO _{t-1}	17.30**	9.91	-10.61	9.97	2.67	20.14**	18.80***	18.26***	18.75***			13.23**
LIQ _{t,t-1} ×ECBMRO _{t-1}					8.18	7.35						-3.12
CAP _{t,t-1} ×ECBMRO _{t-1}					15.34*	22.48*						29.99*
SIZE _{t,t-1} ×ECBMRO _{t-1}					-4.71***	-1.30						3.81***
Controls												
Macro controls	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Firm controls	No	No	No	No	Yes	Yes	No	No	No	No	Yes	Yes
Firm dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
FIN dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	12480	12480	12480	12480	12346	12346	5367	5367	5367	5367	5367	5367
R ² -Adj	0.1550	0.7234	0.7818	0.7877	0.8045	0.8137	0.4447	0.6717	0.7651	0.7796	0.8031	0.8166

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 5: Panel regression for 5-year implied default probabilities on target interest rates

Dependent variable Monetary region Model	<i>logit(Q_{it}(5Y))</i>						
	US				EMU		
	(VII)	(VIIb)	(VIIc)	(VIII)	(VII)	(VIIc)	(VIII)
Cons.	-0.16	-4.53**	-3.46	-0.00	-9.02***	-16.49***	-7.10***
US Monetary policy							
FEDTRG _{t-1}	32.45**	41.05***	39.91**	-21.58	47.64*	165.50***	38.23
FIN _i ×FEDTRG _{t-1}	-17.22*	-20.18**	-13.75	.	.	.	.
LIQ _{i,t-1} ×FEDTRG _{t-1}	-8.20	-13.83	-3.11	-12.92	11.64	-54.46***	8.23
CAP _{i,t-1} ×FEDTRG _{t-1}	-2.28	-5.91	8.15	-9.54	20.53*	-4.20	0.57
SIZE _{i,t-1} ×FEDTRG _{t-1}	-4.33***	-4.84***	-5.78**	0.03	-4.18**	-13.25***	-3.44*
TFSALEP _i ×FEDTRG _{t-1}	8.70		14.32*	5.84	-19.48**		-24.80***
FORINC _i ×FEDTRG _{t-1}		6.71					
USSALEP _i ×FEDTRG _{t-1}						-29.39***	
FORASS _i ×FEDTRG _{t-1}				55.10**			-21.03
FOREMP _i ×FEDTRG _{t-1}				-34.25			42.43***
EMU Monetary policy							
ECBMRO _{t-1}	23.62	19.35	17.53	-15.55	45.76***	-66.19**	-31.97
FIN _i ×ECBMRO _{t-1}	18.11**	22.06***	17.06*	.	.	.	.
LIQ _{i,t-1} ×ECBMRO _{t-1}	32.58**	36.84**	43.15**	78.66***		111.66***	15.79
CAP _{i,t-1} ×ECBMRO _{t-1}	18.09	28.61*	9.24	24.98		87.46***	49.64**
SIZE _{i,t-1} ×ECBMRO _{t-1}	0.79	0.48	1.15	4.03		7.64***	6.26***
TFSALEP _i ×ECBMRO _{t-1}	-28.84***			-38.93***		-59.07***	-19.60
FORINC _i ×ECBMRO _{t-1}		-22.00***					
EURSALEP _i ×ECBMRO _{t-1}			-48.10***				
FORASS _i ×ECBMRO _{t-1}				-64.59			32.98*
FOREMP _i ×ECBMRO _{t-1}				59.97*			-28.03**
Controls							
Macro controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	8064	8106	3766	1389	2557	1185	2557
R ² -Adj	0.7958	0.7914	0.8127	0.7851	0.8331	0.8821	0.8431

Panel regressions for the cumulative risk neutral default probabilities. Here, *i* stands for firm, and *t* stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for p<.10, ** for p<.05, and *** for p<.01.

Table 6: Panel regression for 5-year implied default probabilities on target interest rates

<i>Dependent variable</i> <i>Monetary region</i>	<i>logit (Q_{it}(5Y))</i>	
	US	EMU
Cons.	-0.07	-8.40***
US Monetary policy		
FEDTRG _{t-1}	31.74**	3.92
FIN _i ×FEDTRG _{t-1}	0.55	.
LIQ _{i,t-1} ×FEDTRG _{t-1}	-8.64	18.16
CAP _{i,t-1} ×FEDTRG _{t-1}	-5.81	15.30
SIZE _{i,t-1} ×FEDTRG _{t-1}	-3.91***	-0.67
TFSALEP _i ×FEDTRG _{t-1}	-2.38	-30.56***
FORASS _i ×FEDTRG _{t-1}		-22.60
FOREMP _i ×FEDTRG _{t-1}		46.90***
EMU Monetary policy		
ECBMRO _{t-1}	0.49	-23.47
FIN _i ×ECBMRO _{t-1}	27.94**	.
LIQ _{i,t-1} ×ECBMRO _{t-1}	34.16**	44.85
CAP _{i,t-1} ×ECBMRO _{t-1}	39.22**	44.89
SIZE _{i,t-1} ×ECBMRO _{t-1}	2.47	6.34
TFSALEP _i ×ECBMRO _{t-1}	-30.17***	-71.50***
FORASS _i ×ECBMRO _{t-1}		29.41
FOREMP _i ×ECBMRO _{t-1}		6.68
US growth		
GDPG-US _{t-1}	-21.89*	.
FIN _i ×GDPG-US _{t-1}	-11.62**	.
LIQ _{i,t-1} ×GDPG-US _{t-1}	0.93	0.74
CAP _{i,t-1} ×GDPG-US _{t-1}	11.94	-15.48
SIZE _{i,t-1} ×GDPG-US _{t-1}	0.37	-2.52
TFSALEP _i ×GDPG-US _{t-1}	9.13	-15.16*
FORASS _i ×GDPG-US _{t-1}		3.07
FOREMP _i ×GDPG-US _{t-1}		8.29
EMU growth		
GDPG-EMU _{t-1}	15.36	.
FIN _i ×GDPG-EMU _{t-1}	-11.50	.
LIQ _{i,t-1} ×GDPG-EMU _{t-1}	-1.79	-35.73*
CAP _{i,t-1} ×GDPG-EMU _{t-1}	-16.31*	-3.92
SIZE _{i,t-1} ×GDPG-EMU _{t-1}	-1.72	-0.58
TFSALEP _i ×GDPG-EMU _{t-1}	2.86	45.03***
FORASS _i ×GDPG-EMU _{t-1}		5.69
FOREMP _i ×GDPG-EMU _{t-1}		-29.98***
Controls		
Macro controls	Yes	Yes
Firm controls	Yes	Yes
Firm dummy	Yes	Yes
FIN dummy	Yes	Yes
Obs. (Firm-month)	8064	2557
R ² -Adj	0.8069	0.8482

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 7: Panel regression for cumulative default probabilities on target interest rates, US firms

Dependent variable Model	$\text{logit}(Q_{it}(T))$						$\text{logit}(EDF_{it}(T))$									
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)	(XII)	(XIII)	(XIV)	(XV)	(XVI)
6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	15Y	20Y	30Y	1Y	2Y	3Y	4Y	5Y	
Cons.	-3.32*	-2.01	-1.20	-0.73	1.81	0.56	1.09	0.96	1.53	3.15	0.23	-0.09	-0.37	-0.51	-0.70	
US Monetary policy																
FEDTRG _{t-1}	35.56**	25.63*	32.80**	35.98**	34.48*	23.32*	14.41	5.23	-1.55	-15.71	1.91	4.22	6.28	7.02	7.90	
FIN×FEDTRG _{t-1}	-17.85*	-14.66	-15.36*	-14.28	-27.97**	-17.22*	-19.75**	-24.89**	-27.61**	-36.47**	-17.88*	-18.47*	-17.18*	-16.65*	-16.10*	
LIQ _{t-1} ×FEDTRG _{t-1}	-5.50	-10.27	-12.05	-10.01	-2.11	-8.20	-3.67	-2.65	1.19	9.22	-17.11	-13.80	-13.47	-14.75	-14.95	
CAP _{t-1} ×FEDTRG _{t-1}	-3.65	-4.20	-6.60	-4.23	6.81	1.80	4.26	11.61	14.73	19.21	-16.18	-18.24	-18.58	-17.67	-16.97	
SIZE _{t-1} ×FEDTRG _{t-1}	-4.90**	-4.33**	-4.67**	-4.96**	-5.79**	-4.33**	-3.49**	-2.12	-1.63	-0.55	-1.35	-1.66	-1.84	-1.88	-1.90	
TFSALEP _t ×FEDTRG _{t-1}	24.20**	20.83**	17.02**	14.88**	19.05**	8.70	7.07	9.81	11.49	12.35	13.70	13.56*	13.55*	14.41*	14.57**	
EMU Monetary policy																
ECBMRG _{t-1}	31.91	30.21*	24.59	21.50	9.71	23.62	34.16**	50.41**	91.25**	116.70**	50.23**	50.74**	51.60**	50.96**	48.06**	
FIN×ECBMRG _{t-1}	42.41**	25.61**	23.33**	19.73**	18.11**	16.25**	16.39**	18.12**	23.16*	34.79*	9.59	11.14	9.76	9.12	8.48	
LIQ _{t-1} ×ECBMRG _{t-1}	23.98	42.72**	39.13**	34.98**	8.61	32.58**	28.06**	21.47*	12.57	-2.90	35.25**	28.06*	26.16*	27.64*	27.70*	
CAP _{t-1} ×ECBMRG _{t-1}	26.75*	22.38	24.87*	21.43	3.77	18.09	10.53	4.64	-6.85	-14.11	20.74	21.08	20.41	20.33	21.00	
SIZE _{t-1} ×ECBMRG _{t-1}	1.96	1.64	1.46	1.56	1.78	0.79	-0.76	-1.97	-3.05	-3.62	-0.86	-0.78	-0.88	-0.97	-0.92	
TFSALEP _t ×ECBMRG _{t-1}	-44.74**	-46.29**	-39.15**	-37.07**	-24.01**	-28.84**	-28.84**	-32.78**	-28.50**	-32.28**	-17.94	-17.72	-17.98	-18.87	-19.16*	
Macro controls																
USD/EUR _{t-1}	-1.62**	-1.46**	-1.05**	-0.88**	-2.52**	-0.56**	-0.49**	-0.44**	-0.42*	-0.35	-1.76**	-1.79**	-1.77**	-1.72**	-1.62**	
GDPG-US _{t-1}	-17.60**	-15.09**	-14.21**	-13.45**	2.75	-12.58**	-10.93**	-10.09**	-11.67**	-14.31**	-8.17**	-7.43**	-6.85**	-6.49**	-6.20**	
GDPG-EMU _{t-1}	-11.53*	-10.82**	-8.83**	-7.81*	-0.31	-6.68*	-5.91	-7.63**	-7.90*	-6.63	-25.83**	-26.27**	-26.43**	-25.86**	-24.65**	
Inflation-US _{t-1}	-3.82	-0.57	-0.34	0.02	8.22	0.56	0.90	0.32	-3.28	0.34	13.60**	13.58**	13.36**	13.11**	12.45**	
Inflation-EMU _{t-1}	48.17**	32.61**	31.59**	28.78**	-7.93	24.53**	18.64*	16.10*	26.68**	27.20**	-14.78	-13.88	-12.68	-12.33	-11.27	
10-year rate-US _{t-1}	-43.26**	-38.78**	-29.02**	-24.55**	-66.32**	-13.96	-7.49	-1.19	0.44	1.39	-46.64**	-45.72**	-44.71**	-43.85**	-41.95**	
10-year rate-EMU _{t-1}	23.39	15.14	4.50	0.11	69.62**	-8.54	-14.19	-18.50	-21.22*	-24.76*	55.45**	55.74**	54.97**	54.06**	51.53**	
TERM-US _{t-1}	-0.74	-0.65	-6.78	-9.72	23.77	-16.43	-17.82*	-24.23**	-41.32**	-46.82**	-57.71**	-57.19**	-55.37**	-52.79**	-49.60**	
TERM-EMU _{t-1}	73.02**	41.88**	41.06**	34.61**	33.08	30.58**	25.51*	31.12**	58.59**	86.21**	91.24**	91.52**	90.22**	86.75**	82.41**	
Firm controls																
LIQ _{t-1}	-2.89**	-3.35**	-3.07**	-2.87**	-1.84**	-2.59**	-2.39**	-2.31**	-2.30**	-2.37**	-4.12**	-3.81**	-3.66**	-3.55**	-3.40**	
CAP _{t-1}	-3.80**	-3.57**	-3.74**	-3.44**	-3.60**	-3.28**	-3.05**	-3.10**	-3.45**	-3.81**	-4.26**	-4.24**	-4.12**	-3.96**	-3.80**	
SIZE _{t-1}	0.24	0.25	0.24	0.24	0.12	0.24	0.20	0.29	0.36*	0.25	-0.14	-0.10	-0.08	-0.07	-0.06	
TFSALEP _t	-5.75**	-5.91**	-5.98**	-5.99**	-4.16**	-6.26**	-6.20**	-6.51**	-9.73**	-10.39**	-2.34**	-2.27**	-2.09**	-1.91**	-1.71**	
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	6698	7958	7834	7999	4393	8064	7975	7819	7343	7269	6670	9937	9937	9937	9937	9937
R ² -Adj	0.8202	0.8218	0.8159	0.8126	0.8776	0.7958	0.7784	0.7581	0.7526	0.7618	0.7691	0.7943	0.7959	0.7968	0.7969	0.7969

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US constituents of the CDX index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 8: Panel regression for cumulative default probabilities on target interest rates, EMU firms

