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The value of connections in turbulent times: Evidence from the United States☆

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ABSTRACT

The announcement of Timothy Geithner as nominee for Treasury Secretary in November 2008 produced a cumulative abnormal return for financial firms with which he had a prior connection. This return was about 6% after the first full day of trading and about 12% after ten trading days. There were subsequently abnormal negative returns for connected firms when news broke that Geithner's confirmation might be derailed by tax issues. Personal connections to top executive branch officials can matter greatly even in a country with strong overall institutions, at least during a time of acute financial crisis and heightened policy discretion.

1. Introduction

On November 21, 2008, the news leaked that Timothy Geithner would be nominated as U.S. Treasury Secretary. Through the subsequent full trading day, financial firms with a connection to Geithner experienced a cumulative abnormal return—relative to other financial sector firms—of about 6%. When Geithner's nomination ran into trouble in January 2009, due to unexpected tax issues, there was a fall in the value of firms connected to him.

The appointment of a new U.S. Treasury Secretary does not typically boost the returns of the firm for which he works or with which he has other measurable connections. For example, Goldman Sachs' stock price actually fell (by more than the market) when Henry Paulson, its chairman and chief executive, was nominated as Treasury Secretary on May 30, 2006. There is similarly no sign of excess returns for connected firms following the nominations of Paul O'Neill, John Snow, or Jack Lew as Treasury Secretary. Of the past five Treasury Secretaries, only Geithner's nomination caused a significant positive boost in value for connected firms. More broadly, econometric results showing

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large effects for political connections are typically based on data from countries with weak institutions at the national level, such as high levels of corruption.[1] In contrast, by most measures and at most times, the United States has relatively strong institutions, at least in the sense of safeguards that discourage people from giving money to executive branch officials in return for favors.

In the next section we consider possible reasons for the unusual positive returns of Geithner-connected firms. We discuss why some potential channels, such as expected material compensation or regulatory capture, are unlikely to explain our results. The most plausible explanation is what we call the *connections in a crisis* hypothesis.[2] In a time of crisis the position of Treasury Secretary has unusual powers, including over the financial system—a point that was confirmed by the emergency legislation passed in October 2008. When immediate action is necessary, social connections are likely to become more important as sources of both ideas and human capital for the U.S. executive branch. In complex stressful situations, it is natural to tap private sector friends, associates, and acquaintances with relevant expertise. Our evidence suggests that market participants understand this and adjust asset prices accordingly.

The first task for any study of political connections is to identify meaningful relationships between individual firms and particular officials. Prior to becoming Treasury Secretary, Geithner had not worked in the private sector; he was a career public official who worked at the Treasury Department and the International Monetary Fund before joining the Federal Reserve Bank of New York in 2003. However, as president of the Federal Reserve Bank of New York, Geithner spent a great deal of time with—and knew well—executives at some financial firms. Specifically, there is detailed public information on executives Geithner knew personally from two contexts: (i) people who had official meetings with him during 2007–08 (we also look just at meetings in 2007, before the financial crisis developed to the stage that bailouts were required); and (ii) people who belonged to the same nonprofit boards and business/networking groups. As a robustness check and as a way to get at interactions that might not be on the public record, we also use information on whether or not a firm is located in New York City. This measure captures the crude but reasonably reliable notion that New York City-based executives were closer in physical proximity to Geithner at the New York Fed and therefore more likely to know him (e.g., interactions between top officials and executives at social gatherings are common, though not generally documented).

Our results are qualitatively the same across all three measures of connections, although, not surprisingly, somewhat weaker for the New York City measure. The Geithner announcement effect remains significant across a wide range of robustness checks, including when we use a variety of controls, when we drop outliers, and when we use a synthetic matching estimator to ensure that our treatment group is evaluated relative to a similar control group. Citigroup received an additional bailout during our event window, so we look carefully at the consequences of dropping both that firm and other firms with highly correlated stock prices. This removes most of the largest banks from our sample, but the results still hold.

Our baseline results could reflect higher than normal returns for firms most affected by the crisis—and thus more likely to benefit from the appointment of an experienced official like Mr. Geithner. However, our findings remain robust when we compare connected firms to non-connected firms with similar size, profitability, leverage, and prior stock price behavior. Our results also hold when we control for measures of vulnerability to any intensification of the crisis, including: how intensely firms were affected in the most severe phase of the crisis during September–October 2008; how much firms' stock prices rose when capital was injected into big banks in October 2008; and how much firms were exposed to troubled assets (in particular, residential mortgage-backed securities). In addition, major policy announcements that were directly supportive of the financial sector but did not change the role of Mr. Geithner—such as the Bear Stearns rescue, the AIG bailout, or the passage of the Emergency Economic Stabilization Act—did not cause the same robust pattern of abnormal returns for Geithner-connected firms.

We also examine the market-perceived probability of bankruptcy from credit default swap (CDS) spreads. The sample is smaller but the pattern in the CDS spread data is consistent with what we find for equity prices—the Geithner announcement lowered implied default risk for firms in which executives had a connection with Geithner.

Previous research has found that personal connections to executive branch decision-makers matter a great deal in emerging markets and developing countries.[3] In contrast, the established results for the contemporary United States are more about elected representatives to Congress.[4] For

[1] Fisman (2001) found that being connected to President Suharto accounted for 23% of firms' value on average in Indonesia in the mid-1990s. For Malaysia in the late 1990s, Johnson and Mitton (2003) found that connections to Prime Minister Mahathir accounted for around 20% of firms' total stock market value in a crisis. Similar results are found in Pakistan by Khwaja and Mian (2005), in a cross-country setting by Dinç (2005), and for Weimar Germany by Ferguson and Voth (2008).

[2] A growing literature studies the effect of policy uncertainty on various economic outcomes. See, e.g., Baker, Bloom, and Davis (2015), or Pástor and Veronesi (2012).

[3] Faccio (2006) finds connections of various kinds exist everywhere, and Amore and Bennedsen (2013) find value in family connections to politicians even in relatively uncorrupt Denmark. However, other evidence suggests connections are more likely to be a first-order issue in countries with weaker safeguards against corruption. Faccio, Masulis, and McConnell (2006) show connected firms are more likely to receive bailouts across a wide range of countries, but the probability of bailout is much lower in richer countries. See also Chiu and Joh (2004) and Dinç (2005).

[4] For example, Duchin and Sosyura (2012) find that firms with political connections were more likely to receive TARP funds, and also that such firms performed worse than non-connected firms. However, they measure connections to Congress, not to Secretary Geithner. Akey (2015) presents findings that are similar in magnitude to ours, but for Congressional elections where "the wedge between firms connected to a winning politician and firms connected to a losing politician is 1.7% to 6.8% of firm equity value." Goldman, Rocholl, and So (2009) find that when George W. Bush won the presidency in 2000 (and Republicans controlled the Senate and the House of Representatives), Republican-linked firms gained 3% to 5%

example, the so-called Jeffords Effect—named after a Senator who switched parties unexpectedly, causing a change of control in the U.S. Senate—was found to be worth around 1% of firm value (Jayachandran, 2006). Roberts (1990) found statistically significant but small effects on connected firms from the unexpected death of a U.S. Senator. In the closest historical parallel to our work, Querubín and Snyder (2013) find that American legislators were not able to enrich themselves before or after the U.S. Civil War, but during the war there were substantial opportunities for personal gain—either because there was more government spending or because news media were distracted or both.

There have been relatively few published studies of connections to the executive branch in the U.S.—and none focused on links to the Treasury Secretary or other members of the cabinet—probably because this approach has not in previous instances yielded statistically significant findings.[5] Our results suggest that—at least in the minds of investors—connections to top executive branch officials can sometimes matter a great deal in the U.S., for example, when there is a great deal of market turmoil.[6]

Evidence from event studies in emerging markets should perhaps be interpreted more cautiously in this light. Whether personal connections matter for economic outcomes in any country is presumably a function not just of national-level institutions, but also of actual and potential economic and financial volatility—including negative tail events.

Section 2 summarizes the historical context and why market participants could have expected connected firms to potentially perform better. Section 3 explains our coding of connections and discusses the other variables we use. Section 4 presents our basic results and a range of robustness checks. Section 5 analyzes the effects of Geithner's tax issues, which temporarily jeopardized his nomination in January 2009. Section 6 discusses hiring at the Treasury Department following Geithner's appointment and firm-level outcomes. Section 7 concludes. The Online Appendix, comprising Tables A1 through A14, contains additional results and details on the data.

2. The context

2.1. Discretion in the hands of Treasury

Signs of a financial crisis first became evident in mid-2007 when problems with subprime mortgages began causing major losses at some hedge funds and structured investment vehicles. The problems grew in severity during the spring and summer of 2008—culminating in the collapse of Lehman Brothers and broader market impact in mid-September.

These developments prompted Treasury Secretary Henry Paulson and Federal Reserve Chairman Ben Bernanke to propose what eventually became the Emergency Economic Stabilization Act (EESA), whose centerpiece was the $700 billion Troubled Assets Relief Program (TARP) and which was signed into law on October 3, 2008. On October 14, using this legal authority, the Treasury Department, the Federal Reserve, and the Federal Deposit Insurance Corporation (FDIC) announced two measures. First, $250 billion of TARP money was made available to recapitalize financial institutions—with $125 billion already accepted as new capital by nine major banks. Second, the FDIC would guarantee new debt issued by banks.

In mid-November 2008, as President-elect Barack Obama assembled his cabinet, the financial markets remained unstable and a great deal of important policy discretion rested in the hands of the incoming Treasury Secretary. Paulson's Capital Purchase Program (CPP) had distributed capital on relatively generous terms, with access tightly controlled by Treasury, and this had a major potential impact on financial firms. In late October, for example, PNC acquired National City after the latter learned that its CPP application might not be approved. Subject to criteria that were not widely understood, the Treasury Department determined who received the benefit of both cheap capital and a government seal of approval (Veronesi and Zingales, 2010).

The Capital Purchase Program placed significant holdings of preferred stock in the hands of the Treasury Department, as well as warrants on common stock. Although the preferred stock was non-voting and Treasury committed not to vote its shares of common stock, this still left open the prospect of increased government influence; participating institutions were also subject to executive compensation and corporate governance requirements. In addition, there was the open issue of what would be done with the remaining TARP funds—and who would receive what kind of government assistance heading into 2009.

2.2. Potential channels of influence

Geithner is a long-standing public sector employee, and the United States has tough anti-bribery rules that remained effective even during the financial crisis. Geithner has also never sought election, so current or future campaign contributions are unlikely to be relevant. And before his nomination to Treasury, Geithner already had ample opportunity to land highly lucrative jobs in the private sector. It seems implausible to suggest that he was motivated—or that anyone would

relative to Democrat-linked firms; the links they measure are to both the executive and legislative branches of government.

[5] For example, Fisman, Fisman, Galef, Khurana, and Wang (2012) studied the value of connections to former Vice President Dick Cheney and found no evidence of significant effects. They concluded: "Contrary to conventional wisdom, we find that in all cases the value of ties to Cheney is precisely estimated as zero. We interpret this as evidence that U.S. institutions are effective in controlling rent-seeking through personal ties with high-level government officials." Lower down the official hierarchy, there is certainly more rent-seeking behavior. For example, Dube, Kaplan, and Naidu (2011) find that (leaked) credible private information on coup attempts backed by the United States does move stock prices.

