

Internet Appendix for "The Impact of Sovereign Shocks"

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Abstract

This internet appendix provides the timelines of banking and sovereign shocks used in the empirical analysis presented in the paper.

1 Banking Shocks

Timeline	Shock Direction	Shock Description (News article)
Nov 1, 2007	-1	Citigroup shares fall 9 percent after Credit Suisse and CIBC World Markets downgraded the largest U.S. bank
Jan 21, 2008	-1	Ambac Financial Group, a major bond guarantor, fails to raise two billion dollars in new capital. Its Fitch credit rating is lowered from AAA to AA
Mar 7, 2008	-1	Carlyle Capital Corporation, an affiliate of the world-largest buyout firm Carlyle Group, receives a default notice after failing to meet margin calls on its mortgage bond fund
Mar 18, 2008	1	The Federal Reserve Board votes to reduce the primary credit rate 25 basis points to 3.25 percent
Mar 19, 2008	1	The FOMC votes to reduce its target for the federal funds rate 75 basis points to 2.25 percent
Mar 25, 2008	1	The Federal Reserve Bank of New York announces that it will provide term financing to facilitate JPMorgan Chase acquisition of The Bear Stearns Companies Inc
May 2, 2008	1	The FOMC expands the list of eligible collateral for Schedule 2 TSLF auctions to include AAA/Aaa-rated asset-backed securities, in addition to already eligible residential and commercial MBS and agency collateralized mortgage obligations
Jul 15, 2008	-1	Short interest in Financials hit record levels, forcing SEC to temporarily prohibits "naked" short selling in the securities of Fannie Mae, Freddie Mac, and primary dealers at commercial and investment banks
Sep 8, 2008	1	The U.S. Treasury Department announces three additional measures to complement the FHFA decision: 1) Preferred stock purchase agreements between the Treasury/FHFA and Fannie Mae and Freddie Mac to ensure the GSEs positive net worth; 2) a new secured lending facility which will be available to Fannie Mae, Freddie Mac, and the Federal Home Loan Banks; and 3) a temporary program to purchase GSE MBS
Sep 15, 2008	-1	Lehman Brothers files for bankruptcy // S&P downgrades American banks
Sep 18, 2008	1	The FOMC expands existing swap lines by 180 billion dollars and authorizes new swap lines with the Bank of Japan, Bank of England, and Bank of Canada

Sep 19, 2008	1	The Federal Reserve Board announces the creation of the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) to extend non-recourse loans at the primary credit rate to U.S. depository institutions and bank holding companies to finance their purchase of high-quality asset-backed commercial paper from money market mutual funds. // The U.S. Treasury Department announces a temporary guaranty program that will make available up to 50 billion dollars from the Exchange Stabilization Fund to guarantee investments in participating money market mutual funds
Sep 22, 2008	1	The U.S. Treasury Department submits draft legislation to Congress for authority to purchase troubled assets // The Federal Reserve Board approves applications of investment banking companies Goldman Sachs and Morgan Stanley to become bank holding companies
Sep 29, 2008	-1	The U.S. House of Representatives rejects legislation submitted by the Treasury Department requesting authority to purchase troubled assets from financial institutions
Sep 30, 2008	1	Ireland government bails out banks
Oct 3, 2008	1	Wells Fargo announces a proposal to purchase Wachovia
Oct 7, 2008	1	The Federal Reserve Board announces the creation of the Commercial Paper Funding Facility (CPFF), which will provide a liquidity backstop to U.S. issuers of commercial paper through a special purpose vehicle that will purchase three-month unsecured and asset-backed commercial paper directly from eligible issuers
Oct 8, 2008	1	ECB decides on extraordinary liquidity measures
Oct 13, 2008	1	The Federal Reserve Board announces its approval of an application by Wells Fargo to acquire Wachovia
Oct 14, 2008	1	The FOMC increases its swap line with the Bank of Japan
Oct 21, 2008	1	The Federal Reserve Board announces creation of the Money Market Investor Funding Facility (MMIFF)
Oct 28, 2008	1	The U.S. Treasury Department purchases a total of 125 billion dollars in preferred stock in nine U.S. banks under the Capital Purchase Program
Oct 30, 2008	1	The FOMC votes to reduce its target for the federal funds rate 50 basis points to 1.00 percent.