Dependent variable	logit($Q_{it}(T)$)						logit($EDF_{it}(T)$)									
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)	(XII)	(XIII)	(XIV)	(XV)	(XVI)
Model	6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	15Y	20Y	30Y	1Y	2Y	3Y	4Y	5Y
Cons.	-9.93***	-9.06***	-8.26***	-7.94***	-5.81*	-7.10***	-8.02***	-7.54***	-7.23***	-6.56**	-4.83*	-1.47	-1.56	-1.74	-2.12	-2.31
FEDTRG _{t-1}	-4.30	-13.67	12.36	26.62	61.02*	38.23	36.34	34.50	28.47	38.63	38.55	-24.12	-25.73	-26.94	-31.55	-30.65
FIN _t ×FEDTRG _{t-1}																
LIQ _{t-1} ×FEDTRG _{t-1}	8.38	14.50*	9.63	9.56	-12.04	8.23	6.97	7.34	9.08	10.79	11.34	15.62	15.43	13.74	11.65	10.39
CAP _{t-1} ×FEDTRG _{t-1}	17.47	9.77	3.59	0.86	-4.88	0.57	0.14	-0.60	-0.85	-4.61	-3.92	28.05	22.77	19.95	18.62	17.53
SIZE _{t-1} ×FEDTRG _{t-1}	0.50	0.53	-1.52	-2.59	-4.84*	-3.44*	-3.29*	-3.16	-2.69	-3.38	-3.62	-0.86	-0.77	-0.63	-0.23	-0.19
TFSALEP _t ×FEDTRG _{t-1}	-28.57***	-25.81***	-24.18**	-24.29***	-30.40***	-22.35**	-23.74***	-27.08***	-25.95**	-31.68***	-31.68***	7.25	10.93	12.90	13.28	13.49
FORASS _t ×FEDTRG _{t-1}	-19.38	-21.89	-22.58	-20.12	-6.60	-21.03	-21.27	-17.47	-10.88	-12.33	-4.80	-46.95*	-47.44*	-45.98*	-42.29*	-39.44
FOREMP _t ×FEDTRG _{t-1}	36.80***	44.04***	43.56***	41.86***	39.74***	42.43***	42.19***	40.38***	38.10***	35.66***	37.07***	53.59**	51.21**	47.53**	44.55**	40.19**
EMU Monetary policy																
ECBMRO _{t-1}	-7.93	-5.44	-25.19	-31.32	-29.65	-31.97	-19.02	-6.12	10.80	4.49	-2.30	105.83	114.56	117.74	125.27	122.07
FIN _t ×ECBMRO _{t-1}																
LIQ _{t-1} ×ECBMRO _{t-1}	2.14	2.83	13.31	14.68	4.83	15.79	16.66	16.04	13.47	12.16	3.49	4.48	2.71	3.87	3.09	2.79
CAP _{t-1} ×ECBMRO _{t-1}	38.71**	53.95**	54.46***	55.27***	14.79	49.64**	45.69**	44.74**	43.98**	49.07**	43.14*	11.71	14.34	16.02	16.06	15.18
SIZE _{t-1} ×ECBMRO _{t-1}	6.01**	6.04**	6.70**	6.85**	4.62**	6.26**	5.06**	4.00*	3.24	3.96*	4.80***	-8.82	-9.11	-9.21	-9.67	-9.35
TFSALEP _t ×ECBMRO _{t-1}	5.16	-18.12	-23.73	-25.75	0.46	-19.60	-17.90	-13.65	-12.35	-16.73	-9.74	-26.08	-28.39	-29.07	-27.43	-26.53
FORASS _t ×ECBMRO _{t-1}	29.17	33.97	37.35	27.49	32.98*	27.03	27.03	18.79	12.82	15.04	16.77	67.29	62.93	60.43	54.50	50.62
FOREMP _t ×ECBMRO _{t-1}	-39.62*	-34.25**	-30.66**	-29.60**	-32.69**	-28.03**	-24.60**	-20.92*	-19.56	-17.58	-26.22*	-86.40**	-83.05**	-83.55**	-83.05**	-78.79**
Macro controls																
USD/EUR _{t-1}	-1.46**	-1.88**	-1.61***	-1.39***	-3.32***	-1.10***	-1.05***	-0.96***	-0.98**	-1.10***	-1.16***	-2.74***	-2.80***	-2.78***	-2.69***	-2.55***
GDPG-US _{t-1}	-16.66***	-15.97***	-13.91***	-11.89***	0.27	-8.79***	-6.75***	-4.44***	-3.81**	-3.91**	-6.59***	2.23	2.60	2.91	3.10	3.13
GDPG-EMU _{t-1}	-17.64**	-12.52*	-10.58*	-11.34**	-13.80*	-12.39***	-13.34**	-14.78***	-15.89***	-16.44***	-10.29***	-3.28	-5.01	-5.79	-5.73	-5.68
Inflation-US _{t-1}	-21.88**	-13.38	-9.86	-8.27	-8.36	-5.67	-4.69	-3.87	-4.52	-4.57	-0.31	20.49***	20.49***	20.14***	19.64***	18.80***
Inflation-EMU _{t-1}	93.60***	65.53***	54.59***	49.18***	37.52*	40.54***	35.85***	30.57***	29.58***	29.28***	19.41*	-35.52***	-34.59***	-33.94***	-33.40***	-32.06***
10-year rate-US _{t-1}	-38.90*	-36.60**	-25.78*	-22.65*	-77.69***	-14.29	-7.23	-1.57	1.13	0.63	-1.98	-46.84***	-45.54***	-44.07***	-42.63***	-40.95***
10-year rate-EMU _{t-1}	-19.03	-13.43	-17.95	-16.24	64.62***	-16.16	-19.52*	-20.40**	-21.19**	-21.01**	-23.18**	46.95***	45.82***	44.34***	42.56***	40.58***
TERM-US _{t-1}	-13.77	-3.41	-0.40	-0.86	31.69	-2.18	-5.30	-8.51	-9.50	-8.62	-4.03	15.37	12.55	11.25	10.60	9.59
TERM-EMU _{t-1}	123.36***	91.77***	74.72***	66.39***	32.28	54.13***	49.52***	46.58***	47.47***	46.73***	44.42***	-4.51	-1.75	-0.62	-0.77	-0.83
Fin controls																
LIQ _{t-1}	-0.72	-1.02*	-1.19**	-1.21**	0.95	-1.17**	-1.16**	-1.12**	-1.03**	-1.02*	-0.53	-3.07	-2.89	-2.77*	-2.60*	-2.43*
CAP _{t-1}	-2.94***	-3.07***	-2.88***	-2.80***	-1.20	-2.55***	-2.37***	-2.30***	-2.40***	-2.48***	-2.30**	-4.63**	-4.31**	-4.06**	-3.86**	-3.59**
SIZE _{t-1}	0.56**	0.64***	0.63***	0.63***	0.47*	0.58***	0.56***	0.55***	0.56***	0.55**	0.60**	0.02	0.03	0.05	0.08	0.09
TFSALEP _t																
FORASS _t																
FOREMP _t																
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	2307	2552	2552	2550	1631	2557	2551	2545	2538	2506	2388	3807	3807	3807	3807	3807
R ² -Adj	0.8752	0.8810	0.8748	0.8649	0.8985	0.8431	0.8220	0.7996	0.7745	0.7689	0.7529	0.6820	0.6945	0.7025	0.7068	0.7096

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 72 EMU constituents of the iTraxx index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 9: Panel regression for cumulative default probabilities on effective interest rates, US firms

Dependent variable Model	$\logit(Q_{it}(T))$						$\logit(EDF_{it}(T))$									
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)	(XII)	(XIII)	(XIV)	(XV)	(XVI)
	6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	15Y	20Y	30Y	1Y	2Y	3Y	4Y	5Y
Cons.	-2.86	-1.50	-0.69	-0.22	2.31	0.38	1.16	1.81	1.89	2.59	4.56**	0.77	0.44	0.14	-0.02	-0.25
US Monetary policy																
FEDON _{t-1}	34.08**	24.66*	30.60**	34.60**	31.26*	30.85**	21.48	13.40	4.01	-3.51	-16.98	16.52	18.75	20.34	20.52	20.66
FIN×FEDON _{t-1}	-15.71*	-12.68	-13.66	-12.64	-27.66**	-15.66*	-18.02**	-20.46**	-23.07**	-26.07**	-34.57**	-15.25	-16.06*	-14.93*	-14.55	-14.14
LIQ _{t-1} ×FEDON _{t-1}	-7.09	-11.75	-13.21	-11.52	-2.86	-9.53	-6.68	-4.83	-3.76	-0.20	8.15	-19.01*	-15.67	-15.21	-16.39	-16.47*
CAP _{t-1} ×FEDON _{t-1}	-4.73	-5.01	-7.92	-5.34	6.59	-3.56	3.19	10.45	13.41	13.41	17.46	-18.20	-19.98	-20.08	-19.01	-18.15
SIZE _{t-1} ×FEDON _{t-1}	-4.82***	-4.30***	-4.59***	-4.96***	-5.73***	-4.32***	-3.48***	-2.78**	-2.04	-1.51	-0.53	-1.73	-2.02	-2.17	-2.21	-2.21*
TFSALEP _t ×FEDON _{t-1}	23.76***	19.84***	16.12**	14.03**	19.74**	7.92	6.66	7.36	9.51	11.14	12.14	11.36	11.29	11.32	12.23*	12.52*
EMU Monetary policy																
EONIA _{t-1}	14.52	18.00	12.81	9.31	-12.54	10.92	19.18	29.03*	44.22**	55.38**	66.14**	18.34	19.49	21.41	21.97	20.82
FIN×EONIA _{t-1}	26.60**	14.53*	13.28*	10.40	15.05**	9.47	7.52	7.24	8.76	13.86	22.61	1.41	3.25	2.48	2.36	2.21
LIQ _{t-1} ×EONIA _{t-1}	22.69*	37.17***	33.92***	30.89***	7.47	28.77***	24.68**	22.79**	20.35**	12.91	0.65	34.06**	27.70**	25.81*	26.99**	26.84**
CAP _{t-1} ×EONIA _{t-1}	25.22**	21.92*	24.89**	21.83*	3.26	19.57*	13.14	10.83	7.27	-0.36	-5.21	25.55*	24.99	23.69	23.00	23.06*
SIZE _{t-1} ×EONIA _{t-1}	1.09	0.81	0.74	0.99	1.47	0.38	-0.22	-0.70	-1.73	-2.72	-2.96	0.27	0.31	0.19	0.09	0.08
TFSALEP _t ×EONIA _{t-1}	-34.56***	-34.40***	-28.63***	-27.30***	-20.70***	-20.47***	-21.09***	-24.16***	-23.39***	-19.92***	-24.10***	-8.13	-8.06	-8.42	-9.46	-10.14
Macro controls																
USD/EUR _{t-1}	-1.69***	-1.58***	-1.17***	-1.00***	-2.44***	-0.68***	-0.61***	-0.56***	-0.46**	-0.55**	-0.49*	-1.84***	-1.87***	-1.85***	-1.78***	-1.68***
GDPG-US _{t-1}	-2.188***	-19.16***	-17.93***	-16.88***	-0.47	-15.77***	-14.12***	-12.78***	-14.97***	-16.81***	-20.74***	-11.82***	-11.04***	-10.36***	-9.86***	-9.38***
GDPG-EMU _{t-1}	-3.67	-5.48	-3.47	-2.85	11.63*	-1.86	-1.02	-2.04	2.06	1.09	6.17	-24.98***	-25.52***	-25.81***	-25.34***	-24.20***
Inflation-US _{t-1}	1.39	5.51	5.69	5.79	14.71**	6.18	6.50	6.12	3.21	4.34	8.50	14.77**	14.62**	14.27**	13.93**	13.18**
Inflation-EMU _{t-1}	39.87**	23.98*	22.41*	19.99*	-20.58	15.96	10.12	7.84	17.63	17.74	15.23	-10.43	-9.27	-8.05	-7.84	-6.98
10-year rate-US _{t-1}	-45.61***	-42.98***	-32.55***	-28.09***	-17.40*	-10.89	-10.89	-5.44	-5.58	-4.80	-2.89	-55.06***	-54.06***	-52.65***	-51.35***	-48.99***
10-year rate-EMU _{t-1}	26.74	22.85	11.49	7.00	59.32***	-1.71	-7.36	-10.74	-6.99	-12.18	-17.53	63.70***	63.78***	62.48***	61.06***	58.04***
TERM-US _{t-1}	11.24	4.01	-2.71	-6.26	46.16**	-13.44	-14.83	-19.46*	-31.64***	-28.45**	-28.68**	-48.01***	-47.32***	-45.72***	-43.53***	-40.82***
TERM-EMU _{t-1}	42.95**	21.19	20.55	15.46	-4.61	12.39	7.13	10.32	27.05*	26.55*	39.37**	83.69***	84.22***	83.39***	80.33***	76.42***
Firm controls																
LIQ _{t-1}	-2.77***	-3.14***	-2.88***	-2.70***	-1.78***	-2.43***	-2.25***	-2.20***	-2.24***	-2.28***	-2.39***	-3.99***	-3.71***	-3.56***	-3.45***	-3.30***
CAP _{t-1}	-3.75***	-3.56***	-3.72***	-3.44***	-3.60***	-3.31***	-3.10***	-3.16***	-3.52***	-3.56***	-3.99***	-4.39***	-4.35***	-4.21***	-4.04***	-3.86***
SIZE _{t-1}	0.30	0.28	0.27	0.26	0.13	0.26	0.22	0.21	0.30	0.36*	0.25	-0.16	-0.12	-0.10	-0.09	-0.08
TFSALEP _t	-6.42***	-6.30***	-6.34***	-6.31***	-4.31***	-6.52***	-6.45***	-6.82***	-8.52***	-10.09***	-10.92***	-2.49***	-2.43***	-2.25***	-2.07***	-1.86***
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	6698	7958	7834	7999	4393	8064	7975	7819	7343	7269	6670	9937	9937	9937	9937	9937
R ² -Adj	0.8164	0.8193	0.8138	0.8108	0.8774	0.7943	0.7769	0.7554	0.7480	0.7571	0.7627	0.7900	0.7924	0.7940	0.7950	0.7951

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US constituents of the CDX index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 10: Panel regression for cumulative default probabilities on effective interest rates, EMU firms