[6] Lobbying of Congress may have become more intense during the crisis period. Igan, Mishra, and Tressel (2012) find that lobbying of legislators by lenders was associated with more risk-taking before the crisis and worse outcomes in 2008, while Igan and Mishra (2014) examine how the political influence of the financial sector affected deregulation. Mian, Sufi, and Trebbi (2010) establish that members of Congress were more likely to support the Emergency Economic Stabilization Act of 2008 if they received higher contributions from the financial services industry. Tahoun (2014) finds that members of Congress own stock in firms that contribute to their campaigns, and that such firms receive more in government contracts.

think he could be motivated—by potential employment opportunities.[7]

This leaves two leading potential reasons why market participants could have expected gains for Geithner-connected firms. First, investors might have believed that Geithner's policy preferences had been formed in part by the interests of the executives with which he was connected—an example of "cultural capture" of key official decision-makers by Wall Street (Bhagwati, 1998; Johnson and Kwak, 2011). Our results, however, are not based on a comparison of financial to nonfinancial firms, or of large financial firms relative to small financial firms. Rather, our findings are driven by a comparison of connected to non-connected firms of similar size—and, when we drop Citigroup (and the firms that are highly correlated with Citigroup), there are no megabanks in our sample. Even if Geithner took the worldview that the largest banks were "too big to fail," this does not explain our regression results.

Second, the most plausible channel of influence relates to the role of social connections. Access to government officials can be hugely beneficial, as witnessed by the large U.S. lobbying industry. When powerful politicians make decisions, they can be influenced by the people they talk to—and the people with whom they talk will likely be the people they know (Bertrand, Bombardini, and Trebbi, 2014; Blanes-i-Vidal, Draca, and Fons-Rosen, 2012). In addition to the simplest form of direct access through social connections—i.e., the fact that any official is more likely to take a phone call from someone he knows than from a person he does not know—another form of indirect access is provided by hiring. Any new administration must fill a large number of important positions, and connections are an influential factor in hiring decisions.

By November 2008, Geithner knew some members of the New York financial community very well, and it could reasonably be expected that he would continue to take their calls and listen to them seriously as Treasury Secretary. As is standard practice at Treasury—and as was done by Henry Paulson—Geithner would also be expected to place people he knew and trusted into important government positions. Even if Geithner were not to favor connected firms directly, they could still benefit through the influence of their former employees.

This *connections in a crisis* hypothesis implies that market participants might reasonably have expected Secretary Geithner's appointment to help financial firms led by executives he knew through existing professional and social connections.

[7] Studies of policymaking under the Obama administration by Suskind (2011) and Scheiber (2011), as well as first-hand accounts by Bair (2012), Barofsky (2012), and Warren (2014)—all of whom dealt directly and in detail with Treasury, and none of whom are particularly sympathetic to Geithner—contain no suggestion of corruption. After leaving Treasury, Geithner took a position with Warburg Pincus, a private equity fund that did not receive TARP funding or any other form of government assistance during the crisis.

3. Data and descriptive statistics

3.1. Full sample

Our sample consists of all firms trading on the NYSE or Nasdaq that are categorized as banks or financial services firms in the Datastream database. Of these 678 firms, we exclude those that lack sufficient stock return data in the Datastream or TAQ databases to calculate abnormal returns for our Geithner announcement event. The remaining sample of 603 firms we refer to as the "full sample."

3.2. Base sample

Citigroup received an additional round of financial support from the government between the news leak of Geithner's expected nomination at 3pm on November 21 and the official announcement of his nomination on November 24, 2008. On Sunday, November 23, the U.S. government entered into an agreement with Citigroup that provided the firm with a $20 billion capital infusion through TARP, as well as guarantees on a pool of $306 billion of troubled assets.

To the extent that there is correlation between firms connected to Geithner and firms impacted by the Citigroup bailout news, this timing complicates estimation of the Geithner effect.[8] In our tests, we address this issue in two ways. First, we report results for stock price reactions on November 21 only, which is prior to the Citigroup bailout announcement. While this approach avoids the confounding effects of the Citigroup bailout, it is not entirely appealing because the post-leak return on November 21 is only one hour in length, and because some uncertainty about his nomination presumably remained until the official announcement on November 24.

As a second approach, we exclude from our tests the firms that would most likely be affected by the bailout announcement. We rank all firms in the sample based on their return correlation with Citigroup during the period beginning the day of the Lehman collapse in September 2008 and ending the day before the Geithner nomination announcement. We drop firms that rank among the top 10% in correlation with Citigroup, and refer to those remaining as our "base sample." [9] To a large degree, the use of this base sample—which excludes the country's largest banks—should eliminate the impact of the Citigroup bailout announcement on our estimates.

[8] It is not certain that a bailout would necessarily constitute positive news for Geithner-connected firms. We test the effect of Geithner connections on returns surrounding another significant government bailout—the assistance provided to Bank of America on January 16, 2009. The Bank of America bailout was similar in structure to the Citigroup November bailout, and confirmed the government's willingness to take unprecedented measures to keep the largest banks afloat. However, our tests show that cumulative abnormal returns for Geithner-connected firms surrounding the Bank of America bailout are statistically insignificant, which suggests that Geithner-connected firms do not generally have positive responses to the news of significant government bailouts of major banks.

[9] We also construct the base sample by dropping firms that rank in the top 5% and in the top 20% of those correlated with Citigroup. Our main results remain unchanged, although in the latter case only seven firms remain in the treatment group.

3.3. Summary statistics

Our first measure of connections, which we refer to as "schedule connections," measures the number of times that Geithner interacted with executives from each firm while he was president of the New York Fed—based on his schedule for each day from January 2007 through January 2009.[10] For example, a search of Geithner's schedule for Moody's Corporation reveals two interactions between Geithner and executives of Moody's. On July 5, 2007, the schedule reads, "11:30 a.m. to 12:00 p.m. Meeting w/Raymond McDaniel, Chairman & CEO, *Moody's Corporation*" , and on September 15, 2008, the schedule reads "11:00 a.m. to 12:00 p.m. Rating Agencies Meeting" and Raymond McDaniel is listed as one of the participants. Based on this information, we code Moody's schedule connections as two.

Row 1 of Panel A of Table 1 reports descriptive statistics for this variable. By far the firm with the greatest number of interactions listed on Geithner's schedule is Citigroup, with a total of 34. Panel A of Appendix Table A1 lists all of the sample firms found on Geithner's schedule and the number of interactions. The average number of schedule connections, conditional on a firm having at least one connection, is 4.96.

The second measure, which we refer to as "personal connections," counts the number of links that Geithner has with each firm through personal relationships. We identify these links using the relationship maps published by muckety.com.[11] The maps on muckety.com show the links for a given individual to other people or to organizations.[12] We count a link between Geithner and a firm if he has a personal link with a person who is a director of the firm, or if he shares a board or similar position (e.g., trustees of the Economic Club of New York) with someone who works for the firm.[13] We require that those links be active when Geithner's nomination was announced.

For example, there is a link between Geithner and American Express on muckety.com through Kenneth Chenault, chairman and CEO of American Express, who is associated with Geithner through the National Academy Foundation, where they are both directors, and through the Partnership for New York City, where Chenault is a vice chairman and Geithner is a board member. Based on this information we code personal connections for American Express as one.

Descriptive statistics for this variable are reported in Row 2 of Table 1. Geithner has the greatest number of personal connections (nine) to Citigroup; in contrast, he has only one connection to Bank of America. The average number of personal connections to Geithner, conditional on a firm having at least one connection, is 2.24. Appendix Table A2 lists all of the identified personal connections between Geithner and sample firms.

To independently verify the accuracy of the information provided by muckety.com, we searched the annual reports of each company with an identified personal connection to Geithner, as well as other publicly available information. We were able to verify 52 of the 58 connections reported by muckety.com, 45 of those using the annual report filed most immediately subsequent to the Geithner nomination announcement (typically, for the year ending December 31, 2008), and another seven using other sources such as *Forbes* and Bloomberg. Of the remaining six connections, two are confirmed to be errors and are excluded from our data. The other four are identified as legal counsel for financial firms in the sample. These have also been excluded from our data due to the difficulty of verifying the connection and because of the different nature of these connections. These exclusions leave us with a set of 52 personal connections to Geithner from 21 different financial firms (although five connected people each have two board links to Geithner). Panel B of Appendix Table A1 lists these firms and their connections.

Geithner was president of the Federal Reserve Bank of New York, and our third measure of connections is a dummy variable equal to one if the headquarters of a firm is identified as New York City in the Datastream database. Descriptive statistics are reported in Row 3 of Table 1. Forty-five of the sample firms have headquarters in New York City; these firms are listed in Appendix Table A3. All other sample firms not listed in Appendix Table A3 are listed in Appendix Table A4.

Of the 63 firms that have some measure of connections, nine are connected according to all three measures, ten are connected according to two of the three measures, and 44 are connected according to only one of the measures. In subsequent analysis, when regressions include our standard control variables, on which some data are missing, the number of connected firms becomes 22 (using the schedule measure), 20 (using the personal connections measure), and 41 (using the New York measure). When we focus on our base sample, the number of connected firms is 12 (schedule connections), 8 (personal connections), and 34 (New York connections).

Rows 4 through 6 of Panel A of Table 1 report basic financial information for the sample firms from the Worldscope database for 2008. Size (row 4) is reported as the logarithm of total assets, profitability (row 5) is return on equity, and leverage (row 6) is the ratio of total debt to total capital. Rows 7 through 9 report summary statistics for our primary measure of firm performance, cumulative abnormal stock returns (CARs)—the calculation of which is discussed in the next section. Rows 10 through 12 report statistics for our alternative measure of performance, percentage changes in credit default swap (CDS) spreads, which is also covered in the next section.

[10] "Geithner's calendar at the New York Fed," *The New York Times*, available at documents.nytimes.com/geithner-schedule-new-york-fed.

[11] These data are broadly similar to what is available for emerging markets, e.g., (Gomez and Jomo, 1997; 1998) on Malaysia. Many connections in emerging markets are formed early in careers. Most of the Geithner connections are from his time at the New York Fed. We use muckety.com relationship maps from March 2009.

[12] Measuring connections in this way is standard in the network sociology literature. See, for example, Useem (1984). Fisman, Fisman, Galef, Khurana, and Wang (2012) review the sociology literature on why board ties matter, including for the flow of information.

[13] Most of our data are board memberships, which are a matter of public record. However, the muckety.com coding also contains some well-known mentor/adviser relationships, with Robert Rubin and a few others.

Table 1
Descriptive statistics.

The table presents descriptive statistics of firm-level data used in subsequent tables. The sample includes firms listed on NYSE or Nasdaq and classified as banks or financial services firms in the Datastream database. The base sample excludes firms with returns highly correlated to Citigroup. Schedule connections denote the number of meetings between the firm's executives and Timothy Geithner during 2007-08; personal connections denote the number of shared board memberships between the firm's executives and Geithner; New York connections indicate firms headquartered in New York City. Size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) are from the Worldscope database as of 2008. CDS spreads are from the Markit database and are for five-year contracts, stated in percents. Asterisks denote significance levels of a two-tailed *t*-test (*** = 1%, ** = 5%, * = 10%).