Nov 12, 2008	-1	U.S. Treasury Secretary Paulson formally announces that the Treasury has decided not to use TARP funds to purchase illiquid mortgage-related assets from financial institutions
Jan 6, 2009	1	The Federal Reserve Bank of New York begins purchasing fixed-rate mortgage-backed securities guaranteed by Fannie Mae, Freddie Mac and Ginnie Mae under a program first announced on November 25, 2008
Jan 7, 2009	1	The Federal Reserve Board announces two changes to the Money Market Investor Funding Facility (MMIFF) that 1) expand the set of institutions eligible to participate in the MMIFF and 2) reduce the minimum yield on assets eligible to be sold to the MMIFF
Jan 16, 2009	1	The U.S. Treasury Department, Federal Reserve, and FDIC announce a package of guarantees, liquidity access, and capital for Bank of America // The U.S. Treasury Department announces that it will lend 1.5 billion dollars from the TARP to a special purpose entity created by Chrysler Financial to finance the extension of new consumer auto loans // Ireland nationalizes Anglo Irish
Feb 25, 2009	1	The Federal Reserve Board, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency and Office of Thrift Supervision announce that they will conduct forward-looking economic assessments or stress tests of eligible U.S. bank holding companies with assets exceeding 100 billion
Mar 2, 2009	-1	The U.S. Treasury Department and Federal Reserve Board announce a restructuring of the government's assistance to American International Group (AIG)
Mar 4, 2009	1	The U.S. Treasury Department and the Federal Reserve Board announce the launch of the Term Asset-Backed Securities Loan Facility (TALF)
Mar 12, 2009	-1	Freddie Mac reports a net loss of 23.9 billion dollars
Mar 19, 2009	1	The U.S. Department of the Treasury announces an Auto Supplier Support Program that will provide up to 5 billion dollars in financing to the automotive industry
Mar 23, 2009	1	The U.S. Treasury Department announces details on the Public-Private Investment Program for Legacy Assets
May 7, 2009	1	ECB cuts interest rates by 25bps and launches of 1y maturity refinancing operations
May 13, 2009	-1	Freddie Mac reports a first quarter 2009 loss of 9.9 billion dollars

May 19, 2009	1	The Federal Reserve Board announces that, starting in July, certain high-quality commercial mortgage-backed securities issued before January 1, 2009 (legacy CMBS) will become eligible collateral under the Term Asset-Backed Securities Loan Facility (TALF)
May 20, 2009	1	President Obama signs the Helping Families Save Their Homes Act of 2009, which temporarily raises FDIC deposit insurance coverage from 100,000 dollars per depositor to 250,000 per depositor
Jul 8, 2010	1	The International Monetary Fund has called on the ECB to prepare fresh emergency action to stabilize debt markets, throwing its weight behind calls for renewed monetary stimulus to offset budget cuts
Jul 26, 2010	1	Europe takes a further step towards restoring confidence in its banking system as it publishes the results of stress tests into the region's leading financial institutions, showing that only seven of 91 banks failed to meet its capital requirements. Europe releases bank stress test results. The stress tests, intended to restore trust in Europe's banking system, showed seven of the 91 banks – five from Spain, one from Germany and one from Greece – would need to raise new capital to fortify their finances and weather potential tough conditions. //The results of the first pan-European stress tests of the banking system are published. Only seven banks fail the stress tests, with an aggregate capital shortfall of 3.5 billions. Market analysts express skepticism at the results
Sep 30, 2010	1	Further support to Anglo Irish, Allied Irish and Nationwide banks
Jan 6, 2011	-1	The European Union unveils bondholder burden-sharing proposals, according to which senior bondholders will share the losses of failing banks
Jan 27, 2011	-1	The CEO of Deutsche Bank publicly accuses the German prime minister of downsizing the rescue plans to gain votes among the German taxpayers before elections
Apr 1, 2011	1	Fed discloses data on its support to European banks
May 10, 2011	1	Angela Merkel, German chancellor, finally gives her public blessing to Mario Draghi, governor of the Italian central bank, to become the next president of the ECB
Jul 11, 2011	-1	In counter-tendency to the other major central banks, the ECB raises interest rates by 25bps
Jul 15, 2011	-1	Only 8 smaller banks fail Europe's stress test, but the unprecedented level of detail contained in the reports exposes the weakness of German banks