Dependent variable Model	$\text{logit}(Q_{it}(T))$						$\text{logit}(EDF_{it}(T))$									
	(I) 6M	(II) 1Y	(III) 2Y	(IV) 3Y	(V) 4Y	(VI) 5Y	(VII) 7Y	(VIII) 10Y	(IX) 15Y	(X) 20Y	(XI) 30Y	(XII) 1Y	(XIII) 2Y	(XIV) 3Y	(XV) 4Y	(XVI) 5Y
Cons.	-10.82***	-9.76***	-8.99***	-8.68***	-5.52*	-7.83***	-8.75***	-8.24***	-7.91***	-7.28***	-5.51**	-1.14	-1.21	-1.39	-1.75	-1.95
US Monetary policy																
FEDON _{t-1}	-11.58	-20.49	6.66	20.74	55.74	33.97	33.39	32.93	27.13	38.10	38.32	-23.72	-25.95	-27.49	-31.89	-31.12
FIN×FEDON _{t-1}																
LIQ _{t-1} ×FEDON _{t-1}	8.62	15.40*	10.67	10.50	-11.45	9.19	8.02	8.61	10.36	11.87	13.05	13.81	13.82	12.23	10.23	9.02
CAP _{t-1} ×FEDON _{t-1}	16.21	7.80	2.00	-0.57	-5.81	-0.48	-0.60	-1.20	-1.50	-5.90	-5.14	25.26	20.29	17.66	16.47	15.54
SIZE _{t-1} ×FEDON _{t-1}	0.21	0.57	-1.49	-2.53	-4.94*	-3.40*	-3.29*	-2.73	-3.46	-3.85	-3.85	-0.51	-0.35	-0.18	0.20	0.23
TFSALEP _t ×FEDON _{t-1}	-28.14***	-25.27**	-23.48**	-23.27**	-30.32***	-24.03***	-21.78**	-23.32**	-26.77***	-25.25**	-31.34***	9.38	12.65	14.29	14.43	14.47
FORASS _t ×FEDON _{t-1}	-22.10	-24.33	-24.92*	-22.51*	-8.62	-23.24*	-23.37*	-19.37	-13.04	-14.95	-5.99	-48.70*	-48.23*	-46.35*	-42.57*	-39.59
FOREMP _t ×FEDON _{t-1}	37.76***	46.01***	44.99***	43.05***	41.35***	43.47***	43.07***	41.21***	39.08***	36.70***	37.12***	52.74**	50.06**	46.43**	43.57**	39.29**
EMU Monetary policy																
EONIA _{t-1}	-22.32	-7.64	-22.73	-26.91	-36.64	-27.37	-17.11	-7.29	4.35	-2.52	-11.22	96.70	106.67	110.83	117.21	114.56
FIN×EONIA _{t-1}																
LIQ _{t-1} ×EONIA _{t-1}	-0.25	-2.78	5.78	6.67	1.34	8.22	9.03	8.01	5.66	5.11	-3.69	-0.15	-2.18	-1.14	-1.59	-1.49
CAP _{t-1} ×EONIA _{t-1}	26.47*	40.70**	40.72**	41.94**	9.99	37.07**	33.46**	32.48**	31.94*	37.63**	31.27*	17.15	18.67	19.52	19.10	17.82
SIZE _{t-1} ×EONIA _{t-1}	4.38	3.92	4.63	4.84*	3.97*	4.57*	3.75*	3.04	2.42	3.02	4.13**	-8.08	-8.53	-8.74	-9.14	-8.88
TFSALEP _t ×EONIA _{t-1}	5.38	-13.91	-19.46	-12.73	0.40	-16.78	-15.32	-11.72	-10.22	-14.62	-9.26	-27.41	-28.48	-28.22	-26.15	-24.98
FORASS _t ×EONIA _{t-1}	30.57	33.72	35.93*	35.32*	27.11*	32.13*	27.34*	20.40	15.70	17.95	19.06	66.64*	59.82*	55.80*	50.02	45.87
FOREMP _t ×EONIA _{t-1}	-36.20**	-34.23***	-29.50**	-27.75**	-29.17***	-26.11**	-22.95**	-19.58**	-18.63*	-16.75*	-22.36**	-76.32**	-73.84**	-72.75**	-71.46**	-67.56**
Macro controls																
USD/EUR _{t-1}	-1.41**	-1.97***	-1.68***	-1.45***	-3.64***	-1.14***	-1.07***	-0.98***	-1.00***	-1.12***	-1.19***	-2.70***	-2.76***	-2.74***	-2.66***	-2.53***
GDPG-US _{t-1}	-22.09***	-20.53***	-17.76***	-15.44***	0.35	-11.84***	-9.65***	-7.33***	-7.21***	-7.62***	-10.28***	3.33	3.53	3.73	3.87	3.84
GDPG-EMU _{t-1}	-2.08	-2.68	-2.38	-3.87	-5.47	-6.55	-8.34*	-10.34***	-10.65**	-10.54**	-4.10	-5.18	-6.84	-7.52	-7.37	-7.20
Inflation-US _{t-1}	-11.33	-6.01	-3.69	-2.64	-2.51	-1.37	-1.07	-0.79	-1.13	-1.06	4.06	18.12***	18.23***	18.00***	17.63***	16.97***
Inflation-EMU _{t-1}	70.29***	50.69***	42.08**	37.57**	19.97	31.77**	28.56**	24.64**	23.46**	23.17**	10.93	-31.04***	-30.00***	-29.39***	-29.03***	-28.01***
10-year rate-US _{t-1}	-28.22	-36.02**	-25.04**	-21.41**	-17.72***	-12.95	-5.64	-0.00	2.36	2.08	0.28	-45.60***	-44.68***	-43.48***	-42.17***	-40.59***
10-year rate-EMU _{t-1}	-27.74	-10.51	-15.79	-14.80	63.98***	-15.39	-19.29	-20.49*	-20.71*	-20.69*	-23.99*	43.41***	42.71***	41.61***	40.08***	38.35***
TERM-US _{t-1}	3.48	7.14	8.42	7.08	51.61***	4.31	0.55	-2.67	-2.24	-0.46	3.85	17.85*	15.46	14.36	13.74	12.60
TERM-EMU _{t-1}	70.95***	52.43***	41.86**	36.43**	2.49	30.82**	29.68**	29.00**	27.15**	25.11*	22.55*	-0.03	2.24	2.96	2.46	2.01
Firm controls																
LIQ _{t-1}	-0.79	-0.98*	-1.09**	-1.09**	1.02	-1.05**	-1.03**	-0.99**	-0.91*	-0.92*	-0.43	-2.79	-2.61	-2.50	-2.35	-2.20
CAP _{t-1}	-2.23**	-2.40**	-2.24***	-2.18***	-0.97	-2.00***	-1.83***	-1.76***	-1.85***	-1.92**	-1.74**	-4.83**	-4.49**	-4.22**	-4.01**	-3.73**
SIZE _{t-1}	0.73**	0.79***	0.76***	0.75***	0.51**	0.69***	0.66***	0.63***	0.65***	0.65***	0.69***	-0.03	-0.01	0.01	0.04	0.05
TFSALEP _t																
FORASS _t																
FOREMP _t																
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	2307	2552	2552	2550	1631	2557	2551	2545	2538	2506	2388	3807	3807	3807	3807	3807
R ² -Adj	0.8686	0.8755	0.8695	0.8590	0.8977	0.8370	0.8154	0.7924	0.7646	0.7586	0.7452	0.6808	0.6932	0.7011	0.7053	0.7081

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 72 EMU constituents of the iTraxx index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 11: Panel regression for cumulative default probabilities on Taylor residuals, US firms

Dependent variable Model	$\logit(Q_{it}(T))$						$\logit(EDF_{it}(T))$									
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)	(XII)	(XIII)	(XIV)	(XV)	(XVI)
6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	15Y	20Y	30Y	1Y	2Y	3Y	4Y	5Y	
Cons.	-2.09	-0.94	-0.07	0.41	2.99*	0.99	1.75	2.45**	2.62*	3.41**	5.15***	1.08	0.83	0.64	0.51	0.29
US Monetary policy																
TAYLOR-US _{t-1}	23.57	19.83	29.12**	35.94**	23.28	36.19***	29.31**	23.80**	15.34	9.17	-2.43	17.07	19.91	22.16	22.43	22.45
FIN×TAYLOR-US _{t-1}	5.32	-0.05	-0.87	-0.79	-9.06	-4.33	-6.44	-8.23	-8.35	-12.12	-16.65	-13.47	-14.20	-13.38	-13.62	-13.66
LIQ _{t-1} ×TAYLOR-US _{t-1}	2.17	-1.10	-4.69	-4.31	-0.40	-3.58	-1.35	-0.41	0.39	3.77	7.78	-14.89	-12.20	-12.13	-13.52	-13.66
CAP _{t-1} ×TAYLOR-US _{t-1}	-1.07	-7.28	-8.65	-6.46	4.61	-4.14	-0.85	1.01	7.96	6.71	5.44	-20.58	-22.11	-21.85	-20.13	-18.82
SIZE _{t-1} ×TAYLOR-US _{t-1}	-3.54**	-3.41**	-4.02**	-4.68**	-4.60***	-4.49***	-3.45***	-2.86**	-2.26	-2.26	-1.20	-2.56	-2.94*	-3.15**	-3.19**	-3.16**
TFSALEP _t ×TAYLOR-US _{t-1}	8.49	5.24	3.42	2.47	12.44**	-1.74	-2.78	-2.62	-0.65	0.53	1.80	5.81	5.88	6.13	7.69	8.42
EMU Monetary policy																
TAYLOR-EMU _{t-1}	41.24	-29.13	-35.83	-33.29	-73.96*	-24.71	-6.19	18.50	42.41	53.21	85.16	97.07***	92.56**	89.66**	88.04**	81.88**
FIN×TAYLOR-EMU _{t-1}	101.97**	65.88**	64.05**	60.29**	80.61**	61.32**	64.17**	68.43**	71.82**	69.56**	91.80*	53.64*	53.03*	48.35*	45.21	42.47
LIQ _{t-1} ×TAYLOR-EMU _{t-1}	18.23	42.07	40.26	32.63	2.42	30.36	24.50	18.91	8.90	-2.37	-24.43	22.97	11.45	9.82	13.91	16.70
CAP _{t-1} ×TAYLOR-EMU _{t-1}	33.35	24.30	25.89	20.98	5.32	14.73	2.68	-1.72	-11.13	-21.19	-29.26	-1.76	5.87	9.03	10.24	13.19
SIZE _{t-1} ×TAYLOR-EMU _{t-1}	9.94*	8.39**	8.17**	7.76**	10.40**	6.17*	4.58	2.92	2.05	1.65	0.73	-3.50	-3.12	-2.97	-3.03	-2.82
TFSALEP _t ×TAYLOR-EMU _{t-1}	-82.90***	-80.51***	-69.24***	-64.72***	-42.37**	-48.78***	-45.84***	-48.58***	-49.66**	-50.89**	-53.68**	-66.57***	-63.41***	-62.42***	-63.31***	-61.65***
Macro controls																
USD/EUR _{t-1}	-1.60***	-1.42***	-1.02***	-0.85***	-2.50***	-0.54**	-0.47**	-0.41**	-0.30	-0.40*	-0.33	-1.73***	-1.77***	-1.76***	-1.70***	-1.60***
GDPG-US _{t-1}	-20.62***	-20.08***	-18.61***	-17.61***	-3.13	-16.25***	-14.53***	-12.97***	-14.07***	-15.65***	-18.39***	-13.75***	-13.24***	-12.52***	-11.95***	-11.33***
GDPG-EMU _{t-1}	7.85	6.99	7.00	6.78*	8.63*	6.35*	6.88*	7.40**	9.02**	11.76***	18.07***	7.34*	-7.78*	-8.29*	-8.30**	-7.96**
Inflation-US _{t-1}	-6.05	-5.13	-4.39	-3.81	3.06	-2.80	-2.42	-3.23	-6.67	-5.96	-3.51	8.92	8.69	8.58	8.49	8.09
Inflation-EMU _{t-1}	57.13***	41.87***	39.67***	36.18***	-3.46	30.99***	25.16**	23.42**	35.47***	36.46***	40.20**	-6.87	-5.97	-4.91	-4.79	-4.09
10-year rate-US _{t-1}	-43.65***	-38.71***	-29.29***	-24.61**	-65.87***	-13.93	-7.61	-1.37	-0.83	0.19	0.50	-46.91***	-45.91***	-44.87***	-44.00***	-42.08***
10-year rate-EMU _{t-1}	22.93	14.78	4.49	-0.06	69.14***	-8.73	-14.17	-18.56	-15.74	-21.83*	-23.99*	55.97***	56.23***	55.45***	54.54***	51.97***
TERM-US _{t-1}	-0.12	-1.22	-7.12	-10.20	22.87	-16.83	-18.25*	-24.09**	-39.98***	-37.14***	-48.26***	-56.82***	-56.33***	-54.59***	-52.11***	-49.00***
TERM-EMU _{t-1}	72.76***	42.65**	41.64**	35.29**	34.44	31.21**	26.24*	30.65**	54.07***	55.76***	87.81***	90.71***	91.01***	89.81***	86.46***	82.20***
Firm controls																
LIQ _{t-1}	-2.39***	-2.48***	-2.35***	-2.21***	-1.73***	-1.95***	-1.81***	-1.75***	-1.85***	-1.98***	-2.24***	-3.59***	-3.39***	-3.28***	-3.17***	-3.03***
CAP _{t-1}	-3.10***	-3.02***	-3.17***	-2.94***	-3.28***	-2.83***	-2.72***	-2.78***	-3.00***	-3.17***	-3.70***	-4.01***	-4.05***	-3.96***	-3.78***	-3.58***
SIZE _{t-1}	0.11	0.15	0.12	0.13	0.01	0.13	0.09	0.16	0.21	0.21	0.11	-0.20	-0.17	-0.15	-0.14	-0.14
TFSALEP _t	-5.20***	-6.08***	-6.04***	-6.16***	-4.20***	-6.42***	-6.36***	-6.74***	-8.28***	-9.82***	-10.47***	-2.26***	-2.23***	-2.07***	-1.93***	-1.75***
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	6698	7958	7834	7999	4393	8064	7975	7819	7343	7269	6670	9937	9937	9937	9937	9937
R ² -Adj	0.8288	0.8248	0.8185	0.8145	0.8716	0.7960	0.7779	0.7567	0.7497	0.7580	0.7665	0.7948	0.7972	0.7987	0.7994	0.7991

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US constituents of the CDX index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 12: Panel regression for cumulative default probabilities on Taylor residuals, EMU firms