Panel A: Summary statistics (full sample)

		Mean	Min	25th pctile	Median	75th pctile	Max	St. dev.	*N*
(1)	Geithner connections (schedule)	0.21	0.00	0.00	0.00	0.00	34.00	1.74	603
(2)	Geithner connections (personal)	0.08	0.00	0.00	0.00	0.00	9.00	0.60	603
(3)	Geithner connections (New York)	0.07	0.00	0.00	0.00	0.00	1.00	0.26	603
(4)	Size	21.33	16.32	20.23	21.03	22.10	28.41	1.72	596
(5)	Profitability	−0.05	−3.62	−0.06	0.04	0.09	0.82	0.35	585
(6)	Leverage	0.57	0.00	0.43	0.61	0.71	3.10	0.27	592
(7)	CAR[0]	−0.02	−0.24	−0.04	−0.01	0.01	0.35	0.06	603
(8)	CAR[0,1]	−0.02	−0.46	−0.07	−0.02	0.03	0.48	0.11	603
(9)	CAR[0,10]	0.02	−0.69	−0.10	−0.02	0.09	1.38	0.21	603
(10)	CDS spread, day 1	4.65	0.23	1.16	2.33	5.32	29.29	6.15	30
(11)	% Change in CDS spread[1]	−0.04	−0.49	−0.03	0.00	0.00	0.02	0.10	30
(12)	% Change in CDS spread[1,10]	−0.06	−0.49	−0.12	−0.03	0.00	0.15	0.13	30

Panel B: Geithner connected vs. non-connected (full sample)

		Schedule	Non	Diff.	Personal	Non	Diff.	New York	Non	Diff.
(13)	Size	24.40	21.20	3.20***	25.00	21.20	3.80***	21.78	21.30	0.48*
(14)	Profitability	0.04	−0.06	0.10	−0.15	−0.05	−0.10	−0.17	−0.04	−0.13**
(15)	Leverage	0.73	0.56	0.17***	0.60	0.56	0.04	0.57	0.56	0.00
(16)	Number of observations in full sample	25	578		21	582		45	558	

Panel C: Geithner connected vs. non-connected (base sample)

		Schedule	Non	Diff.	Personal	Non	Diff.	New York	Non	Diff.
(17)	Size	23.13	20.98	2.16***	23.17	21.00	2.17***	20.95	21.04	−0.09
(18)	Profitability	0.06	−0.07	0.13	−0.42	−0.06	−0.36***	−0.20	−0.05	−0.14**
(19)	Leverage	0.71	0.56	0.15**	0.52	0.57	−0.05	0.54	0.57	−0.03
(20)	Number of observations in base sample	15	530		9	536		38	507	

Panel D: Correlation coefficients (full sample)

		Schedule	Personal	New York	Size	Profitability	Leverage
(21)	Geithner connections (schedule)	1.00					
(22)	Geithner connections (personal)	0.86	1.00				
(23)	Geithner connections (New York)	0.35	0.39	1.00			
(24)	Size	0.35	0.37	0.10	1.00		
(25)	Profitability	0.00	−0.03	−0.11	0.05	1.00	
(26)	Leverage	0.04	0.06	−0.15	0.28	−0.16	1.00

Panel B of Table 1 reports differences in the means of these variables between firms connected to Geithner and non-connected firms; here, his schedule and personal connections are converted to a dummy variable equal to one for firms that have any connection. Row 13 of Panel B shows that connected firms are significantly larger than non-connected firms for all three measures of connections. Row 14 shows that profitability is significantly lower for connected firms, but only when we use the New York measure. Row 15 shows that leverage is higher for connected firms, but the difference is only significant for the schedule measure of connections. Panel C repeats the analysis of Panel B for the base sample. The differences reported in Panel C are broadly similar to those in Panel B. Because of the performance differences shown in Panels B and C, we control for these variables below. Finally, Panel D of Table 1 reports correlation coefficients between the explanatory variables reported in Panel A.

4. Geithner connections and stock returns

In this section we study whether connections to Geithner, as defined in the previous section, are associated with differences in returns at the time of the announcement of Geithner's nomination. We begin by calculating returns for each firm in the sample on the relevant dates. Geithner's nomination was officially announced by President-elect Barack Obama early on Monday, November 24, 2008. However, news of his impending nomination was leaked to the press late in the trading day on Friday, November 21, 2008 at approximately 3:00 p.m. ET—a time that coincides with the beginning of a stock market rally.

For the purposes of studying stock price reactions, we define event day 0 as November 21 and event day 1 as November 24, with subsequent event days corresponding to subsequent trading days. We obtain daily stock returns for each sample firm from the Datastream database. To

Table 2
Connections to Geithner and stock price reactions to Treasury Secretary announcement.

The table presents stock returns of financial firms around the announcement of Barack Obama's nomination of Timothy Geithner as Treasury Secretary. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. Abnormal returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0. The base sample excludes firms with returns highly correlated to Citigroup. Schedule connections indicate meetings between the firm's executives and Geithner during 2007-08; personal connections indicate shared board memberships between the firm's executives and Geithner; New York connections indicate firms headquartered in New York City. Asterisks denote significance levels of a two-tailed *t*-test, with standard errors adjusted for pre-event correlation between firms (*** = 1%, ** = 5%, * = 10%).

Panel A: Actual returns, base sample

		Schedule connections			Personal connections			New York connections		
Event day	Date	Conn.	Non-conn.	Difference	Conn.	Non-conn.	Difference	Conn.	Non-conn.	Difference
0	11/21/2008	0.086	0.042	0.043***	0.075	0.043	0.033	0.085	0.040	0.044***
1	11/24/2008	0.130	0.046	0.084***	0.143	0.047	0.096***	0.078	0.046	0.031***
2	11/25/2008	0.026	0.015	0.011	0.057	0.014	0.043*	0.032	0.014	0.018
3	11/26/2008	0.112	0.041	0.071***	0.112	0.042	0.071***	0.087	0.040	0.048***
4	11/28/2008	0.056	0.018	0.038**	0.085	0.018	0.067***	0.016	0.019	−0.003
5	12/1/2008	−0.131	−0.076	−0.056***	−0.144	−0.076	−0.067***	−0.105	−0.075	−0.030***
6	12/2/2008	0.046	0.043	0.003	0.044	0.043	0.001	0.090	0.040	0.050***
7	12/3/2008	0.034	0.018	0.016	0.043	0.018	0.024	0.031	0.018	0.013
8	12/4/2008	−0.009	−0.013	0.005	0.005	−0.014	0.019	−0.020	−0.013	−0.008
9	12/5/2008	0.063	0.024	0.038**	0.042	0.025	0.017	0.050	0.024	0.026**
10	12/8/2008	0.064	0.027	0.037**	0.043	0.028	0.015	0.050	0.027	0.023**
0–10	(Cumulative)	0.551	0.180	0.371***	0.645	0.183	0.463***	0.468	0.169	0.299***

Panel B: Cumulative abnormal returns, base sample

		Schedule connections			Personal connections			New York connections		
Event day	Date	Conn.	Non-conn.	Difference	Conn.	Non-conn.	Difference	Conn.	Non-conn.	Difference
0	11/21/2008	−0.013	−0.015	0.001	−0.034	−0.014	−0.020	−0.005	−0.015	0.010
1	11/24/2008	0.024	−0.022	0.046***	0.005	−0.021	0.026	−0.011	−0.021	0.010
2	11/25/2008	0.039	−0.013	0.052**	0.052	−0.012	0.064*	0.012	−0.013	0.025*
3	11/26/2008	0.099	−0.001	0.101***	0.107	0.000	0.108***	0.053	−0.002	0.055***
4	11/28/2008	0.141	0.009	0.132***	0.177	0.009	0.167***	0.056	0.009	0.048***
5	12/1/2008	0.136	0.006	0.129***	0.175	0.007	0.168***	0.067	0.006	0.061***
6	12/2/2008	0.124	0.017	0.107***	0.156	0.017	0.138***	0.105	0.013	0.092***
7	12/3/2008	0.120	0.013	0.107***	0.156	0.014	0.142***	0.101	0.010	0.091***
8	12/4/2008	0.152	0.024	0.129***	0.208	0.024	0.184***	0.118	0.021	0.098***
9	12/5/2008	0.162	0.018	0.144***	0.192	0.019	0.172***	0.121	0.015	0.106***
10	12/8/2008	0.171	0.014	0.157***	0.173	0.015	0.158***	0.120	0.010	0.110***

more precisely delineate the response to the Geithner announcement on event day 0, we calculate returns on that day as only the returns from 3:00 p.m. until the market close at 4:00 p.m. We obtain intraday returns from the TAQ database.

4.1. Univariate tests

Panel A of Table 2 compares actual returns between connected and non-connected firms in the base sample for event days 0 through 10. Panel A shows that on event day 0, using schedule connections, connected firms outperformed non-connected firms by 4.3 percentage points, a difference that is significant at the 1% level. Results are similar for the other measures of connections, though not statistically significant for personal connections.

On event day 1, when the nomination was officially announced, return differences are even more pronounced. Using the schedule measure, connected firms outperformed non-connected firms by 8.4 percentage points on this day. The corresponding outperformance for firms with personal connections is 9.6 percentage points, and for firms with New York connections it is 3.1 percentage points. All of these differences are significant at the 1% level.

Panel A also shows that connected firms continued to outperform non-connected firms on each day through event day 10, with the primary exception being event day 5.[14] The final row of Panel A reports cumulative performance for event days 0 through 10. Using the schedule measure of connections, connected firms outperformed non-connected firms by 37.1 percentage points over this period. For personal connections the difference was 46.3 percentage points, and for New York connections the difference was 29.9 percentage points. By any measure of connections, the outperformance of connected firms over this period was economically large and highly statistically significant.

Because there were large market movements during the event window, it is important to also calculate abnormal returns for the event days. Our procedure for calculating

[14] The underperformance of connected firms on event day 5 (a day when there was a sharp market downturn) applies only to actual returns. In terms of abnormal returns (discussed below), there is no significant underperformance of connected firms on event day 5.

abnormal returns follows Campbell, Lo, and MacKinlay (1997). We calculate cumulative abnormal returns using the market model as follows:

$$\mathrm{CAR}[0,n]_i = \sum_{t=0}^{n} \mathrm{AR}_{it}, \tag{1}$$

where $\mathrm{CAR}[0,n]_i$ is the cumulative abnormal return for firm i for event days 0 through n. AR_{it} is calculated as

$$\mathrm{AR}_{it} = R_{it} - [\hat{\alpha}_i + \hat{\beta}_i R_{mt}], \tag{2}$$

where AR_{it} is the abnormal return for firm i on event day t, R_{it} is the actual return on firm i for event day t, and R_{mt} is the return on the market for event day t, with the market return represented by the return on the S&P 500 index. The parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimated from the following equation:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \tag{3}$$

on a pre-event period of 250 trading days ending 30 days prior to event day 0. Although there is no generally agreed-upon length for the estimation window, a length of 250 days corresponds to roughly one year of trading and has been used in other studies such as Jayachandran (2006) and Li and Lie (2006). The cumulative abnormal returns show the actual returns of each firm less the predicted returns of each firm based on that firm's performance relative to the market over the estimation period.

Panel B of Table 2 compares cumulative abnormal returns between connected firms and non-connected firms in the base sample for event days 0 through 10. In contrast to the actual returns reported in Panel A, no significant difference is reported between CARs of connected firms and non-connected firms for the one hour of event day 0. Beginning on event day 1, the differences in CARs between connected firms and non-connected firms are relatively large, and statistically significant at the 1% level for schedule connections. Significant differences in CARs increase on subsequent event days. The final row of Panel B shows that using the schedule measure, CAR[0, 10] for connected firms is higher than CAR[0, 10] for non-connected firms by 15.7 percentage points. The corresponding differences for the other measures are 15.8 percentage points and 11.0 percentage points, and in all cases the difference between the CARs is significant at the 1% level. We have repeated the analysis of Table 2 for the full sample; Appendix Table A5 shows results that are fairly similar to those reported for the base sample. Appendix Table A6 reports similar results using medians rather than means; the exception is cumulative abnormal returns with the personal connections measure.

Table 2 shows strong performance of connected firms relative to non-connected firms in response to Geithner's nomination as Treasury Secretary. In the tests that follow, we assess whether these results hold when controlling for other firm characteristics in a multivariate setting.

4.2. OLS regression results

To control for additional characteristics of the sample firms, we first test the relationship between connections to Geithner and cumulative abnormal returns in a regression framework. We estimate the following equation:

$$\mathrm{CAR}_i = \alpha + \beta x_i + \mathbf{z}_i'\phi + \varepsilon_i, \tag{4}$$

where CAR_i is either CAR[0], CAR[0, 1], or CAR[0, 10] for firm i, x_i is a measure of connections for firm i, and $\mathbf{z}_i$ is a set of firm-level covariates for firm i (such as firm size, profitability, and leverage).