Sep 2, 2011	-1	The IMF has estimated European banks could face a capital shortfall of 287 billion dollars, a European source said on Wednesday
Sep 15, 2011	1	The ECB announces additional US dollar liquidity-providing operations
Oct 6, 2011	1	The ECB announces second covered bond purchase program // The ECB announces details of refinancing operations
Oct 10, 2011	1	Belgium nationalizes Dexia Bank Belgium, stricken with Greek debt
Nov 17, 2011	-1	UniCredit, Italy's biggest bank, experiences significant funding difficulties
Nov 30, 2011	1	The ECB, the U.S. Federal Reserve Federal Reserve, the central banks of Canada, Japan, Britain and the Swiss National Bank provide global financial markets with additional liquidity to ward off the debt crisis and to support the real economy. The central banks agree to provide each other with abundant liquidity to make sure that commercial banks stay liquid in other currencies
Dec 1, 2011	1	Ireland renews its Bank Guarantee Scheme
Dec 8, 2011	-1	Ratings on 15 Spanish banks placed on creditwatch negative by S&P
Dec 22, 2011	1	Portugal reports its estimated budget deficit of 4.5 percent in 2011 will be substantially lower than expected and it will meet its 2012 target already a year earlier due to a one off transfer of pension funds. The ECB starts the biggest infusion of credit into the European banking system in the euro's 13 year history, loaning 489 billion to 523 banks for an exceptionally long period of three years at a rate of just one percent
Jan 24, 2012	-1	S&P downgrades French banks
Jan 26, 2012	1	Germany Approves Bank Bailout Bill
Feb 10, 2012	-1	S&P downgrades 37 Italian banks
Mar 23, 2012	-1	The ECB tightens banks' use of assets as collateral
Apr 12, 2012	1	The European Union discusses plans to increase the capital reserve of systemically important banks
May 14, 2012	-1	Moody's downgrades Italian Banks
May 17, 2012	-1	Moody's downgrades Spanish Banks
May 31, 2012	-1	Moody's downgrades Danish Financial Institutions
Jun 12, 2012	-1	The European Union agrees to lend Spain up to 125 billion dollars for its bank rescue fund, but the funds are deemed insufficient
Jun 25, 2012	-1	Moody's downgrades Spanish banks
Jul 16, 2012	-1	Moody's downgrades Italian banks