Dependent variable Model	logit($Q_{it}(T)$)						logit($EDF_{it}(T)$)									
	(I) 6M	(II) 1Y	(III) 2Y	(IV) 3Y	(V) 4Y	(VI) 5Y	(VII) 7Y	(VIII) 10Y	(IX) 15Y	(X) 20Y	(XI) 30Y	(XII) 1Y	(XIII) 2Y	(XIV) 3Y	(XV) 4Y	(XVI) 5Y
Cons.	-12.11***	-11.45***	-10.26***	-9.65***	-4.74	-8.41***	-9.00***	-8.21***	-7.80***	-7.21***	-5.34**	0.80	0.89	0.79	0.47	0.23
US Monetary policy																
TAYLOR-US _{t-1}	-58.41**	-67.92**	-39.30	-21.02	30.59	0.37	6.77	10.25	1.58	6.62	11.23	14.86	9.05	3.91	-1.91	-3.29
FIN×TAYLOR-US _{t-1}	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LIQ _{t-1} ×TAYLOR-US _{t-1}	3.86	11.91	9.17	9.81	-4.16	9.16	9.11	10.35	10.90	10.30	10.19	9.44	10.24	9.52	7.77	6.96
CAP _{t-1} ×TAYLOR-US _{t-1}	32.69***	24.93**	19.60*	17.37*	6.97	16.45*	15.75*	15.53*	14.92*	10.03	7.13	21.83	18.12	17.28	17.58	17.46
SIZE _{t-1} ×TAYLOR-US _{t-1}	5.20**	5.25**	2.83	1.39	-2.04	-0.33	-0.91	-1.27	-0.52	-0.74	-1.36	-3.66	-3.28	-2.86	-2.37	-2.16
TFSALEP×TAYLOR-US _{t-1}	-23.35***	-28.00***	-25.46***	-25.34***	-16.87*	-24.23***	-22.06***	-23.53***	-26.55***	-24.51***	-28.45***	21.08	23.57	24.10	23.09	22.25
FORASS×TAYLOR-US _{t-1}	-21.71*	-19.98	-19.60	-16.97	-29.09***	-19.81	-21.43	-18.82	-12.95	-14.28	-7.49	-54.15	-51.59	-47.15	-42.46	-38.45
FOREMP×TAYLOR-US _{t-1}	33.77***	43.98***	42.55***	40.06***	39.80***	40.12***	40.43***	39.43***	37.47***	35.24***	36.21***	37.14	33.61	28.79	25.61	21.22
EMU Monetary policy																
TAYLOR-EMU _{t-1}	-18.47	-34.44	-80.33	-92.86	-96.71	-96.11	-74.20	-57.58	-35.69	-28.47	-10.13	104.93	97.25	93.19	108.95	105.17
FIN×TAYLOR-EMU _{t-1}	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LIQ _{t-1} ×TAYLOR-EMU _{t-1}	7.15	2.84	19.03	23.26	20.73	25.13	27.96	29.33	22.81	18.73	6.60	-38.27	-36.03	-32.22	-30.42	-28.78
CAP _{t-1} ×TAYLOR-EMU _{t-1}	27.52	50.25	61.18*	65.33*	24.35	63.00*	60.89*	61.80*	56.06	56.42	49.80	-40.26	-26.55	-19.21	-17.26	-15.36
SIZE _{t-1} ×TAYLOR-EMU _{t-1}	7.11	8.89	11.61**	12.29**	10.62	11.96**	10.05*	8.57	7.71	7.51	6.45	-4.96	-4.37	-4.20	-5.45	-5.32
TFSALEP×TAYLOR-EMU _{t-1}	22.95	-6.68	-8.39	-9.55	40.69*	-1.99	-3.59	1.22	4.61	3.63	12.27	3.13	-7.63	-13.43	-14.26	-15.36
FORASS×TAYLOR-EMU _{t-1}	27.71	35.81	38.55	38.09	-0.29	32.08	26.29	16.75	3.26	-1.68	-5.58	41.03	51.82	54.94	47.93	44.85
FOREMP×TAYLOR-EMU _{t-1}	-57.47	-51.37*	-52.49*	-53.95*	-57.83**	-54.43*	-51.40*	-47.30*	-42.83	-40.34	-52.47	-120.35***	-116.68***	-112.90**	-104.65***	
Macro controls																
USD/EUR _{t-1}	-1.51**	-1.92***	-1.65***	-1.42***	-3.32***	-1.12***	-1.06***	-0.98***	-1.00***	-1.13***	-1.17***	-2.77***	-2.83***	-2.81***	-2.72***	-2.58***
GDPG-US _{t-1}	-17.16***	-18.25***	-15.89***	-13.13***	1.20	-9.61***	-7.39***	-5.12**	-4.43*	-4.52	-7.26***	-3.00	-3.11	-3.07	-2.99	-2.92
GDPG-EMU _{t-1}	6.85	11.47*	9.95*	7.55	-4.66	4.20	2.64	1.42	2.36	2.87	8.75**	-6.92*	-7.83*	-8.16**	-7.91**	-7.65**
Inflation-US _{t-1}	-22.24**	-15.50**	-11.83*	-9.57	-7.52	-6.71	-5.57	-4.75	-5.32	-5.39	-1.37	16.18***	15.75***	15.17***	14.58***	13.78***
Inflation-EMU _{t-1}	106.73***	78.67***	59.97***	41.73**	50.23***	50.23***	45.09**	39.73***	39.60***	40.01***	29.82***	-38.02***	-36.52***	-35.50***	-34.81***	-33.29***
10-year rate-US _{t-1}	-39.51*	-37.47**	-26.59*	-23.46*	-77.74***	-14.94	-7.75	-2.06	0.62	0.39	-1.81	-48.46***	-47.13***	-45.58***	-43.99***	-42.23***
10-year rate-EMU _{t-1}	-19.67	-13.52	-17.88	-16.16	64.63***	-15.95	-19.26*	-20.09**	-20.89**	-20.84**	-23.49**	48.89***	47.66***	46.06***	44.12***	42.03***
TERM-US _{t-1}	-13.67	-3.60	-0.98	-1.56	32.23	-3.12	-6.28	-9.48	-10.42	-9.74	-4.86	15.06	12.14	10.86	10.29	9.30
TERM-EMU _{t-1}	122.50***	91.18***	74.65***	66.59***	31.47	54.66***	50.19***	47.34***	47.96***	47.53***	44.96***	-3.83	-1.05	-0.02	-0.28	-0.41
Firm controls																
LIQ _{t-1}	-0.31	-0.45	-0.43	-0.41	0.42	-0.36	-0.32	-0.28	-0.23	-0.20	-0.03	-2.28*	-2.16*	-2.06*	-1.98*	-1.86**
CAP _{t-1}	-0.84	-0.84	-0.84	-0.83	-0.83	-0.80	-0.79	-0.79	-0.90	-0.91	-0.97	-3.20**	-2.98**	-2.77**	-2.62**	-2.43**
SIZE _{t-1}	0.77***	0.86***	0.80***	0.77***	0.41*	0.68***	0.63***	0.59***	0.60***	0.61***	0.64***	-0.23	-0.23	-0.21	-0.18	-0.16
TFSALEP _t	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FORASS _t	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FOREMP _t	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	2307	2552	2552	2550	1631	2557	2551	2545	2538	2506	2388	3807	3807	3807	3807	3807
R ² -Adj	0.8760	0.8815	0.8745	0.8637	0.8922	0.8408	0.8192	0.7962	0.7711	0.7647	0.7468	0.6784	0.6913	0.6994	0.7039	0.7068

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 72 EMU constituents of the iTraxx index. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 13: Panel regression for 5-year implied default probabilities on target interest rates at quarterly frequency.

Dependent variable	logit($Q_{it}(5Y)$)												
	US				EMU				US		EMU		
	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	
Monetary Region													
Model	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	
Estimation	OLS	OLS	FGLS	FGLS	OLS	OLS	FGLS	FGLS	A&B	A&B	A&B	A&B	
Cons.	-1.02	-3.73*	-5.44	-4.61***	-10.59***	-19.25***	-1.32	-14.98***	Cons.	-1.43***	-0.69	-2.66***	-8.66***
									logit($Q_{it-1}(5Y)$)	0.70***	0.75***	0.63***	0.52***
US Monetary policy									US Monetary policy				
FIN _{<i>i</i>} ×FEDTRG _{<i>t-1</i>}	-15.94*	-13.14	-10.18**	3.66	.	.	.	.	FIN _{<i>i</i>} ×FEDTRG _{<i>t</i>}	-3.95**	-2.62	.	.
LIQ _{<i>i,t-1</i>} ×FEDTRG _{<i>t-1</i>}	-6.23	3.31	-12.35***	-15.41*	7.50	-33.11	0.44	-31.88**	LIQ _{<i>i,t</i>} ×FEDTRG _{<i>t</i>}	0.68	-0.85	1.19	-2.72
CAP _{<i>i,t-1</i>} ×FEDTRG _{<i>t-1</i>}	-1.46	1.42	-7.75	-0.55	0.86	11.78	2.60	2.59	CAP _{<i>i,t</i>} ×FEDTRG _{<i>t</i>}	4.71	1.42	1.71	17.31**
SIZE _{<i>i,t-1</i>} ×FEDTRG _{<i>t-1</i>}	-4.63***	-5.19**	-2.70***	-5.50***	-3.15	-18.87***	0.33	-13.85***	SIZE _{<i>i,t</i>} ×FEDTRG _{<i>t</i>}	-2.22***	-2.04***	-0.81	-10.89***
TFSALEP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}	5.05	8.55	4.25	12.54**	-30.10***		-29.35***		TFSALEP _{<i>t</i>} ×FEDTRG _{<i>t</i>}	2.19	3.01	-14.77***	
USSALEP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}							-30.96**	-30.18***	USSALEP _{<i>t</i>} ×FEDTRG _{<i>t</i>}				-14.09**
FORASS _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}					-22.13	-45.34***	-13.43	-33.25**	FORASS _{<i>t</i>} ×FEDTRG _{<i>t</i>}			-7.58	-31.23***
FOREMP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}					45.82***	-4.28	46.40***	7.97	FOREMP _{<i>t</i>} ×FEDTRG _{<i>t</i>}			20.44***	-12.02
EMU Monetary policy									EMU Monetary policy				
FIN _{<i>i</i>} ×ECBMRO _{<i>t-1</i>}	26.44**	26.92	9.22	-13.84	.	.	.	.	FIN _{<i>i</i>} ×ECBMRO _{<i>t</i>}	7.40**	3.27	.	.
LIQ _{<i>i,t-1</i>} ×ECBMRO _{<i>t-1</i>}	31.66**	29.50	32.78***	51.81***	6.72	71.64*	-7.03	54.62*	LIQ _{<i>i,t</i>} ×ECBMRO _{<i>t</i>}	4.76	11.95	4.28	23.84
CAP _{<i>i,t-1</i>} ×ECBMRO _{<i>t-1</i>}	18.33	14.13	21.89***	13.44	50.86**	58.75	29.55**	58.82***	CAP _{<i>i,t</i>} ×ECBMRO _{<i>t</i>}	-2.92	-1.18	13.84	16.38
SIZE _{<i>i,t-1</i>} ×ECBMRO _{<i>t-1</i>}	1.89	2.21	-0.45	2.04	8.05***	17.37***	4.36*	10.55***	SIZE _{<i>i,t</i>} ×ECBMRO _{<i>t</i>}	2.22***	3.68***	3.86**	8.12***
TFSALEP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}	-26.91***		-18.05***		0.22	-43.51	23.00**	-17.00	TFSALEP _{<i>t</i>} ×ECBMRO _{<i>t</i>}	-8.45**		7.25	-20.12
EURSALEP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}		-49.78**		-47.68***					EURSALEP _{<i>t</i>} ×ECBMRO _{<i>t</i>}		-31.67***		
FORASS _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}					35.71*	64.00***	18.07	44.19*	FORASS _{<i>t</i>} ×ECBMRO _{<i>t</i>}			17.66*	36.83**
FOREMP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}					-40.56***	3.06	-42.72***	-23.91	FOREMP _{<i>t</i>} ×ECBMRO _{<i>t</i>}			-21.41**	3.91
Controls									Controls				
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm controls	Yes	Yes	Yes	Yes
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm dummy	No	No	No	No
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	FIN dummy	Yes	Yes	Yes	Yes
Quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarter dummy	Yes	Yes	Yes	Yes
Obs. (Firm-quarter)	2706	1262	2706	1262	858	398	858	398		2524	1178	790	364
R ² -Adj	0.8256	0.8521			0.8829	0.9136							
Wald χ^2			7347.47	3834.60			4805.00	2477.25		13257.93	6001.99	8441.29	4065.08
P-value			(0.00)	(0.00)			(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)

Panel regressions for the 5-year cumulative risk neutral default probability. Here, i stands for firm, and t stands for time. In the OLS estimation, the significance is tested using clustered standard errors by firm and by quarter to account for possible correlation of the residuals across firms or across time. The Feasible Generalized Least Squares (FGLS) estimation allows residuals to be heteroscedastic across firms and assumes a firm-specific AR(1) error structure. The Arellano and Bond (1991) dynamic model (A&B) is estimated by treating the firm characteristics and their interactions with the domestic monetary policy as endogenous. We use up to four lags to instrument for the endogenous variables. The sample consists of quarterly observations for US and EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 14: Panel regression for 5-year implied default probabilities on Taylor residuals at quarterly frequency.