The firm-level covariates are included to control for other basic firm characteristics that could have some effect on the observed relationship between connectedness and returns. A common practice in regressions of this type in previous literature is to not control for firm-level characteristics (see, e.g., Fisman, Fisman, Galef, Khurana, and Wang, 2012; Fisman, 2001; Jayachandran, 2006), although Johnson and Mitton (2003) control for firm size and leverage, and Jayachandran (2006) controls for firm size in robustness checks.

Results from such regressions could be confounded, however, by the differential effects of events following Geithner's nomination on firms with different characteristics. For this reason, in the regressions that follow we control flexibly for a range of firm-level characteristics and, as a further step in this direction, we also report results from various matching estimators.

Firm size is included as a control because if Geithner had more interaction with larger firms—and Panel B of Table 1 indicates that this is the case—then the observed performance of Geithner-connected firms could be due to their size rather than to their connections. Profitability is also an important control because it is an indicator of how hard each firm had been impacted by the crisis, and it is possible that the firms that had been hit the hardest also had the most to gain from Geithner's appointment. Finally, leverage is included as an additional indicator of the vulnerability of each firm during the crisis. For all of these variables, we include cubics—i.e., the level, square, and cubed value—to account for potential nonlinear effects, but we have also checked the results using just the level (pure linear effects) and just the level plus the square value.

There might be other factors causing correlation of error terms (residual returns) across firms. Unadjusted OLS standard errors would be biased in this case and could be too low. To adjust for this possibility, we estimate adjusted standard errors that account for potential cross-firm correlation of residual returns. We estimate the covariance matrix of returns using pre-event return data on a window of 250 trading days ending 30 days prior to event day 0. This estimated covariance matrix is then used to calculate our standard errors, under the assumption that the pre-event covariance matrix is an appropriate estimate of the covariance matrix during the event. These adjusted standard errors should account for observed cross-sectional correlation of returns between firms in our sample (see Becker, Bergstresser, and Subramanian, 2013; Greenwood, 2005). We use these adjusted standard errors below.

Table 3 reports results of the estimation of Eq. (4). The adjusted standard errors are reported below coefficients in parentheses. The three measures of Geithner connections (schedule, personal, and New York) are tested in turn.

Table 3
Connections to Geithner and reactions to Treasury Secretary announcement, OLS regression results.

The table reports coefficient estimates of OLS regressions of cumulative abnormal returns (CARs) surrounding the announcement of Timothy Geithner as Treasury Secretary on measures of connections to Geithner. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. The CAR is measured as day 0 only, from day 0 to day 1, or from day 0 to day 10, as indicated. Abnormal returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0. The base sample excludes firms with returns highly correlated to Citigroup. Schedule connections denote the number of meetings between the firm's executives and Geithner during 2007-08; personal connections denote the number of shared board memberships between the firm's executives and Geithner; New York connections indicate firms headquartered in New York City. Control variables include cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008. Robust standard errors, adjusted for pre-event correlations between firms, are below coefficients in parentheses. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable is CAR[0] (full sample)			Dependent variable is CAR[0,1] (base sample)			Dependent variable is CAR[0,10] (base sample)		
	Schedule	Personal	New York	Schedule	Personal	New York	Schedule	Personal	New York
Geithner connections	0.0033***	0.0073**	0.0132*	0.011***	0.050***	0.005	0.009	0.070***	0.108***
	(0.0009)	(0.0031)	(0.0072)	(0.003)	(0.010)	(0.011)	(0.007)	(0.023)	(0.023)
Size	−0.146	−0.109	−0.004	0.789	0.882	0.963	2.640	2.663	2.387
	(0.204)	(0.208)	(0.203)	(0.668)	(0.685)	(0.687)	(1.636)	(1.664)	(1.657)
Size^2	0.007	0.005	0.000	−0.039	−0.044	−0.048	−0.129	−0.131	−0.117
	(0.009)	(0.010)	(0.009)	(0.032)	(0.033)	(0.033)	(0.078)	(0.080)	(0.079)
Size^3	0.000	0.000	0.000	0.001	0.001	0.001	0.002*	0.002*	0.002
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Profitability	0.039***	0.039***	0.038***	0.029	0.033	0.029	−0.156**	−0.150**	−0.164**
	(0.014)	(0.014)	(0.014)	(0.024)	(0.024)	(0.024)	(0.064)	(0.065)	(0.064)
Profitability^2	0.011	0.010	0.008	0.005	0.003	0.004	−0.175*	−0.178*	−0.205**
	(0.020)	(0.020)	(0.020)	(0.035)	(0.035)	(0.035)	(0.091)	(0.091)	(0.090)
Profitability^3	−0.001	−0.001	−0.001	0.006	0.005	0.005	−0.034	−0.035	−0.040*
	(0.006)	(0.006)	(0.006)	(0.010)	(0.010)	(0.010)	(0.023)	(0.023)	(0.023)
Leverage	−0.012	−0.013	−0.011	−0.075	−0.063	−0.096	0.567***	0.599***	0.670***
	(0.061)	(0.062)	(0.063)	(0.079)	(0.079)	(0.082)	(0.146)	(0.147)	(0.153)
Leverage^2	0.087	0.088	0.088	0.091	0.078	0.128	−1.872***	−1.916***	−0.203***
	(0.181)	(0.181)	(0.182)	(0.226)	(0.226)	(0.229)	(0.463)	(0.464)	(0.476)
Leverage^3	−0.095	−0.096	−0.096	−0.008	−0.007	−0.033	1.449***	1.467***	1.539***
	(0.142)	(0.142)	(0.142)	(0.177)	(0.177)	(0.179)	(0.388)	(0.387)	(0.395)
Number of firms	583	583	583	525	525	525	525	525	525
R-squared	0.038	0.036	0.036	0.043	0.049	0.038	0.065	0.070	0.078

Although there is no established standard in the literature for the appropriate length of the event window, we follow the practice of first reporting results for shorter event windows (CAR[0] and CAR[0, 1]) and then a longer event window (CAR[0, 10])—where the latter should be seen primarily as a way to determine if the effects we find in CAR[0, 1] were quickly reversed. The first three columns of the table report results for the full sample with CAR[0] as the dependent variable—the Citigroup bailout occurred after the first trading day and thus correlation with Citigroup is not a concern when we use CAR[0].

In column 1 the coefficient on schedule connections is 0.0033, which indicates an abnormal return of over 0.3% for each additional connection, and is statistically significant at the 1% level. A firm with a number of connections equal to the sample average, conditional on being connected (4.96 connections in the full sample), would have had an abnormal return of roughly 1.6% on average relative to non-connected firms during the last hour of trading on November 21.

The coefficient on personal connections is significant at the 5% level and indicates an abnormal return of over 0.7% for each additional personal connection, which also implies a similar average abnormal return of about 1.6% for the average connected firm (which has 2.24 personal connections in the full sample).[15] The coefficient on New York connections is significant at the 10% level and indicates that firms with New York connections had abnormal returns of 1.3% relative to non-connected firms.

Columns 4 through 6 of Table 3 report results for CAR[0, 1], focusing on the base sample. The coefficients on schedule connections and personal connections are both positive and significant at the 1% level. The magnitude of the coefficient on schedule connections indicates that each additional interaction with Geithner during his tenure at the New York Fed is associated with an abnormal return of 1.1% for event days 0 and 1 combined. This implies an

[15] Among the groups through which Geithner has connections, the Council on Foreign Relations stands out as a relatively large body, which could imply weaker connections between members. If we do not count the Council on Foreign Relations as a source of personal connections, the results are similar. For example, the coefficient on Geithner connections in column 2 is 0.0063 and insignificant, the coefficient in column 5 is 0.032 and significant at the 5% level, and the coefficient in column 8 is 0.084 and significant at the 1% level.

abnormal return of about 3.5% for the average connected firm (which has 3.16 schedule connections in the base sample). The coefficient on personal connections indicates an abnormal return of 5.0% for each additional personal connection between Geithner and the firm, and thus an abnormal return of about 8.8% for the average connected firm (which has 1.75 personal connections in the base sample). The coefficient on New York connections is not statistically significant.

The last three columns of Table 3 report results for the estimation of Eq. (4) on the base sample with CAR[0, 10] as the dependent variable. In these three columns the coefficient on Geithner connections is positive for all measures and significant at the 1% level for the personal and New York measures. Compared to the quantitative magnitudes for CAR[0, 1], the coefficients on the personal and schedule measures are similar, but the coefficient on the New York measure is much larger, showing an abnormal return of 10.8% for connected firms.

In summary, Table 3 reports economically meaningful and statistically significant cumulative abnormal returns for Geithner-connected firms following the announcement of his nomination as Treasury Secretary, for both short and long event windows.

Fig. 1 shows the effect of Geithner connections graphically. The figure shows the Geithner connection coefficient (β) from Eq. (4) estimated for each trading day from ten days before to ten days after the nomination event. Panel A shows results for schedule connections, and Panel B for personal connections. Each panel also reports confidence intervals for testing whether β is significantly different from zero at 1% and 5% levels using our adjusted standard errors, and marks event day 0 with a vertical line.[16]

A marked change in the results for Geithner-connected firms is visible following the nomination event. Panel A shows no significant Geithner effect prior to the nomination. Though Panel B shows some significant (negative and positive) effects prior to the nomination, there is no clear pre-trend before the nomination. In both panels, the pre-event returns are overshadowed by the strongly significant positive Geithner effect shown for event day 1. Following event day 1 there are additional significant positive Geithner-connection coefficients, although in Panel A there are two significant negative coefficients as well. Overall, Fig. 1 visually confirms the significant regression results reported in Table 3.

4.2.1. Robustness checks for OLS results

Table 4 reports the results from additional tests to assess the robustness of our baseline results. In this table and in others that follow, we include our control variables in all specifications; to save space, we do not report the coefficients or report results for New York connections.

We first address the question of whether Geithner-connected firms performed well after the announcement of his nomination because of their personal connections to Geithner or because Geithner's appointment represented a signal that economic policy would be sensible. If the nomination was simply a signal of sound economic policy, then firms in weaker condition—those that were more vulnerable to a continuation or intensification of the crisis—would be expected to perform better upon the nomination announcement. Our standard controls in Table 3 and throughout the paper include profitability and leverage, which proxy for crisis vulnerability to some degree. But in Table 4 we also control for crisis vulnerability using additional approaches.

Our first method seeks to control for the vulnerability of firms to the macroeconomic conditions prevailing at the time. We get at this vulnerability through several measures. We control for the extent to which firms' stock prices declined in the immediate aftermath of the collapse of Lehman Brothers in September 2008, which we view as a proxy for how badly a firm might have suffered from the uncertainty or the fire sales that a further collapse could have triggered (and that Geithner's policies might have been anticipated to mitigate). Specifically, we calculate the cumulative abnormal return starting on the day of Lehman's bankruptcy (Monday, September 15, 2008, is day 0 for this event) and for the following four days, which comprises the entire trading week.

We also control for whether the firm is a deposit-taking institution, as such institutions could have differed in vulnerability to the crisis compared with other financial firms. Using Worldscope data, we create a dummy variable for having positive deposits. And we control for whether firms had already received TARP funding prior to the announcement of Geithner's nomination, which can act as another proxy for the systemic importance of a firm. TARP-approved firms were unlikely to collapse.

Columns 1 and 2 of Table 4 report results controlling for all three of these proxies for crisis vulnerability. The results are similar to our baseline results, with the exception that results for CAR[0, 10] are somewhat weaker (Panel C). The coefficients on the proxies for crisis vulnerability (not reported in the table) are not always statistically significant in the regressions, but the coefficients on the Lehman bankruptcy CAR and the deposit-taking dummy are generally negative, and the coefficient on the TARP-funding dummy is generally positive.