Sep 12, 2012	1	The European Commission publishes a proposal for a single supervisory mechanism (SSM) for all banks in the euro area, laying the foundations of a Banking Union
Jun 24, 2013	-1	EU finance ministers fail to agree on how to rescue troubled banks in future crisis
Jun 26, 2013	1	Deal struck allowing the eurozone's 500 billion euros bailout fund, the European Stability Mechanism (ESM), to be used to rescue banks
Sep 16, 2013	1	The European Parliament approves legislation necessary to implement the first stage of a Banking Union
Oct 1, 2013	1	ECB President, Mario Draghi, says he'll use "all available instruments" to keep rates low. The bank will "exclude no option," including making a third round of cheap, long-term loans to banks
Jan 28, 2014	1	Intesa Sanpaolo, a major Italian bank, repays its 49 billion dollars ECB loan one year earlier
Mar 20, 2014	-1	The United States impose sanctions against a string of Russian individuals and Bank Rossiya. These sanctions are expected to have a large impact on European banks, since their sensitivity to Russian risk is significantly larger than that of their US and Japanese rivals
Jun 6, 2014	1	The ECB cuts its overnight deposit rate from zero to minus 0.10 percent (first-time negative nominal interest rates) and unveils a 400 billion euros loan package for Europe's banks
Jul 31, 2014	-1	The European Union imposes sanctions on five Russian banks, including the country's biggest, Sberbank
Dec 31, 2014	-1	Gazprombank, the third largest Russian bank, asks the Russian government for help
Feb 23, 2015	1	ECB President Mario Draghi announces the launch of an open-ended, expanded monthly 70 billion dollars private and public bond-buying program
Apr 16, 2015	-1	Russia's Central Bank unveils program to shut down hundreds of Russian banks

2 Sovereign Shocks

Timeline	Shocks Direction	Shock Description (News article)
Feb 3, 2010	-1	Spain raises budget deficit forecasts to 9.8% of GDP in 2010, 7.5% of GDP in 2011, 5.4% of GDP in 2012 and 3% of GDP in 2013

Feb 9, 2010	1	Germany considers a plan with its EU partners to offer Greece and other troubled euro-zone members loan guarantees in an effort to calm fears of a government default and prevent a widening of the credit woes
Mar 8, 2010	1	Portugal's government announces new budget cuts, including a ramped-up privatization plan, caps on public-sector wages and tax increases on high incomes
Apr 22, 2010	-1	Eurostat says Greece's 2009 budget deficit was 13.6 percent of GDP, not the 12.7 percent it had reported. The next day Papandreou asks for activation of EU/IMF aid. // The European Union's official statistics agency says the Greek budget deficit in 2009 was wider than the government had estimated, and adds that it has reservations about the accuracy of Greek budget data that may lead to further upward revisions. Eurostat said the Greek government's budget deficit was 13.6% of gross domestic product last year. The Greek government had estimated the deficit was 12.7% of GDP in 2009 /Moody's lowers Greece's government bond rating to A3 from A2 and says further downgrades are possible
Apr 27, 2010	-1	Ratings agency Standard and Poors downgrades Greek's credit rating to junk status as the country's debt crisis heightens dramatically. // S&P downgrades Spanish bonds from AA to AA-. // Standard & Poor's downgrades Greek government debt to junk status. The next day it downgrades Spain's debt because of poor growth prospects. S&P cuts Portugal's rating by two notches to A-, saying Portuguese finances were structurally weak and the economy uncompetitive
May 4, 2010	-1	Across Europe, first day of strikes against the austerity measures
May 5, 2010	-1	Violent protests erupt in Athens against the cuts required as part of the austerity package
May 6, 2010	-1	Concerns about the ability of the Eurozone to deal with a spreading crisis effectively caused a severe market sell off, particularly in the United States where electronic trading glitches combined with a high volume sell off produced a nearly 1,000 point intra-day drop in the Dow Jones Industrial Average, before it recovered somewhat to close down 347