Dependent variable	<i>logit(Q_{it}(5Y))</i>															
	US				EMU				US				EMU			
	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	(III)	(IIIb)		
Model	OLS	OLS	FGLS	FGLS	OLS	OLS	FGLS	FGLS	A&B	A&B	A&B	A&B	A&B	A&B		
Estimation	OLS	OLS	FGLS	FGLS	OLS	OLS	FGLS	FGLS	A&B	A&B	A&B	A&B	A&B	A&B		
Cons.	-0.28	-3.43*	-4.58	-4.36***	-10.27***	-16.85***	-2.72	-14.16***	Cons.	-1.59***	-0.70	-2.24***	-6.44***			
									<i>logit(Q_{it-1}(5Y))</i>	0.69***	0.72***	0.63***	0.53***			
US Monetary policy									US Monetary policy							
FIN _{i,t} ×TAYLOR-US _{t-1}	-5.03	-0.64	0.57	10.73	.	.	.	.	FIN _{i,t} ×TAYLOR-US _t	-2.01	0.71	.	.
LIQ _{i,t-1} ×TAYLOR-US _{t-1}	-1.71	1.54	-3.00	-11.60	11.93	-31.58**	8.33	-13.54	LIQ _{i,t} ×TAYLOR-US _t	0.06	-3.54	3.10	-10.20			
CAP _{i,t-1} ×TAYLOR-US _{t-1}	0.49	2.78	-7.46	-3.82	15.01*	16.00	9.13	9.31	CAP _{i,t} ×TAYLOR-US _t	3.49	3.55	8.94	10.60			
SIZE _{i,t-1} ×TAYLOR-US _{t-1}	-4.38***	-4.57**	-2.44***	-3.72***	-1.41	-15.58***	-0.04	-11.29***	SIZE _{i,t} ×TAYLOR-US _t	-1.90***	-1.90**	-0.14	-5.67***			
TFSALEP _{i,t} ×TAYLOR-US _{t-1}	-2.84	-9.00	1.40	-2.38	-36.04***		-36.16***		TFSALEP _{i,t} ×TAYLOR-US _t	1.19	-2.76	-12.35**				
USSALEP _{i,t} ×TAYLOR-US _{t-1}						-53.40***		-56.46***	USSALEP _{i,t} ×TAYLOR-US _t				-19.44***			
FORASS _{i,t} ×TAYLOR-US _{t-1}					-20.87	-32.66***	-6.57	-22.60*	FORASS _{i,t} ×TAYLOR-US _t			-5.70	-20.43**			
FOREMP _{i,t} ×TAYLOR-US _{t-1}					46.90***	-0.09	37.63***	-1.39	FOREMP _{i,t} ×TAYLOR-US _t			15.20***	7.27			
EMU Monetary policy									EMU Monetary policy							
FIN _{i,t} ×TAYLOR-EMU _{t-1}	49.34***	46.61	6.50	-17.58	.	.	.	.	FIN _{i,t} ×TAYLOR-EMU _t	26.02***	28.55***	.	.
LIQ _{i,t-1} ×TAYLOR-EMU _{t-1}	34.24	8.49	43.98***	86.63***	9.44	110.15***	-7.78	77.81*	LIQ _{i,t} ×TAYLOR-EMU _t	-1.74	-2.63	16.47	44.94			
CAP _{i,t-1} ×TAYLOR-EMU _{t-1}	16.96	17.55	27.00**	17.29	78.84**	75.51**	66.06***	93.98***	CAP _{i,t} ×TAYLOR-EMU _t	5.48	4.46	19.18	26.38			
SIZE _{i,t-1} ×TAYLOR-EMU _{t-1}	8.02**	7.69	-0.07	0.55	14.39**	44.22***	4.57	29.39***	SIZE _{i,t} ×TAYLOR-EMU _t	4.45***	4.82**	4.30*	17.44***			
TFSALEP _{i,t} ×TAYLOR-EMU _{t-1}	-43.90**		-23.02***		22.43	-80.32**	24.67	-71.18***	TFSALEP _{i,t} ×TAYLOR-EMU _t	-6.64		-2.99	-62.03***			
EURSALEP _{i,t} ×TAYLOR-EMU _{t-1}		-74.27		-52.93**					EURSALEP _{i,t} ×TAYLOR-EMU _t		-24.74					
FORASS _{i,t} ×TAYLOR-EMU _{t-1}					43.80	159.93***	8.52	150.74***	FORASS _{i,t} ×TAYLOR-EMU _t			18.82	94.83***			
FOREMP _{i,t} ×TAYLOR-EMU _{t-1}					-71.24**	27.84	-48.48**	-6.07	FOREMP _{i,t} ×TAYLOR-EMU _t			-19.44	15.60			
Controls									Controls							
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm controls	Yes	Yes	Yes	Yes			
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm dummy	No	No	No	No			
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	FIN dummy	Yes	Yes	Yes	Yes			
Quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarter dummy	Yes	Yes	Yes	Yes			
Obs. (Firm-quarter)	2706	1262	2706	1262	858	398	858	398		2524	1178	790	364			
R ² -Adj	0.8233	0.8510			0.8830	0.9228										
Wald χ^2			7630.82	4081.09			4443.09	3161.84		13507.51	6289.99	8355.01	3968.61			
P-value			(0.00)	(0.00)			(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)			

Panel regressions for the 5-year cumulative risk neutral default probability. Here, *i* stands for firm, and *t* stands for time. In the OLS estimation, the significance is tested using clustered standard errors by firm and by quarter to account for possible correlation of the residuals across firms or across time. The Feasible Generalized Least Squares (FGLS) estimation allows residuals to be heteroscedastic across firms and assumes a firm-specific AR(1) error structure. The Arellano and Bond (1991) dynamic model (A&B) is estimated by treating the firm characteristics and their interactions with the domestic monetary policy as endogenous. We use up to four lags to instrument for the endogenous variables. The sample consists of quarterly observations for US and EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. * for p<.10, ** for p<.05, and *** for p<.01.

Table 15: Panel regression for policy surprises.

Dependent variable Model	$\Delta \log(r_t(Q_t(T)))$											$\Delta \log(r_t(EDF_t(T)))$				
	(I) 6M	(II) 1Y	(III) 2Y	(IV) 3Y	(V) 4Y	(VI) 5Y	(VII) 7Y	(VIII) 10Y	(IX) 15Y	(X) 20Y	(XI) 30Y	(XII) 1Y	(XIII) 2Y	(XIV) 3Y	(XV) 4Y	(XVI) 5Y
Panel A.- US firms																
Cons.	-0.04	-0.01	-0.00	0.00	-0.01	0.01	0.01	-0.01	-0.01	-0.00	-0.04	-0.02	-0.02	-0.01	-0.01	-0.01
FedEvent	-0.01	0.01	-0.00	-0.01	-0.01	-0.00	0.00	0.00	-0.01	0.00	0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Surprise _{jt}	-0.80	-0.34*	-0.14	0.01	-0.33**	0.07	-0.03	-0.10	0.47	0.00	1.82**	-0.66	-0.52	-0.41	-0.35	-0.30
Surprise _{jt} × FedEvent	1.36	0.28	0.06	-0.00	0.28***	-0.07	0.02	0.18	-0.60	0.07	-1.81*	0.79	0.64	0.53	0.45	0.39
Surprise _{jt} × LIQ _{jt}	-0.39	0.07	-0.19	-0.17	-0.05	-0.13*	-0.12	-0.07	-0.41**	-0.61**	0.06	0.10	0.08	0.07	0.07	0.06
Surprise _{jt} × LIQ _{jt} × FedEvent	0.23	0.02	0.27*	0.22	0.09	0.11	0.10	0.08	0.44**	0.62**	-0.19	-0.13	-0.10	-0.08	-0.07	-0.07
Surprise _{jt} × CAP _{jt}	-0.53	0.02	0.20	-0.07	-0.06	-0.09	0.17	0.04	0.15	0.54***	1.72**	0.60***	0.59***	0.54***	0.49***	0.45***
Surprise _{jt} × CAP _{jt} × FedEvent	0.76	0.05	-0.14	0.09	0.14	0.14	-0.15	-0.02	-0.02	-0.49***	-2.00**	-0.70***	-0.68***	-0.62***	-0.57***	-0.52***
Surprise _{jt} × SIZE _{jt}	0.08	0.01	-0.00	-0.01	0.02*	-0.02**	-0.02	-0.01	-0.06	-0.02	-0.26***	0.00	-0.01	-0.02	-0.02	-0.02
Surprise _{jt} × SIZE _{jt} × FedEvent	-0.14*	-0.01	0.01	0.01	-0.01***	0.02	0.02	0.00	0.06	0.01	0.27***	-0.01	0.00	0.01	0.02	0.02
Surprise _{jt} × SALEP _{jt}	0.82	-0.13	-0.58***	-0.42*	-0.51**	-0.64***	-0.40	-0.58*	0.09	-0.11	-0.10	-0.07	-0.06	-0.08	-0.08	-0.08
Surprise _{jt} × SALEP _{jt} × FedEvent	-0.77	0.11	0.61***	0.42*	0.50***	0.65***	0.42	0.54	-0.05	0.10	0.15	0.07	0.07	0.09	0.09	0.08
LIQ _{jt}	0.05**	-0.00	0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.02	-0.01	0.01	0.01	0.01	0.01	0.01
CAP _{jt}	-0.04	-0.01	0.00	-0.00	-0.01	-0.00	0.01	0.01	-0.02	-0.01	0.06**	0.00	0.00	0.00	0.00	0.00
SIZE _{jt}	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SALEP _{jt}	0.00	-0.01	-0.00	-0.00	-0.01***	-0.01**	-0.01*	-0.01**	-0.00	-0.02**	-0.02	-0.00	0.00	0.00	0.00	0.00
Obs. (Firm-event)	4501	5368	5289	5447	3493	5524	5423	5296	4894	4884	4589	2694	2694	2694	2694	2694
R ² -Adj	0.0084	0.0044	0.0194	0.0308	0.0802	0.0323	0.0281	0.0263	0.0039	0.0054	0.0105	0.1100	0.1142	0.1179	0.1204	0.1214
Panel B.- EMU firms																
Cons.	0.15**	0.07*	0.01	0.01	0.00	0.01	0.02	0.02	-0.02	0.02	-0.11***	-0.00	0.01	0.02	0.01	0.00
FedEvent	0.02	0.01	-0.01	-0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	0.01	-0.04	-0.04	-0.04	-0.03	-0.03
Surprise _{jt}	0.39	-0.20	-0.86*	-0.33**	-0.55***	-0.60**	-0.36	0.28	0.11	-0.83	0.01	-0.85*	-0.63	-0.26	-0.13	-0.03
Surprise _{jt} × FedEvent	-0.65	-0.39	0.93	0.39	0.46**	0.68***	0.36	-0.35	-0.05	1.04	0.39	1.40**	1.20*	0.79	0.65	0.54
Surprise _{jt} × LIQ _{jt}	2.50***	-0.11	0.23	0.31	0.21	0.35***	0.30***	0.24	-0.33	0.09	-0.30	-0.03	0.01	-0.09	-0.19	-0.20
Surprise _{jt} × LIQ _{jt} × FedEvent	-2.25**	0.43	-0.19	-0.42***	-0.19*	-0.29	-0.34	-0.28	0.23	-0.42	0.65	0.03	-0.03	0.07	0.15	0.16
Surprise _{jt} × CAP _{jt}	-0.69	-0.24	-0.50***	-0.38***	-0.43	-0.31**	-0.55***	-0.73***	-1.24***	-1.10**	-0.90	0.31	0.07	-0.06	-0.15	-0.19
Surprise _{jt} × CAP _{jt} × FedEvent	0.84	-0.06	0.14	0.11	0.28	0.06	0.30	0.53***	1.16***	0.92	0.69	-0.55	-0.30	-0.14	-0.03	0.05
Surprise _{jt} × SIZE _{jt}	-0.09	0.01	0.06	0.02	0.04**	0.04	0.03	-0.03	0.06	0.13*	0.03	0.02***	0.01	-0.02	-0.03	-0.03
Surprise _{jt} × SIZE _{jt} × FedEvent	0.10	0.04	-0.07	-0.02	-0.05***	-0.05***	-0.03	0.03	-0.07	-0.15*	-0.07	-0.07	-0.05	-0.02	-0.02	-0.01
Surprise _{jt} × SALEP _{jt}	0.78	0.35	0.28	0.26**	0.45***	0.46**	0.37***	0.58***	0.47	1.28**	-0.29	-0.08	-0.09	-0.11***	-0.16	-0.15
Surprise _{jt} × SALEP _{jt} × FedEvent	-1.85	-0.47**	-0.32*	-0.31***	-0.49***	-0.50**	-0.38***	-0.58***	-0.32	-1.20**	0.25	0.04	0.05	0.07	0.11	0.11
Surprise _{jt} × FORASS _{jt}	-0.96	-0.92*	-0.18	-0.25	-0.28	-0.33***	-0.31*	-0.54	-0.47	-0.73**	-0.93	-0.54	-0.43	-0.29	-0.20	-0.14
Surprise _{jt} × FORASS _{jt} × FedEvent	1.15	0.86	0.18	0.23**	0.42	0.32	0.31*	0.56	0.40	0.59***	0.78	0.46	0.38	0.28	0.24	0.21
Surprise _{jt} × FOREMP _{jt}	-0.04	0.30	-0.06	-0.06	-0.32**	-0.15	-0.12	-0.01	-0.82	-0.94**	0.76	0.47	0.39	0.32	0.27	0.24
Surprise _{jt} × FOREMP _{jt} × FedEvent	0.03	-0.03	0.20	0.18	0.31***	0.24*	0.21	0.13*	0.97	1.28***	-0.60	-0.41	-0.34	-0.29	-0.27	-0.27
LIQ _{jt}	0.03	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	0.00	-0.04***	0.01	-0.06***	-0.00	-0.00	0.00	0.00	0.00
CAP _{jt}	0.03	-0.02	-0.01	-0.02*	-0.03***	-0.02***	-0.02*	-0.02***	-0.04***	-0.01	-0.04*	0.01	0.01	0.00	0.00	-0.00
SIZE _{jt}	-0.02***	-0.01*	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.01***	-0.00	-0.00	-0.00	-0.00	-0.00
SALEP _{jt}	0.02	0.01	-0.01	-0.00	-0.01	0.00	-0.00	0.00	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.00
FORASS _{jt}	-0.01	-0.03	0.03***	0.01*	0.02	0.01	0.01	-0.01	0.02	-0.01	-0.02	0.01	0.00	0.00	-0.00	-0.00
FOREMP _{jt}	-0.02	0.00	-0.01*	-0.01***	-0.02***	-0.01***	-0.01***	0.01	0.02	-0.02	0.04	0.02	0.02	0.02	0.02	0.01
Obs. (Firm-event)	957	1035	1035	1035	776	1036	1035	1035	1029	1019	947	645	645	645	645	645
R ² -Adj	0.0151	0.0242	0.0584	0.0452	0.1186	0.0750	0.0702	0.0693	0.0060	0.0035	0.0007	0.2107	0.2180	0.2285	0.2213	0.2005

Panel regressions for the cumulative risk neutral and objective default probabilities. Here, i stands for firm, j stands for the monetary region, and t stands for time. Since we only consider disjointed events, there is only one j at each time t . The variable SALEP is defined as the percentage of sales to the monetary region j that suffers a policy shock. For firms experiencing a domestic policy shock, it is measured as 1-TFSALEP. For EMU firms experiencing a Fed surprise it is measured with USSALEP, and for US firms experiencing an ECB surprise it is measured with EURSALEP. For US firms, TFSALEP and EURSALEP are assumed to be 0 whenever they are unreported. For EMU ADR firms, USSALEP is assumed to be 0 whenever it is unreported. The sample consists of event observations for constituents of the CDX and iTraxx indexes with available information on foreign sales. The sample period goes from Jan-2000 to Dec-2009. During this period there are 40 changes of interest rates by the Federal Reserve and 27 changes of interest rates by the ECB. We can measure 40 Fed surprises and 17 ECB surprises with the futures data. The daily EDF measures are only available since June 2006. The significance is tested using clustered standard errors by firm and by time, to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table 16: Longstaff and Rajan (2008) model estimates

Level	γ_i	$mean(\lambda_i)$	$med(\lambda_i)$	$std(\lambda_i)$	Obs.
Panel A.- Europe (iTraxx)					
Firm	0.0102	0.5011	0.4840	0.1131	54
Industry	0.0813	0.0385	0.0069	0.0549	54
Systemic (SYS-US)	0.5994	0.0071	0.0043	0.0073	54
Panel B.- United States (CDX.NA.IG)					
Firm	0.0152	0.5919	0.4861	0.2874	54
Industry	0.1021	0.0177	0.0046	0.0300	54
Systemic (SYS-EMU)	0.5295	0.0075	0.0039	0.0076	54

Estimates of systemic risk and summary statistics along time. We use monthly information from CDX.NA.IG and iTraxx indexes and their tranches from Jul/2005 to Dec/2009. We assume a risky duration of 3.75 to transform the upfront payments into running spreads and a recovery rate of 40%, following the credit industry practice.