Our second method, reported in columns 3 and 4, is to control for how firms responded to the announcement in early October that TARP funds would be used to recapitalize large banks. This decision was generally regarded as the best of the available alternatives, so the response to this announcement offers another plausible way to control for how firms were affected by sound policy decisions. This decision was made public on Monday, October 13, and we calculate CAR[0, 1] for this event with October 13 as day 0 and October 14 as day 1. Columns 3 and 4 show that controlling for this variable in our regressions does not alter the main results. The effect of being connected to Geithner remains statistically significant and the coefficient is not much affected.

[16] For consistency, all coefficients shown in the graph are for the base sample, even though the full sample would be preferred prior to the event day (as used in Table 3). In addition, because the figure is constructed using daily returns, it does not show the initial positive abnormal return following the 3pm news leak on November 21. The confidence intervals do not change over time because they are computed from the same covariance matrix of returns using pre-event return data for each trading day.

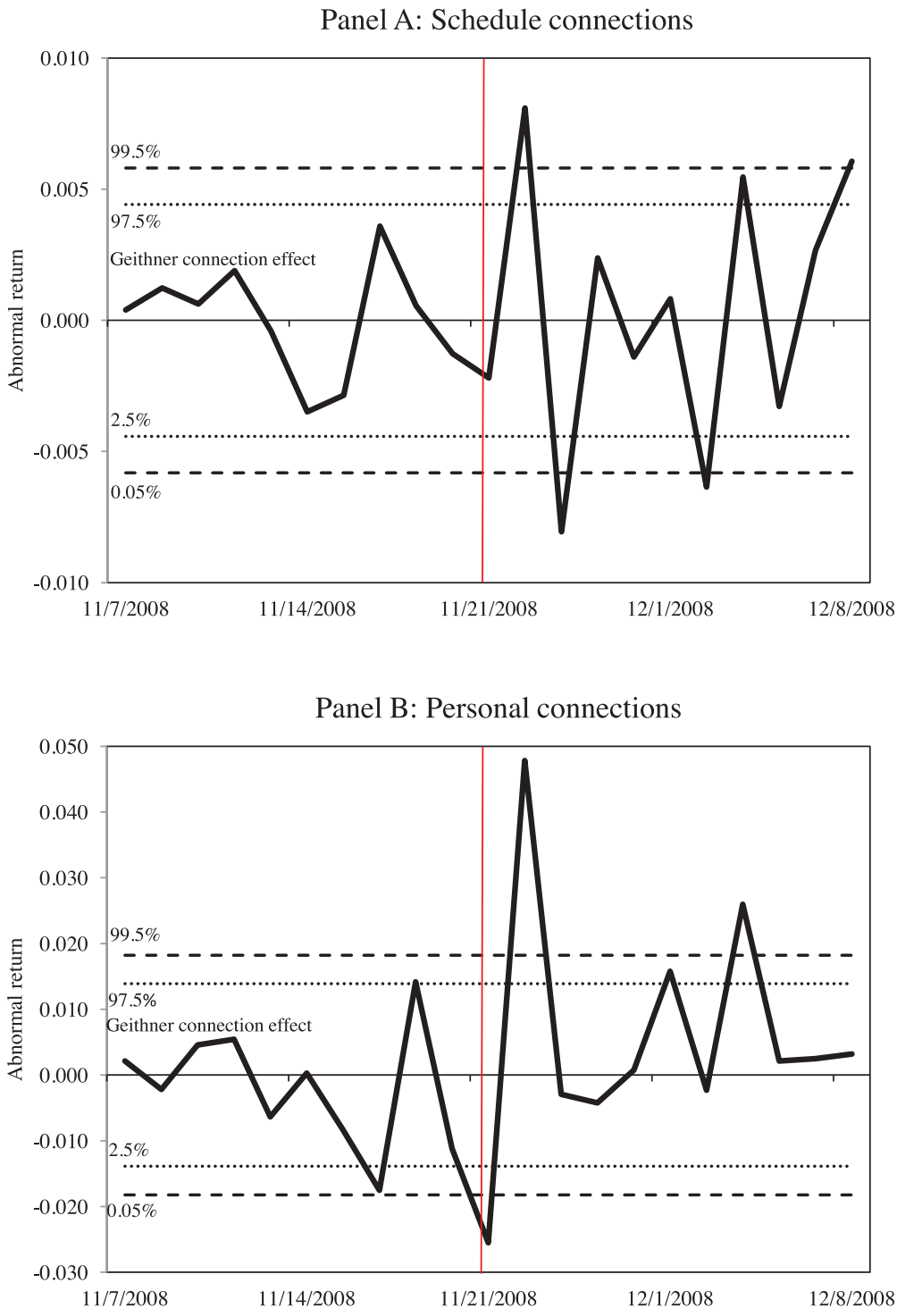

Fig. 1. The charts present the Geithner connection coefficient from Eq. (1) estimated for each trading day from ten days before to ten days after the day of the Geithner nomination announcement (indicated by the vertical line). The sample is as described in Table 1. Confidence intervals at 1% and 5% levels are also shown.

Table 4
Connections to Geithner and reactions to Treasury Secretary announcement, OLS robustness checks.

The table reports coefficient estimates of OLS regressions of cumulative abnormal returns (CARs) surrounding the announcement of Geithner as Treasury Secretary on measures of connections to Geithner. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. The CAR is measured as day 0 only, from day 0 to day 1, or from day 0 to day 10, as indicated. Abnormal returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0. The base sample excludes firms with returns highly correlated to Citigroup. Schedule connections denote the number of meetings between the firm's executives and Geithner during 2007–08 (only 2007 in column 13); personal connections denote the number of shared board memberships between the firm's executives and Geithner. Control variables (not reported) include cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008. In columns 1 and 2, other controls (not reported) include the CAR[0,4] for the firm upon the collapse of Lehman Brothers, a dummy variable equal to one if the firm takes deposits, and a dummy variable equal to one if the firm had accepted TARP funding prior to the announcement. In Columns 3 and 4, a control for the CAR[0,1] surrounding the announcement that TARP would be used for capital injections is included. In columns 5 and 6, the estimation window is a five-week window surrounding the collapse of Lehman Brothers. In columns 7 and 8, toxic asset exposure is a measure of mortgage/asset-backed security holdings scaled by total assets, and the full sample is used in all panels. Robust standard errors, adjusted for pre-event correlations between firms (except in columns 11 and 12), are below coefficients in parentheses. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Control for crisis vulnerability		*Control for response to TARP capital injections*		*Lehman collapse estimation beta*		*Control for toxic asset exposure*		*Exclude extreme CARs (1%/99%)*		*Median regressions*		*2007 Appts. only*
	Schedule	*Personal*	*Schedule*	*Personal*	*Schedule*	*Personal*	*Schedule*	*Personal*	*Schedule*	*Personal*	*Schedule*	*Personal*	*Schedule*
Panel A: Dependent variable is CAR[0] (full sample)													
Geithner connections	0.0034***	0.0079***	0.0032***	0.0075**	0.0046***	0.0144***	0.0030***	0.0108***	0.0032***	0.0070**	0.0030***	0.0052	0.0043***
	(0.0010)	(0.0029)	(0.0009)	(0.0031)	(0.0009)	(0.0031)	(0.0010)	(0.0037)	(0.0009)	(0.0031)	(0.0007)	(0.0034)	(0.0013)
Number of firms	576	576	579	579	583	583	196	196	571	571	583	583	583
R-squared	0.040	0.037	0.049	0.047	0.063	0.064	0.063	0.061	0.043	0.039	0.030	0.027	0.037
Panel B: Dependent variable is CAR[0,1] (base sample)													
Geithner connections	0.011***	0.051***	0.011***	0.048***	0.015***	0.065***	0.014***	0.051***	0.009***	0.048***	0.006	0.009	0.030***
	(0.003)	(0.010)	(0.003)	(0.010)	(0.003)	(0.010)	(0.001)	(0.006)	(0.003)	(0.011)	(0.005)	(0.017)	(0.005)
Number of firms	518	518	521	521	525	525	196	196	517	517	525	525	525
R-squared	0.042	0.050	0.039	0.045	0.057	0.065	0.232	0.217	0.056	0.065	0.030	0.049	0.048
Panel C: Dependent variable is CAR[0,10] (base sample)													
Geithner connections	0.004	0.045**	0.008	0.064***	0.023***	0.120***	0.020***	0.076***	0.010	0.072***	0.009	0.095***	−0.003
	(0.006)	(0.021)	(0.006)	(0.021)	(0.007)	(0.023)	(0.004)	(0.014)	(0.007)	(0.023)	(0.006)	(0.019)	(0.010)
Number of firms	518	518	521	521	525	525	196	196	516	516	525	525	525
R-squared	0.120	0.122	0.074	0.078	0.073	0.080	0.246	0.240	0.067	0.074	0.043	0.048	0.064

As a third approach we recalculate abnormal returns using an estimation window that is focused on the turbulent period surrounding Lehman's collapse—so our measure of expected returns uses betas that reflect the response of each firm to market movements during this particular period. We calculate abnormal returns as described above, except that the estimation period begins two weeks prior to the Lehman collapse (Monday, September 1, 2008) and ends three weeks after the Lehman collapse (Friday, October 3, 2008), when Congress ultimately approved EESA (which included TARP). Results using this measure of abnormal returns are reported in columns 5 and 6. The results show that the coefficients on Geithner connections are significant across all three panels in this specification and are all larger in magnitude than the coefficients in our baseline results.

As a fourth approach, in columns 7 and 8, we control directly for the exposure of financial firms to "toxic assets." We measure exposure to toxic assets using data from Erel, Nadauld, and Stulz (2014). We use their measure of holdings of mortgage-backed and asset-backed securities (scaled by total assets) compiled from the Consolidated Financial Statements for bank holding companies, as reported by the Federal Reserve Board of Governors. We use data as of December 2008, and the variable is available for only 196 insured banks in our sample. When controlling for this variable, the coefficient on Geithner connections is highly significant in all three panels. The coefficient on "toxic assets" (not reported in the table) is always positive and usually significant.

In our next robustness checks we test for the influence of extreme observations on our results. In columns 9 and 10 we check for the influence of outliers by excluding firms with extreme CARs, defined as those larger than the 99th percentile or smaller than the 1st percentile. The Geithner coefficient is significant in all but one case in this specification across the three panels. As an additional check on the influence of outliers, in columns 11 and 12 we report the results of median regressions. This is one case in which the CAR[0, 1] results, though positive, are not statistically significant, indicating that one or more of the firms with higher CARs do have an influence on our OLS results. We discuss this issue further in Section 4.3.1.[17]

We consider whether results obtained for the schedule measure of connections are robust when we calculate the number of connections using only Geithner's appointments from the year 2007. By 2008, the initial stages of the crisis were underway, so Geithner might have had an increased number of meetings during this time with firms affected by the crisis. Using only 2007 appointments as the schedule measure of connections puts the focus on pre-crisis relationships. The results using the 2007 measure are reported in column 13. As with our baseline results, the coefficient on schedule connections is significant at the 1% level for CAR[0] and CAR[0, 1], but not for CAR[0, 10].

[17] We also search archives of the *Wall Street Journal* and Dow Jones Newswire for confounding events that may have impacted connected firms with particularly high returns during the event period, but the news we find (both positive and negative) for these firms appears to be relatively minor.

To summarize, in the Table 4 robustness checks the Geithner connection coefficients generally retain statistical significance, although there are some exceptions. The magnitudes of the coefficients vary but are often larger than those reported in the corresponding baseline results in Table 3. Table 4 indicates the positive relation between Geithner connections and abnormal returns surrounding his nomination announcement is fairly robust in OLS specifications.

We also obtain similar results using various matching estimators, reported in Appendix Table A7. This includes propensity score matching estimators in which firms were matched: just on size; on primary control variables (size, profitability, and leverage); and on primary control variables plus other control variables (TARP participation dummy, deposit-taking dummy, and the CAR surrounding the Lehman collapse). In addition, we also use a nonparametric matching estimator, which estimates the impact of connections on cumulative abnormal returns separately across 64 cells created according to the covariates' values, and then combines them using the inverse standard errors of the estimates as weights. These results show a similar pattern to our baseline results (Table 3) and robustness checks (Table 4).