May 10, 2010	1	Global policymakers install an emergency financial safety net for the euro zone worth 750 billion euros to calm financial markets and avert contagion from the Greek crisis. The package consists of 440 billion euros in guarantees from euro zone states, plus 60 billion euros in a European debt instrument. The IMF is to contribute 250 billion euros
May 12, 2010	1	Under pressure from the EU and financial markets to accelerate his government's deficit-reduction plans, Prime Minister Jose Luis Rodriguez Zapatero announces Spain will cut public-sector wages by 5% this year and freeze them next year. "We need to shore up confidence in our economy," Mr. Zapatero tells parliament
May 20, 2010	-1	Thousands of Greek workers protest in Athens against cuts in wages and pensions. // Fourth strike in Greece against wage cuts
Jun 9, 2010	1	Portuguese parliament approves latest austerity package
Jun 14, 2010	-1	Moody's downgrades Greek debt by four notches to junk. The debt is already rated junk by other agencies
Jun 29, 2010	-1	About 10,000 people take part in marches across Athens during a nationwide strike against austerity measures. Greece says its debt reached 133 percent of GDP in 2010
Aug 25, 2010	-1	Standard & Poor's cuts Ireland's longterm rating by one notch to 'AA', and assigns the country a negative outlook, in a move criticised by the country's debt management agency. Moody's cut Ireland rating to Aa2 in July
Nov 22, 2010	-1	Following the withdrawal of the Irish Green Party from the governing coalition, a new election is called. // Prime Minister Brian Cowen pledges to call an election next year if a crucial budget package is approved. Mr. Cowen's concession on early elections was triggered by moves earlier that undercut the stability of the shaky coalition led by his Fianna Fail party
Dec 1, 2010	1	ECB buys Portuguese and Irish bonds
Dec 7, 2010	1	EU-IMF package for Ireland agreed
Mar 14, 2011	1	EU leaders agree on rules for a permanent, 500 billion euros bailout fund from 2013 "Pact for the Euro"

Jun 15, 2011	-1	The Greek population turned violent. // The failure of European leaders to resolve their disagreements over the Greek debt crisis combined to rattle credit markets
Jul 6, 2011	-1	Moody's downgraded Portugal's long-term government bond ratings to Ba2 from Baa1 and assigned a negative outlook. Concurrently, Moody's downgraded the government's short-term debt rating to Not-Prime from Prime-2
Jul 21, 2011	1	European leaders agree a new 109 billion euros bail-out of Greece under which private bondholders will be called on to participate for the first time, contributing a target of a further 37 billions
Jul 25, 2011	-1	Moody's downgraded Greece by three notches to Ca, the agency's next-to-lowest rating and one that implies the country is very poor or in default. // The second bail-out of Greece will weaken the credit ratings of Italy and Spain as well as resulting in a default for Athens, Moody's says
Aug 8, 2011	1	As concern grows that the debt crisis may spread to the larger economies, the ECB announces it will buy Italian and Spanish government bonds to try and bring down their borrowing costs
Aug 10, 2011	-1	Newspapers report rumors that France might lose its triple-A credit rating and worries about the financial health of French banks
Sep 7, 2011	1	Italy and Spain approve new austerity measures as they battle to control their debts
Sep 14, 2011	1	After weeks of discussions, Italy's austerity bill has been given final approval by the lower house parliament in Rome
Sep 20, 2011	-1	S&P downgraded Italy's sovereign rating. // The IMF announces the global economy has entered a "dangerous new phase" of sharply lower growth
Sep 22, 2011	-1	Greek workers stage 24-hour strike forcing the country's transport system to a standstill. // Greeks reacted with anger and disbelief at a new wave of austerity cuts enacted to keep the country in the Eurozone
Sep 27, 2011	1	The outline of a large and ambitious Eurozone rescue plan is taking shape, reports from the IMF in Washington suggest