Table 17: Variance decomposition of the VECM models

Months	US					EMU				
	MP	SYS	INF	UNEMP	GDPG	MP	SYS	INF	UNEMP	GDPG
Panel A.- Response in Monetary Policy										
2	93.38	6.03	0.12	0.06	0.41	97.19	0.03	1.57	1.18	0.03
6	77.37	17.83	3.68	0.35	0.77	90.34	0.06	4.03	3.44	2.13
12	74.68	19.24	4.47	0.15	1.46	82.65	0.21	3.59	5.80	7.75
24	62.65	25.47	2.68	0.48	8.72	72.14	0.47	2.70	8.37	16.32
36	54.65	28.49	1.51	1.15	14.20	66.46	0.61	2.24	9.59	21.10
48	51.79	29.48	1.09	1.55	16.09	63.13	0.70	1.99	10.25	23.93
60	51.14	29.78	0.95	1.67	16.46	61.01	0.76	1.84	10.66	25.73
Panel B.- Impulse in Monetary Policy										
2	93.38	34.86	0.45	6.71	8.60	97.19	8.77	16.56	35.07	14.24
6	77.37	45.63	0.53	15.10	8.49	90.34	15.81	24.18	45.05	26.68
12	74.68	48.89	0.23	16.84	8.53	82.65	15.14	30.51	45.86	31.42
24	62.65	52.20	0.23	14.76	6.34	72.14	10.50	37.18	44.15	33.99
36	54.64	54.74	1.82	13.02	4.91	66.46	7.24	40.25	43.08	34.86
48	51.78	56.50	4.07	12.06	4.38	63.13	5.79	41.80	42.46	35.28
60	51.14	57.53	5.30	11.61	3.95	61.01	5.40	42.67	42.06	35.53

The table contains the forecast-error variance decomposition for the VECM in each region, US and EMU. The lag of the VECM is selected according to the Schwarz Bayesian Information criterion. The number of cointegrated equations is chosen according to the Johansen's cointegration test. In Panel A, each column displays the proportion of the variance of the error from forecasting k months ahead the response variable (FEDTRG in the US or ECBMRO in the EMU), due to the impulse in the variable indicated in the column heading. In Panel B, each column displays the proportion of the variance of the error from forecasting k months ahead the response variable indicated in the column heading, due to the impulse in the MP variable (FEDTRG in the US or ECBMRO in the EMU). The results depend on the ordering of the variables. The order employed is MP, SYS, INF, UNEMP, and GDPG. The estimation period goes from Jul/2005 to Dec/2009.

Appendix A. Extended tables – Target interest rates

Table A.4: Panel regression for 5-year implied default probabilities on target interest rates

Dependent variable Monetary region Model	logit($Q_{it}(5Y)$)											
	US						EMU					
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
Cons.	-2.84***	-3.37***	-2.27***	-2.08***	-3.23**	-3.07**	-3.12***	-3.29***	-2.10***	-3.04***	-10.91***	-10.13***
US Monetary policy												
FEDTRG _{t-1}	-29.26***	-30.16***		-8.78		28.44**	-32.63***	-32.40***	10.00	2.44	32.68**	40.88***
FIN _t ×FEDTRG _{t-1}	-22.69***	-21.04***		-21.26***		-17.99***	-14.42***	-14.14***	-8.24***	-13.91***	-4.67	-8.25**
LIQ _{t,t-1} ×FEDTRG _{t-1}				0.61							-2.23	-0.70
CAP _{t,t-1} ×FEDTRG _{t-1}				-6.15							1.13	-7.35
SIZE _{t,t-1} ×FEDTRG _{t-1}				-3.54***							-2.42***	-3.63***
EMU Monetary policy												
ECBMRO _{t-1}	32.62***	35.56***	31.69***	37.53***	69.98***	39.63**	31.67***	30.71***		42.33***		-7.80
FIN _t ×ECBMRO _{t-1}	17.30**	9.91	-10.61	9.97	2.67	20.14**	18.80***	18.26***		18.75***		13.23**
LIQ _{t,t-1} ×ECBMRO _{t-1}				8.18		7.35						-3.12
CAP _{t,t-1} ×ECBMRO _{t-1}				15.34*		22.48*						29.99*
SIZE _{t,t-1} ×ECBMRO _{t-1}				-4.71***		-1.30						3.81***
Macro controls												
USD/EUR _{t-1}			-0.64***	-0.63***	-0.55***	-0.56***			-0.85***	-0.69***	-1.12***	-0.96***
GDPG-US _{t-1}			-13.68***	-12.94***	-12.22***	-11.51***			-16.54***	-10.85***	-13.10***	-8.12***
GDPG-EMU _{t-1}			-9.08**	-7.92**	-8.64**	-7.44**			-2.15	-14.16***	-1.48	-12.80***
Inflation-US _{t-1}			-1.92	1.34	-2.21	0.82			-1.63	-6.01	0.23	-3.92
Inflation-EMU _{t-1}			35.07***	23.58**	34.10***	23.25**			45.20***	44.75***	37.98**	37.72**
10-year rate-US _{t-1}			-24.68***	-17.87*	-21.92**	-15.67			-37.48***	-23.02**	-38.82***	-25.74**
10-year rate-EMU _{t-1}			-1.04	-5.73	-2.66	-6.85			8.13	-7.09	11.41	-2.27
TERM-US _{t-1}			-5.02	-13.06	-5.54	-12.70			16.61	-8.69	17.22	-6.17
TERM-EMU _{t-1}			33.87**	29.82**	33.24**	29.03**			13.05	56.76***	11.87	52.50***
Firm controls												
LIQ _{t,t-1}					-1.79***	-1.78***					-0.29	-0.26
CAP _{t,t-1}					-3.31***	-3.41***					-1.24**	-1.93**
SIZE _{t,t-1}					0.22**	0.23**					0.97***	0.82***
Firm dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
FIN dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	12480	12480	12480	12480	12346	12346	5367	5367	5367	5367	5367	5367
R ² -Adj	0.1550	0.7234	0.7818	0.7877	0.8045	0.8137	0.4447	0.6717	0.7651	0.7796	0.8031	0.8166

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table A.5: Panel regression for 5-year implied default probabilities on target interest rates

Dependent variable Monetary region Model	logit ($Q_{it}(5Y)$)						
	US			EMU			
	(VII)	(VIIb)	(VIIc)	(VIII)	(VII)	(VIIc)	(VIII)
Cons.	-0.16	-4.53**	-3.46	-0.00	-9.02***	-16.49***	-7.10***
US Monetary policy							
FEDTRG _{t-1}	32.45**	41.05***	39.91**	-21.58	47.64*	165.50***	38.23
FIN _i ×FEDTRG _{t-1}	-17.22*	-20.18**	-13.75	.	.	.	.
LIQ _{i,t-1} ×FEDTRG _{t-1}	-8.20	-13.83	-3.11	-12.92	11.64	-54.46***	8.23
CAP _{i,t-1} ×FEDTRG _{t-1}	-2.28	-5.91	8.15	-9.54	20.53*	-4.20	0.57
SIZE _{i,t-1} ×FEDTRG _{t-1}	-4.33***	-4.84***	-5.78**	0.03	-4.18**	-13.25***	-3.44*
TFSALEP _i ×FEDTRG _{t-1}	8.70		14.32*	5.84	-19.48**		-24.80***
FORINC _i ×FEDTRG _{t-1}		6.71					
USSALEP _i ×FEDTRG _{t-1}						-29.39***	
FORASS _i ×FEDTRG _{t-1}				55.10**			-21.03
FOREMP _i ×FEDTRG _{t-1}				-34.25			42.43***
EMU Monetary policy							
ECBMRO _{t-1}	23.62	19.35	17.53	-15.55	45.76***	-66.19**	-31.97
FIN _i ×ECBMRO _{t-1}	18.11**	22.06***	17.06*	.	.	.	.
LIQ _{i,t-1} ×ECBMRO _{t-1}	32.58**	36.84**	43.15**	78.66***		111.66***	15.79
CAP _{i,t-1} ×ECBMRO _{t-1}	18.09	28.61*	9.24	24.98		87.46***	49.64**
SIZE _{i,t-1} ×ECBMRO _{t-1}	0.79	0.48	1.15	4.03		7.64***	6.26***
TFSALEP _i ×ECBMRO _{t-1}	-28.84***			-38.93***		-59.07***	-19.60
FORINC _i ×ECBMRO _{t-1}		-22.00***					
EURSALEP _i ×ECBMRO _{t-1}			-48.10***				
FORASS _i ×ECBMRO _{t-1}				-64.59			32.98*
FOREMP _i ×ECBMRO _{t-1}				59.97*			-28.03**
Macro controls							
USD/EUR _{t-1}	-0.56**	-0.56**	-0.60**	-0.60*	-1.01***	-1.07***	-1.10***
GDPG-US _{t-1}	-12.58***	-11.19***	-10.58***	-11.85***	-8.99***	-9.11***	-8.79***
GDPG-EMU _{t-1}	-6.68*	-6.74*	-8.91**	-8.33**	-11.92***	-4.38	-12.39***
Inflation-US _{t-1}	0.56	0.66	0.69	1.81	-6.05	-1.02	-5.67
Inflation-EMU _{t-1}	24.53**	22.22**	21.98**	24.49**	41.97***	31.97**	40.54***
10-year rate-US _{t-1}	-13.96	-13.86	-18.31*	-22.17**	-12.72	-12.19	-14.29
10-year rate-EMU _{t-1}	-8.54	-7.05	-7.93	-7.94	-18.57	-24.45*	-16.16
TERM-US _{t-1}	-16.43	-14.63	-12.07	-22.64*	-1.68	8.29	-2.18
TERM-EMU _{t-1}	30.58**	27.06*	21.84	31.12*	54.16***	48.16***	54.13***
Firm controls							
LIQ _{i,t-1}	-2.59***	-2.49***	-3.68***	-5.42***	-0.68**	-3.04**	-1.17**
CAP _{i,t-1}	-3.28***	-3.69***	-3.58***	-0.11	-1.70**	-3.23**	-2.55***
SIZE _{i,t-1}	0.24	0.27*	0.50*	-0.07	0.71***	1.34***	0.58***
TFSALEP _i	-6.26***		-3.80***	.	.	.	.
FORINC _i		1.97***					
EURSALEP _i							
USSALEP _i							
FORASS _i				.	.	.	.
FOREMP _i				.	.	.	.
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	8064	8106	3766	1389	2557	1185	2557
R ² -Adj	0.7958	0.7914	0.8127	0.7851	0.8331	0.8821	0.8431

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table A.6: Panel regression for 5-year implied default probabilities on target interest rates

<i>Dependent variable</i> <i>Monetary region</i>	<i>logit (Q_{it}(5Y))</i>	
	US	EMU
Cons.	-0.07	-8.40***
US Monetary policy		
FEDTRG _{t-1}	31.74**	3.92
FIN _i ×FEDTRG _{t-1}	0.55	.
LIQ _{i,t-1} ×FEDTRG _{t-1}	-8.64	18.16
CAP _{i,t-1} ×FEDTRG _{t-1}	-5.81	15.30
SIZE _{i,t-1} ×FEDTRG _{t-1}	-3.91***	-0.67
TFSALEP _i ×FEDTRG _{t-1}	-2.38	-30.56***
FORASS _i ×FEDTRG _{t-1}		-22.60
FOREMP _i ×FEDTRG _{t-1}		46.90***
EMU Monetary policy		
ECBMRO _{t-1}	0.49	-23.47
FIN _i ×ECBMRO _{t-1}	27.94**	.
LIQ _{i,t-1} ×ECBMRO _{t-1}	34.16**	44.85
CAP _{i,t-1} ×ECBMRO _{t-1}	39.22**	44.89
SIZE _{i,t-1} ×ECBMRO _{t-1}	2.47	6.34
TFSALEP _i ×ECBMRO _{t-1}	-30.17***	-71.50***
FORASS _i ×ECBMRO _{t-1}		29.41
FOREMP _i ×ECBMRO _{t-1}		6.68
US growth		
GDPG-US _{t-1}	-21.89*	.
FIN _i ×GDPG-US _{t-1}	-11.62**	.
LIQ _{i,t-1} ×GDPG-US _{t-1}	0.93	0.74
CAP _{i,t-1} ×GDPG-US _{t-1}	11.94	-15.48
SIZE _{i,t-1} ×GDPG-US _{t-1}	0.37	-2.52
TFSALEP _i ×GDPG-US _{t-1}	9.13	-15.16*
FORASS _i ×GDPG-US _{t-1}		3.07
FOREMP _i ×GDPG-US _{t-1}		8.29
EMU growth		
GDPG-EMU _{t-1}	15.36	.
FIN _i ×GDPG-EMU _{t-1}	-11.50	.
LIQ _{i,t-1} ×GDPG-EMU _{t-1}	-1.79	-35.73*
CAP _{i,t-1} ×GDPG-EMU _{t-1}	-16.31*	-3.92
SIZE _{i,t-1} ×GDPG-EMU _{t-1}	-1.72	-0.58
TFSALEP _i ×GDPG-EMU _{t-1}	2.86	45.03***
FORASS _i ×GDPG-EMU _{t-1}		5.69
FOREMP _i ×GDPG-EMU _{t-1}		-29.98***
Macro controls		
USD/EUR _{t-1}	-0.56**	-1.14***
Inflation-US _{t-1}	0.62	-5.29
Inflation-EMU _{t-1}	24.34**	40.44***
10-year rate-US _{t-1}	-13.93	-14.76
10-year rate-EMU _{t-1}	-8.84	-16.43
TERM-US _{t-1}	-15.84	-1.86
TERM-EMU _{t-1}	29.49**	53.24***
Firm controls		
LIQ _{i,t-1}	-2.54***	-0.70
CAP _{i,t-1}	-3.69***	-1.82**
SIZE _{i,t-1}	0.21	0.68***
TFSALEP _i	-5.63***	.
FORASS _i		.
FOREMP _i		.
Firm dummy	Yes	Yes
FIN dummy	Yes	Yes
Obs. (Firm-month)	8064	2557
R ² -Adj	0.8069	0.8482