4.3. Synthetic matching methodology

The results presented so far—and most event studies of this type—implicitly assume that the differences between the treatment group (Geithner-connected firms) and the control group (non-connected firms) can be captured by a combination of the excess return calculation and the covariates included in the regression model. But connected and non-connected firms could be different in other ways, which might be, at least partially, responsible for our results.

As a complementary approach to address these concerns, we turn to the method of synthetic matching developed in Abadie and Gardeazabal (2003) and Abadie, Diamond, and Hainmueller (2010). The main idea of this method is to construct a synthetic match for each firm in the treatment group (i.e., firms connected to Geithner) by using the firms in the control group in such a way that the synthetic firm has similar behavior to the actual firm before the event of interest. In contrast to the OLS results with flexible controls and the propensity score matching and nonparametric estimates discussed above, which compare firms that are similar in terms of the covariates, this approach compares firms that are similar in terms of the behavior of their pre-event abnormal returns.

The effect of the event can be measured as a function of the difference between the behavior of the firm and its synthetic match after the event. Abadie, Diamond, and Hainmueller (2010) show that a primary reason to use this method is to control for the effect of unobservable factors that have an impact on the common time trend in the treatment and control groups.

Most previous papers employ synthetic matching for the case of one entity in the treatment group and one intervention. Since our sample includes many connected firms, we extend this method for the case of many firms

in the treatment group. As we explain below, inference is based on confidence intervals we construct from the distribution of the "Geithner effect" for placebo treatment groups on Geithner's nomination.

More formally, our synthetic matching procedure is as follows. First, we divide the firms into treatment and control groups according to our measures of connections to Geithner. Then we construct a synthetic match for each firm in the treatment group by solving the following optimization problem:

$$\forall i \in \text{Treatment group}, \{w_j^{i*}\}_{j\in\text{Control group}} = \underset{\{w_j^i\}_{j\in\text{Control group}}}{\arg\min} \sum_{t\in\text{Estimation window}} \left[R_{it} - \sum_{j\in\text{Control group}} w_j^i R_{jt}\right]^2$$

$$\text{s.t.} \sum_{j\in\text{Control group}} w_j^i = 1 \quad \text{and} \quad \forall j \in \text{Control group},$$

$$\forall i \in \text{Treatment group} \quad w_j^i \geq 0, \tag{5}$$

where R_{it} is the daily return on date t and w_j^i is the weight of control firm j employed in the optimal weighting for firm i. It is important that the estimation window not include the period of intervention and it is typically selected as some period prior to the intervention. As before, we use 250 trading days ending 30 days prior to the Geithner nomination announcement as our estimation window.[18] The two criteria ($\sum_j w_j^i = 1$ and $w_j^i \geq 0$) imply the return for firms in the treatment group belong to convex combinations of returns for firms in the control group.

After finding the optimal weights through iteration for each firm in the treatment group, the return for the synthetic firm is constructed as:

$$\widehat{R_{it}} = \sum_{j\in\text{Control group}} w_j^i R_{jt} \quad , \tag{6}$$

and the abnormal return is computed as the difference between the actual return and the synthetic firm return ($\widehat{R_{it}}$).

To estimate the effect of intervention, we compute:

$$\widehat{\phi}(\tau,k) = \frac{\sum_{i\in\text{Treatment group}} \frac{\sum_{t=0}^{k} R_{it} - \widehat{R_{it}}}{\widehat{\sigma_i}}}{\sum_{i\in\text{Treatment group}} \frac{1}{\widehat{\sigma_i}}}, \tag{7}$$

where

$$\widehat{\sigma_i} = \sqrt{\frac{\sum_{t\in\text{Estimation window}} [R_{it} - \widehat{R_{it}}]^2}{T}}. \tag{8}$$

In the above formula, $\widehat{\phi}(\tau,k)$ is the effect of intervention at date τ computed using cumulative abnormal returns of dates $[\tau, \tau+k]$, $1/\widehat{\sigma_i}$ is a measure of goodness of the match in the estimation window, and T is the length of the estimation window. This formula for the average effect of intervention on the treatment group is thus a weighted average formula, with greater weight given to better matches. This is because the difference between actual returns and synthetic firm returns should contain more information about the intervention when we are better able to predict the return of the firms during the estimation window.

To construct the confidence intervals, we randomly draw 5,000 placebo treatment groups from the control group—with each group having the same size as the real treatment group. We compute the Geithner-connection effect for these placebo treatment groups on event days, and construct the confidence intervals for hypothesis testing of whether the coefficient is significantly different from zero. The effect of Geithner connections is significant at 5% if it does not belong to the interval that contains the [2.5, 97.5] percentiles of the effect of the Geithner connection for placebo treatment groups.

Table 5 presents the results from the synthetic matching estimation. Because synthetic matching requires a dichotomous definition of the treatment and control groups, we also consider two additional definitions of connections: "highly connected" firms, which are defined as those with more than two identified meetings with Geithner, and "mildly connected" firms, which are those with one or two identified meetings.[19]

Panel A of Table 5 presents results for the full sample in CAR[0], and columns 1 through 3 present results for all Geithner schedule connections (highly and mildly connected). Column 1 reports standard OLS results. To be comparable to the synthetic matching results, the connections variable is a dummy (equal to one for firms with any number of connections). We continue to adjust the OLS standard errors for pre-event correlations between firms, and the OLS regressions include cubics in size, profitability, and leverage as before. Column 1 shows that Geithner connections are associated with an abnormal return of 1.4% for the one-hour return on day 0, and that this coefficient is statistically insignificant. Below the coefficient we report the number of significant coefficients obtained at each significance level when we test the effect of Geithner connections on 100 trading days between October 31, 2008, and April 7, 2009 (excluding key event dates), a period that does not overlap with our estimation period. The number of significant coefficients on non-event days indicates the drawback of using OLS—i.e., the Geithner connections coefficient is significant more often than would be expected.

Column 2 presents the synthetic matching results as outlined above. The coefficient on Geithner connections is smaller than in the OLS results and is not statistically

[18] We find that the main results are robust to using other estimation windows. The results are somewhat stronger when we use estimation windows closer to Geithner's nomination starting from September 2008.

[19] Appendix Table A8 reports the weights on firms in our control group for each firm in our treatment group. Our control group includes synthetic matches based on the characteristics of over 70 firms. For example, in the synthetic match for Bank of America, Wells Fargo contributes a weight of 0.30. But Wells Fargo is not a particularly good match for other firms in our treatment group—it contributes a weight of 0.19 for JP-Morgan Chase but not more than a 0.06 weight for any other firm. U.S. Bancorp contributes a weight of 0.41 for PNC, but this is unusually high. The pattern for Citigroup is more common—one firm contributes a weight of 0.21 to the synthetic match, another eight firms contribute weights of between 0.08 and 0.13, and one other firm has a weight of 0.01.

Table 5
Connections to Geithner and reactions to Treasury Secretary announcement, synthetic matching estimation.

The table reports synthetic matching estimates of the effect of connections to Timothy Geithner on cumulative abnormal returns (CARs) surrounding the announcement of Geithner as Treasury Secretary. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. The CAR is measured as day 0 only, from day 0 to day 1, or from day 0 to day 10, as indicated. Abnormal returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0. The base sample excludes firms with returns highly correlated to Citigroup. Schedule connections indicate meetings between the firm's executives and Geithner during 2007–08; "Highly connected" indicates more than two meetings; "Mildly connected" indicates one or two meetings. The matching window is the 250 trading days ending 30 days prior to event day 0. Confidence intervals for hypothesis testing of the effect of Geithner connections being equal to zero are computed according to 5,000 placebo simulations. The number of times in which the Geithner coefficient is significant for a test window of 100 trading days is also reported. OLS results (on a dummy for connections) are reported for comparison, and include control variables (not reported) for cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All Geithner connections			*Highly connected*			*Mildly connected*		
	OLS	*Matching*	*Corrected*	*OLS*	*Matching*	*Corrected*	*OLS*	*Matching*	*Corrected*
Panel A: Dependent variable is CAR[0] (full sample)									
Geithner connections (Schedule)	0.014	0.005	0.005	0.029*	0.011	0.011	0.009	0.000	0.000
Confidence interval (2.5%)		−0.029	−0.027		−0.043	−0.039		−0.037	−0.034
Confidence interval (97.5%)		0.014	0.012		0.029	0.026		0.021	0.019
Number of sig. coefficients (10%)	29	8	14	27	13	16	25	0	6
Number of sig. coefficients (5%)	19	4	8	25	6	9	17	0	0
Number of sig. coefficients (1%)	11	0	0	17	1	1	5	0	0
Number of firms	583	583	466	570	570	462	574	574	453
Number in treatment group	22	22	22	9	9	9	13	13	13
Panel B: Dependent variable is CAR[0,1] (base sample)									
Geithner connections (Schedule)	0.059***	0.060***	0.060***	0.149***	0.153***	0.153***	0.028*	0.034*	0.034*
Confidence interval (2.5%)		−0.068	−0.066		−0.126	−0.113		−0.077	−0.074
Confidence interval (97.5%)		0.036	0.029		0.099	0.091		0.042	0.038
Number of sig. coefficients (10%)	23	13	17	23	3	5	22	5	11
Number of sig. coefficients (5%)	17	5	9	11	0	2	18	2	4
Number of sig. coefficients (1%)	9	0	2	6	0	0	9	0	1
Number of firms	525	525	439	516	516	436	522	522	429
Number in treatment group	12	12	12	3	3	3	9	9	9
Panel C: Dependent variable is CAR[0,10] (base sample)									
Geithner connections (Schedule)	0.111***	0.124***	0.124***	0.069	0.169*	0.169*	0.101***	0.110**	0.110**
Confidence interval (2.5%)		−0.110	−0.099		−0.197	−0.191		−0.119	−0.112
Confidence interval (97.5%)		0.079	0.071		0.217	0.194		0.093	0.085
Number of sig. coefficients (10%)	41	18	28	26	16	19	51	13	18
Number of sig. coefficients (5%)	32	8	11	17	8	10	43	3	7
Number of sig. coefficients (1%)	21	0	3	4	1	1	26	0	1
Number of firms	525	525	439	516	516	436	522	522	429
Number in treatment group	12	12	12	3	3	3	9	9	9

significant. The number of significant coefficients shows that in the non-event-day tests, the Geithner connections coefficient is significant with a frequency that is much closer to what would be expected in theory (e.g., at the 5% level, four times in a test window of 100 trading days). This makes us more confident that in the synthetic matching method we are isolating the true effect of Geithner connections rather than the effect of some other correlation among Geithner-connected firms (which would have led to more frequent rejections on non-event days).

Column 3 presents "corrected" synthetic matching results in which for our inference procedure we eliminate firms for which we do not have a good synthetic match, defined as the firms in the control group with $\hat{\sigma}$ more than $\sqrt{3}$ times the average $\hat{\sigma}$ for the real treatment group firms.[20] Although the formula used in the synthetic matching method already gives greater weight to firms with better matches, we present the corrected results as a robustness check to ensure that our confidence intervals are appropriate. The corrected results are similar to the uncorrected results in column 2. Columns 4 through 6 present a similar set of results for the "highly connected" indicator, and columns 7 through 9 for the "mildly connected" indicator. As expected, the results are stronger for highly connected firms. Overall, Panel A suggests that the effect of Geithner connections on the one-hour day 0 returns is positive but not statistically significant once the synthetic matching adjustments are made.

[20] For both the schedule and personal measures, all connected firms have a relatively good synthetic match, so the main effect of changing the cutoff is to change the estimated confidence intervals and not the estimated coefficient. We have tried various values for this parameter, including 1 (which eliminates all the firms with $\hat{\sigma}$ larger than the average of $\hat{\sigma}$ for firms in the treatment group), $\sqrt{3}$, and values larger than $\sqrt{3}$. The larger the cutoff, the closer the estimates are to uncorrected synthetic matching. Our results are not sensitive to this range of cutoff values.