Oct 4, 2011	-1	Eurozone finance ministers delay a decision on giving Greece its next installment of bailout cash
Oct 13, 2011	-1	S&P cut Spain's long term credit rating by one notch from AA to AA- with a negative outlook
Oct 19, 2011	1	Greek lawmakers approve the countrys latest austerity package at its first reading. // The result, which follows a day when angry rioters set fire to piles of rotting rubbish and clashed with police in one of the biggest demonstrations seen in the Greek capital for decades, is a success for prime minister George Papandreou
Oct 27, 2011	1	European leaders reach a deal with Greek debtholders that would see private investors take a 50 per cent cut in the face value of their bonds, a deep haircut that officials believe will reduce Greek debt levels to 120 per cent of gross domestic product by the end of the decade
Nov 1, 2011	-1	The Greek PM Papandreou has announced a referendum on the new Eurozone debt deal which shocked European markets and had thrown the future of the euro back into disarray
Nov 3, 2011	1	George Papandreou abandons his plan to hold a referendum on eurozone membership and instead sets his sights on winning a parliamentary confidence vote, a dramatic about-face welcomed by European leaders and financial markets
Nov 11, 2011	1	Italian legislature approves further austerity measures and the formation of an emergency government to replace that of Prime Minister Silvio Berlusconi
Dec 5, 2011	1	Mario Monti, the new Italian Prime Minister, unveils a comprehensive package of measures to bring Italy's finances back on track and to enhance growth. The package includes 30 billion euros in new austerity measures and 10 billion in growth-enhancing measures, as well as a plan to liberalize the Italian economy
Jan 13, 2012	-1	S& P downgrades France and Austria from AAA rating, lowers Spain, Italy and five other euro members further, and maintains the top credit rating for Finland, Germany, Luxembourg, and the Netherlands

Feb 15, 2012	-1	The parliament passed a new austerity package measures amid violent protests. Many buildings in the center of Athens were burnt during the riots
Mar 1, 2012	1	The member states of the European Union sign the Fiscal Compact, an intergovernmental Fiscal Stability Treaty
Mar 8, 2012	1	The ECB reactivates eligibility of Greek bonds as collateral
Apr 18, 2012	-1	The Italian government cut its growth forecast for the economy in 2012. It was previously predicting that the economy would shrink by 0.4%, but is now forecasting a 1.2% contraction
Jun 8, 2012	-1	Spain downgraded by Fitch
Jul 11, 2012	1	Spanish Prime Minister Mariano Rajoy underpins the deficit targets for 2013 and 2014 with a new 65 billion euros austerity package
Jul 26, 2012	1	ECB President Mario Draghi says that the ECB, within its mandate, will do “whatever it takes” to preserve the Euro
Aug 3, 2012	1	ECB President Mario Draghi announces that the ECB may consider interventions on secondary debt markets focusing on the short-term end of the yield curve, of a size adequate to meet its objectives, in order to restore the functioning of monetary policy. To unlock these interventions, governments must have entered into an agreement with the EFSF/ESM
Sep 6, 2012	1	The ECB announces the technical features of Outright Monetary Transactions (OMTs): an unlimited bond-buying program in secondary sovereign bond markets
Feb 26, 2013	-1	Inconclusive election results in Italy threaten to reignite the euro region’s sovereign-debt crisis
Jun 13, 2013	-1	Strikes in France protest rail sector reforms. Strikes by air and rail workers are a reminder that domestic opposition to economic reforms is high in countries affected by the eurozone crisis
Jul 3, 2013	-1	Austerity Measures strain the Portuguese government. Social unrest in Portugal
Sep 22, 2014	-1	The US Treasury secretary blames ECB for not launching a quantitative easing programme of government bond-buying

Oct 16, 2014	-1	Tension between European leaders and Russian President Vladimir Putin during the EU-Asian summit in Milan, the first formal meeting since the annexation of Crimea by the Russian Federation
Nov 24, 2014	1	European Commission President Jean-Claude Juncker presents the European Parliament with the European Fund for Strategic Investment (EFSI). The 390 billion dollars package aims to jumpstart the EU's ailing economy by attracting investment back to Europe after years of recession
Dec 10, 2014	-1	Antonis Samaras, Greece's Prime Minister, announced early presidential elections
Dec 18, 2014	1	EU leaders have agreed to launch an investment fund that could generate up to 300 billion euros to jump start the block's sluggish economies and ignite job growth
Feb 9, 2015	-1	S&P downgrades Greek Debt
Apr 17, 2015	-1	IMF chief warned Greece in its toughest language to date that the Fund will not tolerate a delay in debt payments