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Appendix B. Extended tables – Taylor residuals

Table B.7: Panel regression for 5-year implied default probabilities on Taylor residuals

Dependent variable Monetary region Model	logit($Q_{it}(5Y)$)											
	US			EMU								
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
Cons.	-2.66***	-3.14***	-1.88***	-1.68***	-1.70	-1.53	-3.06***	-3.25	-2.02***	-2.46***	-10.37***	-8.88***
US Monetary policy												
TAYLOR-US _{t-1}	-18.36***	-19.80***		-9.59		42.99***	-22.91***	-23.01***	8.02	0.79	-2.72	5.28
FIN _t ×TAYLOR-US _{t-1}	-9.84***	-11.30***		-11.31***		-4.49	-5.49*	-5.58*	2.01	-5.20*	2.78	-2.04
LIQ _{t,t-1} ×TAYLOR-US _{t-1}						0.32					3.81	2.47
CAP _{t,t-1} ×TAYLOR-US _{t-1}						-8.11					25.58*	16.77
SIZE _{t,t-1} ×TAYLOR-US _{t-1}						-5.06***					0.05	-0.98
EMU Monetary policy												
TAYLOR-EMU _{t-1}	73.66***	74.76***	27.42***	33.99***	50.33*	11.44	74.07***	72.12***		35.36***		-101.19***
FIN _t ×TAYLOR-EMU _{t-1}	68.67***	56.99***	45.97***	56.52***	60.33***	65.78***	51.24***	51.64***		51.40***		33.84***
LIQ _{t,t-1} ×TAYLOR-EMU _{t-1}					-3.70	-3.19						6.22
CAP _{t,t-1} ×TAYLOR-EMU _{t-1}					24.45	31.31						65.22**
SIZE _{t,t-1} ×TAYLOR-EMU _{t-1}					-3.24	1.12						11.05***
Macro controls												
USD/EUR _{t-1}			-0.63***	-0.63***	-0.53***	-0.54***			-0.85***	-0.69***	-1.13***	-0.92***
GDPG-US _{t-1}			-13.65***	-16.34***	-12.24***	-14.54***			-13.80***	-11.03***	-11.56***	-9.45***
GDPG-EMU _{t-1}			2.12	5.95	2.14	5.74			-2.28	2.58	-1.94	2.51
Inflation-US _{t-1}			-1.99	-1.68	-2.30	-2.00			0.69	-6.09	1.43	-5.11
Inflation-EMU _{t-1}			40.44***	30.18***	39.34***	29.34***			45.52***	52.44***	39.27**	47.60***
10-year rate-US _{t-1}			-24.47***	-17.75*	-21.27**	-15.25			-37.58***	-23.13**	-38.80***	-25.92**
10-year rate-EMU _{t-1}			-1.17	-5.76	-3.05	-7.03			8.13	-7.02	11.10	-2.71
TERM-US _{t-1}			-5.21	-13.20	-6.04	-12.91			16.63	-8.35	16.40	-7.15
TERM-EMU _{t-1}			34.50**	30.26**	34.09**	29.73**			13.19	56.46***	12.34	53.49***
Firm controls												
LIQ _{t,t-1}					-1.74***	-1.71***					-0.29	-0.26
CAP _{t,t-1}					-2.94***	-2.98***					-0.91**	-1.11***
SIZE _{t,t-1}					0.09	0.09					0.90***	0.71***
Firm dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
FIN dummy	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	12480	12480	12480	12480	12346	12346	5367	5367	5367	5367	5367	5367
R ² -Adj	0.1627	0.7221	0.7857	0.7876	0.8080	0.8137	0.4272	0.6462	0.7606	0.7881	0.7956	0.8220

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table B.8: Panel regression for 5-year implied default probabilities on Taylor residuals

Dependent variable Monetary region Model	logit ($Q_{it}(5Y)$)						
	US				EMU		
	(VII)	(VIIb)	(VIIc)	(VIII)	(VII)	(VIIc)	(VIII)
Cons.	0.99	-3.22*	-2.15	-0.73	-7.75***	-13.15***	-8.41***
US Monetary policy							
TAYLOR-US $_{t-1}$	36.19***	47.37***	41.90***	-11.26	3.42	112.30***	0.37
FIN $_i$ ×TAYLOR-US $_{t-1}$	-4.33	-8.30	-1.08	.	.	.	.
LIQ $_{i,t-1}$ ×TAYLOR-US $_{t-1}$	-3.58	-12.03	-3.07	-5.80	14.64*	-36.88**	9.16
CAP $_{i,t-1}$ ×TAYLOR-US $_{t-1}$	-4.14	-11.15	5.26	-28.14*	30.73***	9.60	16.45*
SIZE $_{i,t-1}$ ×TAYLOR-US $_{t-1}$	-4.49***	-5.36***	-5.20***	-0.51	-0.55	-8.97***	-0.33
TFSALEP $_i$ ×TAYLOR-US $_{t-1}$	-1.74		-5.89	-18.38**	-17.70***		-24.23***
FORINC $_i$ ×TAYLOR-US $_{t-1}$		5.10					
USSALEP $_i$ ×TAYLOR-US $_{t-1}$						-38.52***	
FORASS $_i$ ×TAYLOR-US $_{t-1}$				53.76***			-19.81
FOREMP $_i$ ×TAYLOR-US $_{t-1}$				-4.52			40.12***
EMU Monetary policy							
TAYLOR-EMU $_{t-1}$	-24.71	-37.28	-27.69	35.40	45.55***	-300.84***	-96.11
FIN $_i$ ×TAYLOR-EMU $_{t-1}$	61.32**	61.47**	63.58	.	.	.	.
LIQ $_{i,t-1}$ ×TAYLOR-EMU $_{t-1}$	30.36	32.72	-4.71	79.51		174.86***	25.13
CAP $_{i,t-1}$ ×TAYLOR-EMU $_{t-1}$	14.73	18.22	4.12	30.66		98.01**	63.00*
SIZE $_{i,t-1}$ ×TAYLOR-EMU $_{t-1}$	6.17*	6.25*	6.96	-0.19		26.45***	11.96**
TFSALEP $_i$ ×TAYLOR-EMU $_{t-1}$	-48.78***			-77.28**		-47.80	-1.99
FORINC $_i$ ×TAYLOR-EMU $_{t-1}$		-23.26					
EURSALEP $_i$ ×TAYLOR-EMU $_{t-1}$			-78.47*				
FORASS $_i$ ×TAYLOR-EMU $_{t-1}$				-126.22			32.08
FOREMP $_i$ ×TAYLOR-EMU $_{t-1}$				134.54			-54.43*
Macro controls							
USD/EUR $_{t-1}$	-0.54**	-0.53**	-0.54*	-0.54	-1.01***	-1.17***	-1.12***
GDPG-US $_{t-1}$	-16.25***	-14.72***	-14.03***	-16.87***	-9.84***	-10.07***	-9.61***
GDPG-EMU $_{t-1}$	6.35*	5.89	3.36	5.09	4.45	7.78	4.20
Inflation-US $_{t-1}$	-2.80	-2.70	-2.75	-2.97	-6.91	-2.17	-6.71
Inflation-EMU $_{t-1}$	30.99***	28.06***	28.11***	28.74**	50.91***	38.94***	50.23***
10-year rate-US $_{t-1}$	-13.93	-13.91	-17.54*	-22.01**	-12.53	-13.77	-14.94
10-year rate-EMU $_{t-1}$	-8.73	-7.07	-9.28	-8.84	-18.81	-22.68*	-15.95
TERM-US $_{t-1}$	-16.83	-14.06	-10.92	-19.62*	-2.81	7.87	-3.12
TERM-EMU $_{t-1}$	31.21**	26.15*	19.39	26.91	54.86***	47.64***	54.66***
Firm controls							
LIQ $_{i,t-1}$	-1.95***	-1.93***	-2.63***	-3.34***	-0.30	-1.20**	-0.36
CAP $_{i,t-1}$	-2.83***	-3.14***	-3.06***	-0.14	-1.09*	0.34	-0.80
SIZE $_{i,t-1}$	0.13	0.15	0.35*	-0.01	0.61***	0.96***	0.68***
TFSALEP $_i$	-6.42***		-3.57***	.	.	.	.
FORINC $_i$		1.50***					
EURSALEP $_i$.				
USSALEP $_i$							
FORASS $_i$				.			.
FOREMP $_i$				.			.
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs. (Firm-month)	8064	8106	3766	1389	2557	1185	2557
R ² -Adj	0.7960	0.7874	0.8144	0.7891	0.8307	0.8823	0.8408

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table B.9: Panel regression for 5-year implied default probabilities on Taylor residuals

<i>Dependent variable</i> <i>Monetary region</i>	<i>logit (Q_{it}(5Y))</i>	
	US	EMU
Cons.	0.21	-9.11***
US Monetary policy		
TAYLOR-US _{t-1}	31.17**	6.78
FIN _i ×TAYLOR-US _{t-1}	-2.06	.
LIQ _{i,t-1} ×TAYLOR-US _{t-1}	-7.29	13.70
CAP _{i,t-1} ×TAYLOR-US _{t-1}	-5.41	11.41
SIZE _{i,t-1} ×TAYLOR-US _{t-1}	-3.97***	-0.79
TFSALEP _i ×TAYLOR-US _{t-1}	0.66	-25.47***
FORASS _i ×TAYLOR-US _{t-1}		-24.03
FOREMP _i ×TAYLOR-US _{t-1}		43.99***
EMU Monetary policy		
TAYLOR-EMU _{t-1}	12.21	-15.00
FIN _i ×TAYLOR-EMU _{t-1}	28.00**	.
LIQ _{i,t-1} ×TAYLOR-EMU _{t-1}	38.97**	51.97*
CAP _{i,t-1} ×TAYLOR-EMU _{t-1}	44.01**	54.81
SIZE _{i,t-1} ×TAYLOR-EMU _{t-1}	0.97	5.88
TFSALEP _i ×TAYLOR-EMU _{t-1}	-28.02***	-91.57***
FORASS _i ×TAYLOR-EMU _{t-1}		17.66
FOREMP _i ×TAYLOR-EMU _{t-1}		27.50
US growth		
GDPG-US _{t-1}	-6.18	.
FIN _i ×GDPG-US _{t-1}	-12.38**	.
LIQ _{i,t-1} ×GDPG-US _{t-1}	-0.78	8.70
CAP _{i,t-1} ×GDPG-US _{t-1}	10.98	-7.67
SIZE _{i,t-1} ×GDPG-US _{t-1}	-1.53	-2.91
TFSALEP _i ×GDPG-US _{t-1}	9.56	-30.84***
FORASS _i ×GDPG-US _{t-1}		-8.69
FOREMP _i ×GDPG-US _{t-1}		30.82***
EMU growth		
GDPG-EMU _{t-1}	14.91	.
FIN _i ×GDPG-EMU _{t-1}	1.60	.
LIQ _{i,t-1} ×GDPG-EMU _{t-1}	10.05*	-15.66
CAP _{i,t-1} ×GDPG-EMU _{t-1}	-1.71	14.85
SIZE _{i,t-1} ×GDPG-EMU _{t-1}	-0.67	2.09
TFSALEP _i ×GDPG-EMU _{t-1}	-11.62***	15.07
FORASS _i ×GDPG-EMU _{t-1}		18.56
FOREMP _i ×GDPG-EMU _{t-1}		-26.35***
Macro controls		
USD/EUR _{t-1}	-0.55**	-1.14***
Inflation-US _{t-1}	-2.39	-5.70
Inflation-EMU _{t-1}	30.26***	48.37***
10-year rate-US _{t-1}	-13.85	-14.94
10-year rate-EMU _{t-1}	-8.91	-16.22
TERM-US _{t-1}	-15.86	-1.84
TERM-EMU _{t-1}	29.71**	53.11***
Firm controls		
LIQ _{i,t-1}	-2.17***	0.10
CAP _{i,t-1}	-3.20***	-1.05
SIZE _{i,t-1}	0.21	0.76***
TFSALEP _i	-6.09***	.
FORASS _i		.
FOREMP _i		.
Firm dummy	Yes	Yes
FIN dummy	Yes	Yes
Obs. (Firm-month)	8064	2557
R ² -Adj	0.8068	0.8486

Panel regressions for the cumulative risk neutral default probabilities. Here, i stands for firm, and t stands for time. The sample consists of monthly observations for 138 US and 72 EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. The significance is tested using clustered standard errors by firm and by time to account for possible correlation of the residuals across firms or across time. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Appendix C. Extended tables – Quarterly frequency

Table C.10: Panel regression for 5-year implied default probabilities on target interest rates at quarterly frequency.