Panel B of Table 5 repeats the tests of Panel A but for our base sample in CAR[0, 1]. These tests show a much stronger effect of Geithner connections, even in the synthetic matching results. Column 2 shows that Geithner connections are associated with an abnormal return of 6.0%, which is economically sizable and statistically significant at the 1% level. As expected, the results are even stronger for highly connected firms relative to mildly connected firms.

Finally, Panel C repeats the results for CAR[0, 10]. The coefficients in columns 2 and 3 indicate a 12.4% abnormal return associated with Geithner connections. Once again the matching estimate for highly connected firms is larger than for mildly connected firms. Taken as a whole, Panels B and C show that the synthetic matching methodology confirms the presence of a positive and significant effect of Geithner connections at horizons longer than the one-hour day 0 returns.

4.3.1. Robustness checks for synthetic matching

Table 6 presents robustness checks for the synthetic matching results, focusing on CAR[0, 1]. In Panel A, we use the financial crisis estimation window (from September 1, 2008 to October 3, 2008) as reported above in the OLS robustness checks (see columns 5 and 6 in Table 4). The main results are similar to those presented in Panel B of Table 5. The primary difference is that the effect is stronger for highly connected firms while it is no longer significant for mildly connected firms. Panel B uses the personal measure of connections. In these regressions the coefficient on Geithner connections is significant at the 5% level for highly connected firms. (In Panels B and D, "highly connected" is defined as more than one connection because there are fewer connections per firm using these definitions of connections.)

In Panel C, we use the New York measure of connections to Geithner. Again the results show the estimated Geithner connection coefficient is statistically significant, although the size of the coefficient is smaller than with the other measures. This could be due to attenuation bias since having headquarters in New York is a noisier measure of connections to Geithner.[21] In Panel D we use just information from Geithner's 2007 schedule to create the connections variable and find that the synthetic matching results are robust to this change.

In robustness checks not reported in the table, we have also examined whether our results (OLS or synthetic matching) are dependent upon any single Geithner-connected firm. As the number of Geithner-connected firms is relatively small, particularly in the base sample, it is not surprising that in some specifications the significance of the results is altered when one observation is excluded from the sample. We find that the connected firm that has the most impact when dropped from the sample is Blackstone Group. Geithner's connections to Blackstone were strong, as evidenced by his personal and schedule connections (see Appendix Table A1) and by the fact that Peter G. Peterson (cofounder and Senior Chairman of Blackstone until December 31, 2008) was chairman of the board of directors of the New York Fed when Geithner was picked to head that institution. Excluding Blackstone Group from the sample negatively impacts the significance of the OLS results (but not the synthetic matching results) for CAR[0, 1] in the base sample, both because the point estimates change somewhat and because confidence intervals also widen when a connected firm is excluded from the sample. Excluding Blackstone has less impact on the CAR[0, 10] results, and no impact on whether coefficients are significant in the CAR[0] results or in the CDS results (reported in the next section). Our robustness checks also show that there are occasions when excluding a particular firm from the sample strengthens the results by making coefficients that are otherwise insignificant become significant. Across all specifications, the balance of the effect from dropping individual firms is roughly equal—i.e., a handful of results become insignificant and a handful become significant. Our CDS results are not affected by dropping any individual firm.

As a falsification exercise, we investigate whether the positive response of Geithner-connected firms as evidenced by the synthetic matching results is due to mean reversion of returns prior to the nomination announcement. In Fig. 2 we show the pre-trend of the effect of Geithner connections graphically. The figure shows the coefficient on Geithner connections for CAR$[x, x+1]$ for each trading day x in the month of November 2008 and the first half of December 2008.[22] The coefficients reported are synthetic matching results for the base sample. Panel A shows results for all connected firms, and Panel B shows results for highly connected firms. Each panel also reports confidence intervals for hypothesis testing for CAR$[x, x+1]$ at 1% and 5% levels. Visually, the figures do not demonstrate any consistent pattern of negative coefficients prior to the nomination event, particularly in Panel B. The figures also show that the nomination event stands out as the most statistically significant event during the period, being the only day with significance at the 1% level. Panel B in particular shows no pre-trend as the Geithner connection coefficient lies inside the confidence intervals for the entire period before the nomination.

We also test whether Geithner connections were significant in the days before the announcement in a regression specification. These results, presented in Appendix Table A9, generally confirm the lack of a statistically significant trend in the performance of Geithner-connected firms prior to the nomination announcement. Together, the regression results and Fig. 2 suggest that the positive reaction of Geithner-connected firms to the nomination announcement was not just a reversal of previous trends.

4.4. CDS spreads

If the market perceived that benefits would accrue to Geithner-connected firms from his appointment as

[21] In an additional robustness check, we repeat our analysis just within the sample of New York firms. In this case again, Geithner-connected firms had significantly higher abnormal returns.

[22] For November 21st, Fig. 2 shows the estimated coefficient based on returns from 3pm to 4pm on that day; this is exactly the same as the coefficient reported in Table 5, Panel B, column 2.

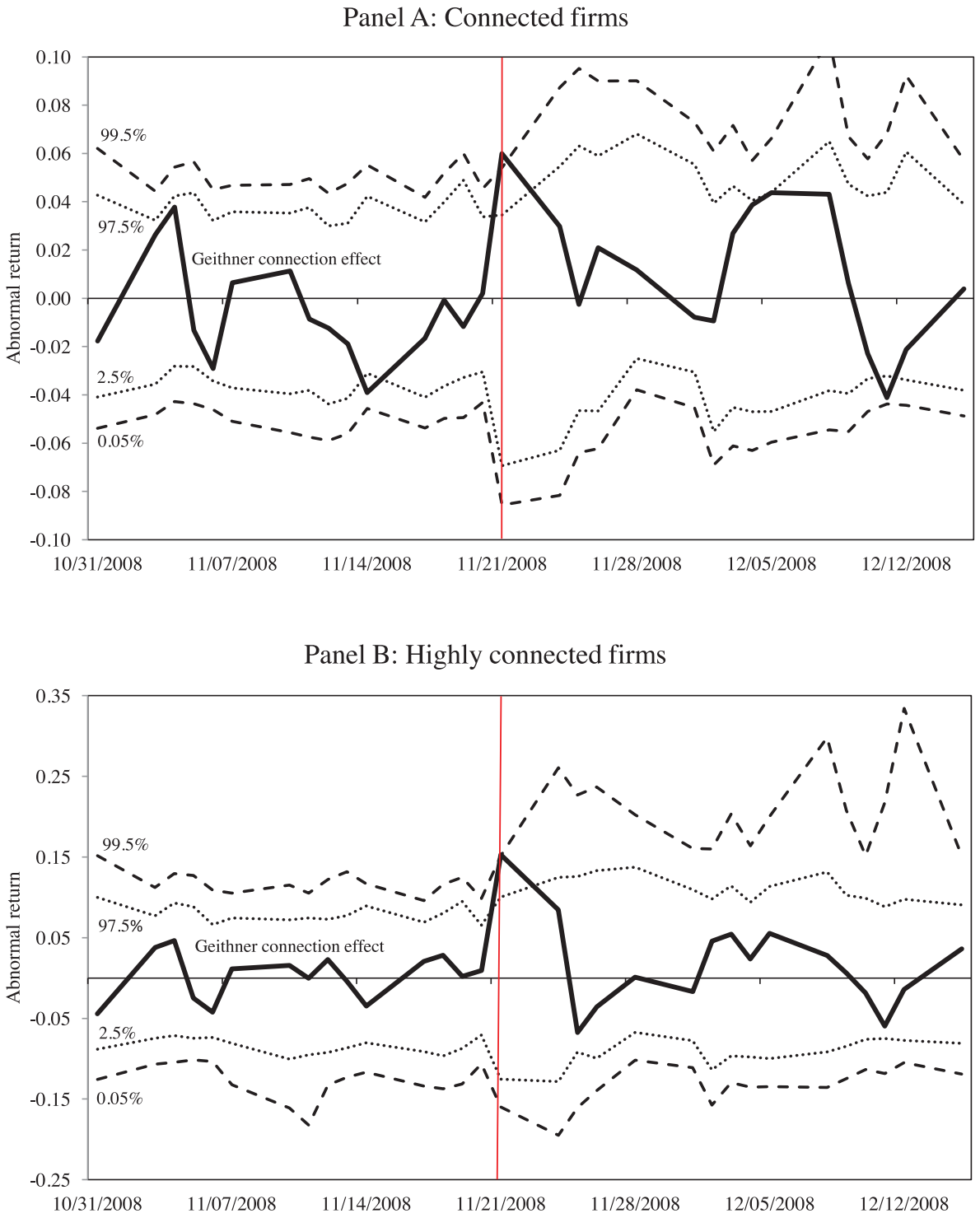

Fig. 2. The charts present the Geithner connection coefficient for CAR[x, x+1] for each trading day x in the month of November and first half of December 2008 as estimated by synthetic matching. The date of the Geithner nomination announcement is indicated by the vertical line. "Highly connected" indicates more than two connections. The sample is as described in Table 1. Confidence intervals at 1% and 5% levels are also shown.

Table 6
Connections to Geithner and reactions to Treasury Secretary announcement, synthetic matching robustness checks.

The table reports synthetic matching estimates of the effect of connections to Timothy Geithner on cumulative abnormal returns (CARs) surrounding the announcement of Geithner as Treasury Secretary. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. The CAR is measured from day 0 to day 1. Abnormal returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0 (a five-week window surrounding the collapse of Lehman Brothers in Panel A). The base sample (used throughout the table) excludes firms with returns highly correlated to Citigroup. Schedule connections denote the number of meetings between the firm's executives and Geithner during 2007–08 (only 2007 in Panel D); personal connections denote the number of shared board memberships between the firm's executives and Geithner; New York connections indicate firms headquartered in New York City. "Highly connected" indicates more than one connection (more than two in Panel A); "Mildly connected" indicates one connection (one or two in Panel A). The matching window is the 250 trading days ending 30 days prior to event day 0. Confidence intervals for hypothesis testing of the effect of Geithner connections being equal to zero are computed according to 5,000 placebo simulations. OLS results (on a dummy for connections) are reported for comparison, and include control variables (not reported) for cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All Geithner connections			*Highly connected*			*Mildly connected*		
	OLS	*Matching*	*Corrected*	*OLS*	*Matching*	*Corrected*	*OLS*	*Matching*	*Corrected*
	Dependent variable is CAR[0,1]								
Panel A: Financial crisis estimation window, Schedule connections									
Geithner connections	0.060*	0.071***	0.071***	0.179***	0.192**	0.192**	0.018	0.043	0.043
Confidence interval (2.5%)		−0.064	−0.062		−0.126	−0.123		−0.073	−0.070
Confidence interval (97.5%)		0.056	0.055		0.131	0.131		0.065	0.065
Number of firms	525	525	473	516	516	476	522	522	463
Number in treatment group	12	12	12	3	3	3	9	9	9
Panel B: Personal connections									
Geithner connections	0.059***	0.032	0.032	0.091***	0.104**	0.104**	0.037	−0.010	−0.010
Confidence interval (2.5%)		−0.080	−0.078	−0.126		−0.125		−0.100	−0.099
Confidence interval (97.5%)		0.041	0.044	0.096		0.099		0.069	0.066
Number of firms	525	525	501	520	520	505	522	522	491
Number in treatment group	8	8	8	3	3	3	5	5	5
Panel C: New York connections									
Geithner connections	0.005	0.009*	0.014**						
Confidence interval (2.5%)		−0.049	−0.048						
Confidence interval (97.5%)		0.010	0.008						
Number of firms	525	525	507						
Number in treatment group	34	34	33						
Panel D: 2007 Schedule									
Geithner connections	0.083***	0.053*	0.053**	0.144***	0.122**	0.122**	0.027	−0.012	−0.012
Confidence interval (2.5%)		−0.090	−0.081		−0.127	−0.110		−0.123	−0.113
Confidence interval (97.5%)		0.056	0.049		0.099	0.078		0.096	0.072
Number of firms	525	525	382	522	522	387	522	522	374
Number in treatment group	6	6	6	3	3	3	3	3	3

Treasury Secretary, then the news of his nomination should have impacted not just stock returns of connected firms but also the probability of default for connected firms—as reflected in their credit default swap spreads. If market participants expected that Geithner or his associates could protect connected firms from bankruptcy or other trigger events, then one would expect CDS spreads on the debt of connected firms to fall relative to non-connected firms upon the Geithner nomination announcement.