Dependent variable	logit($Q_{it}(5Y)$)												
	US				EMU				US		EMU		
	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	
Monetary Region													
Model	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	
Estimation	OLS	OLS	FGLS	FGLS	OLS	OLS	FGLS	FGLS	A&B	A&B	A&B	A&B	
Cons.	-1.02	-3.73*	-5.44	-4.61***	-10.59***	-19.25***	-1.32	-14.98***	Cons.	-1.43***	-0.69	-2.66***	-8.66***
									logit($Q_{it-1}(5Y)$)	0.70***	0.75***	0.63***	0.52***
US Monetary policy									US Monetary policy				
FIN _{<i>it</i>} ×FEDTRG _{<i>t-1</i>}	-15.94*	-13.14	-10.18**	3.66	.	.	.	.	FIN _{<i>it</i>} ×FEDTRG _{<i>t</i>}	-3.95**	-2.62	.	.
LIQ _{<i>it-1</i>} ×FEDTRG _{<i>t-1</i>}	-6.23	3.31	-12.35***	-15.41*	7.50	-33.11	0.44	-31.88**	LIQ _{<i>it</i>} ×FEDTRG _{<i>t</i>}	0.68	-0.85	1.19	-2.72
CAP _{<i>it-1</i>} ×FEDTRG _{<i>t-1</i>}	-1.46	1.42	-7.75	-0.55	0.86	11.78	2.60	2.59	CAP _{<i>it</i>} ×FEDTRG _{<i>t</i>}	4.71	1.42	1.71	17.31**
SIZE _{<i>it-1</i>} ×FEDTRG _{<i>t-1</i>}	-4.63***	-5.19**	-2.70***	-5.50***	-3.15	-18.87***	0.33	-13.85***	SIZE _{<i>it</i>} ×FEDTRG _{<i>t</i>}	-2.22***	-2.04***	-0.81	-10.89***
TFSALEP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}	5.05	8.55	4.25	12.54**	-30.10***			-29.35***	TFSALEP _{<i>t</i>} ×FEDTRG _{<i>t</i>}	2.19	3.01	-14.77***	
USSALEP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}								-30.96**	USSALEP _{<i>t</i>} ×FEDTRG _{<i>t</i>}				-14.00**
FORASS _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}					-22.13	-45.34***	-13.43	-33.25**	FORASS _{<i>t</i>} ×FEDTRG _{<i>t</i>}			-7.58	-31.23***
FOREMP _{<i>t</i>} ×FEDTRG _{<i>t-1</i>}					45.82***	-4.28	46.40***	7.97	FOREMP _{<i>t</i>} ×FEDTRG _{<i>t</i>}			20.44***	-12.02
EMU Monetary policy									EMU Monetary policy				
FIN _{<i>it</i>} ×ECBMRO _{<i>t-1</i>}	26.44**	26.92	9.22	-13.84	.	.	.	.	FIN _{<i>it</i>} ×ECBMRO _{<i>t</i>}	7.40**	3.27	.	.
LIQ _{<i>it-1</i>} ×ECBMRO _{<i>t-1</i>}	31.66**	29.50	32.78***	51.81***	6.72	71.64*	-7.03	54.62*	LIQ _{<i>it</i>} ×ECBMRO _{<i>t</i>}	4.76	11.95	4.28	23.84
CAP _{<i>it-1</i>} ×ECBMRO _{<i>t-1</i>}	18.33	14.13	21.89***	13.44	50.86**	58.75	29.55**	58.82***	CAP _{<i>it</i>} ×ECBMRO _{<i>t</i>}	-2.92	-1.18	13.84	16.38
SIZE _{<i>it-1</i>} ×ECBMRO _{<i>t-1</i>}	1.89	2.21	-0.45	2.04	8.05***	17.37***	4.36*	10.55***	SIZE _{<i>it</i>} ×ECBMRO _{<i>t</i>}	2.22***	3.68***	3.86**	8.12***
TFSALEP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}	-26.91***		-18.05***		0.22	-43.51	23.00**	-17.00	TFSALEP _{<i>t</i>} ×ECBMRO _{<i>t</i>}	-8.45**		7.25	-20.12
EURSALEP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}		-49.78**		-47.68***					EURSALEP _{<i>t</i>} ×ECBMRO _{<i>t</i>}		-31.67***		
FORASS _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}					35.71*	64.00***	18.07	44.19*	FORASS _{<i>t</i>} ×ECBMRO _{<i>t</i>}			17.66*	36.83**
FOREMP _{<i>t</i>} ×ECBMRO _{<i>t-1</i>}					-40.56***	3.06	-42.72***	-23.91	FOREMP _{<i>t</i>} ×ECBMRO _{<i>t</i>}			-21.41**	3.91
Firm controls									Firm controls				
LIQ _{<i>it-1</i>}	-2.70***	-3.93***	-2.26***	-4.22***	-0.84*	-3.20**	-0.46	-2.89***	LIQ _{<i>it</i>}	-1.05***	-1.83***	-0.27	-1.76***
CAP _{<i>it-1</i>}	-3.16***	-3.56***	-2.74***	-3.25***	-2.75***	-2.15	-1.71***	-1.72**	CAP _{<i>it</i>}	-0.93***	-0.65**	-1.11***	-0.97*
SIZE _{<i>it-1</i>}	0.19	0.41	0.18***	0.34***	0.48**	1.17***	0.33***	1.20***	SIZE _{<i>it</i>}	0.14**	-0.04	0.10	0.66***
TFSALEP _{<i>t</i>}	-6.08***	-3.54***	5.09	-2.13	.	.	-4.38***	-1.53	TFSALEP _{<i>t</i>}	.	.	.	.
EURSALEP _{<i>t</i>}				7.71*					EURSALEP _{<i>t</i>}				
USSALEP _{<i>t</i>}								-6.83***	USSALEP _{<i>t</i>}				
FORASS _{<i>t</i>}							-3.24	-5.06***	FORASS _{<i>t</i>}				
FOREMP _{<i>t</i>}							-0.95	6.54**	FOREMP _{<i>t</i>}				
Unobservable effects									Unobservable effects				
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm dummy	No	No	No	No
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	FIN dummy	Yes	Yes	Yes	Yes
Quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarter dummy	Yes	Yes	Yes	Yes
Obs. (Firm-quarter)	2706	1262	2706	1262	858	398	858	398		2524	1178	790	364
R ² -Adj	0.8256	0.8521			0.8829	0.9136							
Wald χ^2			7347.47	3834.60			4805.00	2477.25		13257.93	6001.99	8441.29	4065.08
P-value			(0.00)	(0.00)			(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)

Panel regressions for the 5-year cumulative risk neutral default probability. Here, i stands for firm, and t stands for time. In the OLS estimation, the significance is tested using clustered standard errors by firm and by quarter to account for possible correlation of the residuals across firms or across time. The Feasible Generalized Least Squares (FGLS) estimation allows residuals to be heteroscedastic across firms and assumes a firm-specific AR(1) error structure. The Arellano and Bond (1991) dynamic model (A&B) is estimated by treating the firm characteristics and their interactions with the domestic monetary policy as endogenous. We use up to four lags to instrument for the endogenous variables. The sample consists of quarterly observations for US and EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.

Table C.11: Panel regression for 5-year implied default probabilities on Taylor residuals at quarterly frequency.

Dependent variable Monetary Region Model Estimation	logit($Q_{it}(5Y)$)															
	US				EMU				US				EMU			
	(I)	(Ib)	(II)	(IIb)	(I)	(Ib)	(II)	(IIb)	(III)	(IIIb)	(III)	(IIIb)	(III)	(IIIb)		
	OLS	OLS	FGLS	FGLS	OLS	OLS	FGLS	FGLS	A&B	A&B	A&B	A&B	A&B	A&B		
Cons.	-0.28	-3.43*	-4.58	-4.36***	-10.27***	-16.85***	-2.72	-14.16***	Cons.	-1.59***	-0.70	-2.24***	-6.44***			
									logit($Q_{it-1}(5Y)$)	0.69***	0.72***	0.63***	0.53***			
US Monetary policy									US Monetary policy							
FIN _{<i>t</i>} ×TAYLOR-US _{<i>t-1</i>}	-5.03	-0.64	0.57	10.73	.	.	.	.	FIN _{<i>t</i>} ×TAYLOR-US _{<i>t</i>}	-2.01	0.71	.	.
LIQ _{<i>t,t-1</i>} ×TAYLOR-US _{<i>t-1</i>}	-1.71	1.54	-3.00	-11.60	11.93	-31.58***	8.33	-13.54	LIQ _{<i>t,t</i>} ×TAYLOR-US _{<i>t</i>}	0.06	-3.54	3.10	-10.20			
CAP _{<i>t,t-1</i>} ×TAYLOR-US _{<i>t-1</i>}	0.49	2.78	-7.46	-3.82	15.01*	16.00	9.13	9.31	CAP _{<i>t,t</i>} ×TAYLOR-US _{<i>t</i>}	3.49	3.55	8.94	10.60			
SIZE _{<i>t,t-1</i>} ×TAYLOR-US _{<i>t-1</i>}	-4.38***	-4.57**	-2.44***	-3.72***	-1.41	-15.58***	-0.04	-11.29***	SIZE _{<i>t,t</i>} ×TAYLOR-US _{<i>t</i>}	-1.90***	-1.90**	-0.14	-5.67***			
TFSALEP _{<i>t</i>} ×TAYLOR-US _{<i>t-1</i>}	-2.84	-9.00	1.40	-2.38	-36.04***		-36.16***		TFSALEP _{<i>t</i>} ×TAYLOR-US _{<i>t</i>}	1.19	-2.76	-12.35**				
USSALEP _{<i>t</i>} ×TAYLOR-US _{<i>t-1</i>}						-53.40***		-56.46***	USSALEP _{<i>t</i>} ×TAYLOR-US _{<i>t</i>}				-19.44***			
FORASS _{<i>t</i>} ×TAYLOR-US _{<i>t-1</i>}					-20.87	-32.66***	-6.57	-22.60*	FORASS _{<i>t</i>} ×TAYLOR-US _{<i>t</i>}			-5.70	-20.43**			
FOREMP _{<i>t</i>} ×TAYLOR-US _{<i>t-1</i>}					46.90***	-0.09	37.63***	-1.39	FOREMP _{<i>t</i>} ×TAYLOR-US _{<i>t</i>}			15.20***	7.27			
EMU Monetary policy									EMU Monetary policy							
FIN _{<i>t</i>} ×TAYLOR-EMU _{<i>t-1</i>}	49.34**	46.61	6.50	-17.58	.	.	.	.	FIN _{<i>t</i>} ×TAYLOR-EMU _{<i>t</i>}	26.02***	28.55***	.	.
LIQ _{<i>t,t-1</i>} ×TAYLOR-EMU _{<i>t-1</i>}	34.24	8.49	43.98***	86.63***	9.44	110.15***	-7.78	77.81*	LIQ _{<i>t,t</i>} ×TAYLOR-EMU _{<i>t</i>}	-1.74	-2.63	16.47	44.94			
CAP _{<i>t,t-1</i>} ×TAYLOR-EMU _{<i>t-1</i>}	16.96	17.55	27.00**	17.29	78.84**	75.51**	66.06***	93.98***	CAP _{<i>t,t</i>} ×TAYLOR-EMU _{<i>t</i>}	5.48	4.46	19.18	26.38			
SIZE _{<i>t,t-1</i>} ×TAYLOR-EMU _{<i>t-1</i>}	8.02**	7.69	-0.07	0.55	14.39**	44.22***	4.57	29.39***	SIZE _{<i>t,t</i>} ×TAYLOR-EMU _{<i>t</i>}	4.45***	4.82**	4.30*	17.44***			
TFSALEP _{<i>t</i>} ×TAYLOR-EMU _{<i>t-1</i>}	-43.90**		-23.02***		22.43	-80.32**	24.67	-71.18***	TFSALEP _{<i>t</i>} ×TAYLOR-EMU _{<i>t</i>}	-6.64		-2.99	-62.03***			
EURSALEP _{<i>t</i>} ×TAYLOR-EMU _{<i>t-1</i>}		-74.27		-52.93**					EURSALEP _{<i>t</i>} ×TAYLOR-EMU _{<i>t</i>}		-24.74					
FORASS _{<i>t</i>} ×TAYLOR-EMU _{<i>t-1</i>}					43.80	159.93***	8.52	150.74***	FORASS _{<i>t</i>} ×TAYLOR-EMU _{<i>t</i>}			18.82	94.83***			
FOREMP _{<i>t</i>} ×TAYLOR-EMU _{<i>t-1</i>}					-71.24**	27.84	-48.48**	-6.07	FOREMP _{<i>t</i>} ×TAYLOR-EMU _{<i>t</i>}			-19.44	15.60			
Firm controls									Firm controls							
LIQ _{<i>t,t-1</i>}	-2.00***	-3.01***	-1.72***	-3.19***	-0.39	-2.02***	-0.71***	-1.79***	LIQ _{<i>t,t</i>}	-1.13***	-1.60***	-0.08	-0.90***			
CAP _{<i>t,t-1</i>}	-2.63***	-3.02***	-2.27***	-2.87***	-1.01*	0.83**	-0.64*	0.61	CAP _{<i>t,t</i>}	-0.89***	-0.82***	-0.50**	0.16			
SIZE _{<i>t,t-1</i>}	0.11	0.31	0.11*	0.31***	0.62***	0.93***	0.41***	0.93***	SIZE _{<i>t,t</i>}	0.16**	0.00	0.16***	0.53***			
TFSALEP _{<i>t</i>}	-6.44***	-3.50***	4.33	-1.65	.	.	-4.12***	-0.89	TFSALEP _{<i>t</i>}	.	.	.	.
EURSALEP _{<i>t</i>}				7.02					EURSALEP _{<i>t</i>}							
USSALEP _{<i>t</i>}								-8.21***	USSALEP _{<i>t</i>}							
FORASS _{<i>t</i>}							-2.28	-5.35***	FORASS _{<i>t</i>}							
FOREMP _{<i>t</i>}							-1.55	6.75**	FOREMP _{<i>t</i>}							
Unobservable effects									Unobservable effects							
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Firm dummy	No	No	No	No			
FIN dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	FIN dummy	Yes	Yes	Yes	Yes			
Quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarter dummy	Yes	Yes	Yes	Yes			
Obs. (Firm-quarter)	2706	1262	2706	1262	858	398	858	398		2524	1178	790	364			
R ² -Adj	0.8233	0.8510			0.8830	0.9228										
Wald χ^2			7630.82	4081.09			4443.09	3161.84		13507.51	6289.99	8355.01	3968.61			
P-value			(0.00)	(0.00)			(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)			

Panel regressions for the 5-year cumulative risk neutral default probability. Here, i stands for firm, and t stands for time. In the OLS estimation, the significance is tested using clustered standard errors by firm and by quarter to account for possible correlation of the residuals across firms or across time. The Feasible Generalized Least Squares (FGLS) estimation allows residuals to be heteroscedastic across firms and assumes a firm-specific AR(1) error structure. The Arellano and Bond (1991) dynamic model (A&B) is estimated by treating the firm characteristics and their interactions with the domestic monetary policy as endogenous. We use up to four lags to instrument for the endogenous variables. The sample consists of quarterly observations for US and EMU constituents of the CDX and iTraxx indexes. The sample period goes from Jan-2000 to Dec-2009. * for $p < .10$, ** for $p < .05$, and *** for $p < .01$.