Because data on CDS spreads are available for fewer firms, we view CDS spreads as a secondary measure of firm performance. We obtain CDS data from the data provider Markit for every firm in the full sample with available data, which gives us a sample of 27 firms for our CDS tests. Each firm has multiple CDS listings for various maturities and contract specifications. For our tests we use CDS contracts of five-year maturities (the most common tenor) on senior unsecured debt (the most common priority level) with modified restructuring provisions (the most common provision). Summary statistics for CDS spreads are reported in row 10 of Table 1. At the time of the Geithner nomination announcement, the average spread among sample firms was 465 basis points, with a median spread of 233 basis points.

Table 7 reports estimations of Eq. (4) in which the dependent variable is the percentage change in the CDS spread rather than the CAR in stock prices. (Summary statistics for CDS spread changes are reported in rows 11 and 12 of Table 1). We report results only for the full sample, with and without Citigroup, because there are not enough firms with CDS data in the base sample to estimate the model. Panel A reports OLS results, first for the percentage change in CDS spreads on day 1, and then for the percentage change in CDS spreads from day 1 to day 10. Results are not reported for day 0 because of the

Table 7
Connections to Geithner and reactions to Treasury Secretary announcement, CDS spreads.

The table reports estimates of the effect of connections to Geithner on CDS spreads surrounding the announcement of Timothy Geithner as Treasury Secretary. Panel A reports OLS estimates and Panel B reports synthetic matching estimates. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; due to a lack of liquidity and intraday quotes, the changes are measured from day 1, when the announcement was made. The % change in CDS spread is measured as day 1 only, or from day 1 to day 10, as indicated. Schedule connections denote the number of meetings between the firm's executives and Geithner during 2007–08; personal connections denote the number of shared board memberships between the firm's executives and Geithner; New York connections indicate firms headquartered in New York City. In Panel A, control variables (not reported) include cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008; robust standard errors, adjusted for pre-event correlations between firms, are below coefficients in parentheses. In Panel B, the matching window is the 100 days ending 30 days prior to event day 0; confidence intervals for hypothesis testing of the effect of Geithner connections being equal to zero are computed according to 5,000 placebo simulations. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: OLS estimates												
	Dependent variable is % change in CDS spread[1]						*Dependent variable is % change in CDS spread[1,10]*					
	Citigroup included			*Citigroup excluded*			*Citigroup included*			*Citigroup excluded*		
	Schedule	*Personal*	*New York*	*Schedule*	*Personal*	*New York*	*Schedule*	*Personal*	*New York*	*Schedule*	*Personal*	*New York*
Geithner connections	−0.014***	−0.035***	−0.113**	−0.010**	−0.019**	−0.072	−0.011	−0.030	−0.202	−0.010	−0.019	−0.176
	(0.002)	(0.007)	(0.044)	(0.005)	(0.010)	(0.049)	(0.007)	(0.028)	(0.150)	(0.022)	(0.038)	(0.164)
Number of firms	27	27	27	26	26	26	27	27	27	26	26	26
R-squared	0.941	0.795	0.615	0.772	0.834	0.748	0.671	0.639	0.726	0.479	0.493	0.674
Panel B: Synthetic matching estimates												
	Dependent variable is % change in CDS spread[1]						*Dependent variable is % change in CDS spread[1,10]*					
	Citigroup included			*Citigroup excluded*			*Citigroup included*			*Citigroup excluded*		
	Schedule	*Personal*	*New York*	*Schedule*	*Personal*	*New York*	*Schedule*	*Personal*	*New York*	*Schedule*	*Personal*	*New York*
Geithner connections	−0.087***	−0.047***	−0.119***	−0.026***	−0.024***	−0.044***	−0.042	−0.092***	−0.203***	0.018	−0.071***	−0.150***
Confidence interval (2.5%)	−0.003	0.000	−0.005	−0.004	0.000	−0.006	−0.067	−0.019	−0.068	−0.072	−0.034	−0.072
Confidence interval (97.5%)	0.003	0.001	0.008	0.005	0.001	0.011	0.040	0.000	0.055	0.054	0.006	0.072
Number of firms	27	27	27	26	26	26	27	27	27	26	26	26
Number in treatment group	7	11	6	6	10	5	7	11	6	6	10	5

unavailability of intraday quotes on CDS spreads. Included but not reported in the regressions are the same control variables from previous regressions. As in the CAR results, the standard errors in these regressions are adjusted for pre-event correlations between firms. Panel A shows that for all three measures of connections the coefficient on Geithner connections is negative whether Citigroup is included or not and for both return horizons. In the first five columns, the coefficient is statistically significant. The negative coefficient is as predicted, in that the Geithner nomination is associated with a reduction in the premium required for insurance on the debt of Geithner-connected firms. As an example of interpretation of the magnitude of these effects, the coefficient of −0.014 in column 1 indicates that each additional schedule connection is associated with a 1.4% drop in a firm's CDS spread on day 1. For an average-spread firm with five schedule connections, this implies a fall of 33 basis points.

Panel B of Table 7 reports synthetic matching results. Again the coefficient on Geithner connections is negative in all cases, and it is statistically significant in all but two cases. In some specifications the estimated effects are particularly large. For example, in Column 9, the coefficient of −0.203 indicates that New York connections are associated with a 20.3% drop in a firm's CDS spread from day 1 to day 10 (about 99 basis points for an average-spread firm). In short, the results in Table 7 are complementary to the results for stock returns and are supportive of the hypothesis that the market expected benefits for Geithner-connected firms when the Geithner nomination was announced.

4.5. Additional falsification checks

If the results reported so far are due to the *connections in a crisis* hypothesis, then earlier decisions involving Geithner—when he did not have as much discretion as he did as Treasury Secretary at the height of the crisis—should not have had significant effects on connected firms. We therefore investigate as falsification tests the effect of significant positive—and negative—news about economic policy on Geithner-connected firms at moments when Geithner was still at the New York Fed. As additional checks, we also look at the implications of Henry Paulson's earlier nomination as Treasury Secretary, and the value of connections to other candidates at the time of Geithner's nomination event.

First, we perform the same procedure as we do for the Geithner nomination event, but for other event windows. Specifically, we examine the effect of the Bear Stearns rescue and purchase by JPMorgan Chase in March 2008. If Geithner-connected firms are different from others and tend to respond more to certain types of financial or macroeconomic policy, we could expect them to outperform others during this event window also. In particular, in this instance, there was market concern that the failure of Bear Stearns would cause market disruption or some form of contagion. The Federal Reserve became involved in helping JPMorgan acquire Bear Stearns, including by providing some insurance against losses that might occur on mortgage-related securities.

However, we find no bump up for Geithner-connected firms on or after Monday, March 17, 2008 (the purchase was announced on March 16). This is consistent with the notion that even as head of the New York Fed, Geithner was operating within a constrained environment with strong oversight—including by the Board of Governors in Washington, D.C. In addition, the overall macroeconomic situation was not viewed as dire as it became in fall 2008. There was little sense that a major crisis was approaching.

In a similar vein, we also look for a statistically significant gain (or loss) in value for Geithner-connected firms when Lehman Brothers filed for bankruptcy on September 15, 2008, when AIG received support shortly afterwards, when Congress struggled to pass emergency economic legislation in late September and early October 2008, and when capital injections to big firms were announced on October 14, 2008. In none of these instances did Geithner-connected firms show significant differential gains or losses relative to other firms using the synthetic matching methodology.[23]

We also examine the connections of Henry Paulson, the previous Treasury Secretary, applying the same method of identifying personal connections. His only identifiable connection on muckety.com is with Goldman Sachs—where Mr. Paulson spent most of his career. On the day of Paulson's announcement (May 30, 2006), Goldman Sachs stock fell by 2.0% (the S&P 500 fell by 1.6% that day), and in the ten days following the announcement, Goldman fell by 5.2% (the S&P fell by 3.3%). Although this is only one observation, Paulson's appointment (during an economic boom) did not appear to have a positive effect on his connections, consistent with the idea that connections matter more during crisis periods. We find similar non-results for other recent Treasury Secretaries.[24]

Finally, we study the reaction of firms linked to other leading candidates for the position of Treasury Secretary. If some unobservable characteristic makes some firms both more likely to be connected to Geithner and also more likely to perform well during our event window, then we might expect the same characteristic to lead to greater connections to other candidates. If connections to other candidates also matter during the event window, this would raise questions about our interpretation. Our results in this section do not indicate such a pattern.

After Geithner, the next leading candidates in the week prior to the announcement were Lawrence Summers, Jon Corzine, Paul Volcker, and Sheila Bair. Summers was the most likely alternative candidate. As of November 15, 2008, the probabilities of each candidate obtaining the job,

[23] In calculating the response to capital injections, we exclude firms that received direct injections of capital.

[24] When Paul O'Neill, CEO of Alcoa, was nominated, his company's stock fell 6.1% (on a day when the S&P 500 fell 3.1%); through day 10, Alcoa was down 1.1% (with the S&P down 0.6%). John Snow's nomination produced only slightly better results for CSX, the railroad company that he headed: down 1.5% on the first day (with the S&P down 2.2%) and unchanged over ten days (with the S&P down 1.6%). The nomination of Jack Lew as Treasury Secretary was associated with a 1.9% jump for Citigroup, where he previously worked, on a day when the S&P was up 0.8%. But over the full ten-day window, Citi was up only 2.0%, while the S&P rose 2.9%.

Table 8
Connections to other Treasury Secretary candidates and reactions to Treasury Secretary announcement.

The table reports coefficient estimates of OLS regressions of cumulative abnormal stock returns (CARs) and percent changes in CDS spreads surrounding the announcement of Timothy Geithner as Treasury Secretary on measures of connections to Treasury Secretary candidates. Event day 0 is November 21, 2008 from 3pm (when the news leaked) to market closing; the announcement was made on event day 1. In columns 1 to 3, the CAR is measured from day 0 to day 1, and in columns 4 to 6, the percent change in CDS spreads is measured for day 1. Abnormal stock returns are calculated using the market model with an estimation window of 250 trading days ending 30 days prior to event day 0. Estimates for the full sample (excluding Citigroup in CAR results) are reported. Connections denote the number of shared board memberships between the firm's executives and the candidate. Control variables (not reported) include cubics in size (log of total assets), profitability (return on equity), and leverage (total debt to total capital) as of 2008. Robust standard errors, adjusted for pre-event correlations between firms, are below coefficients in parentheses. Asterisks denote significance levels (*** = 1%, ** = 5%, * = 10%).

	Dependent variable is CAR[0,1]			*Dep. variable is % change in CDS spread[1]*		
	(1)	(2)	(3)	(4)	(5)	(6)
Geithner connections	0.020***	0.023**	0.017*	−0.035***	−0.063***	−0.070***
	(0.005)	(0.010)	(0.010)	(0.007)	(0.015)	(0.014)
Summers connections	0.011				−0.024	
		(0.016)			(0.034)	
Corzine connections		0.020			0.089**	
		(0.015)			(0.033)	
Volcker connections		−0.018			0.052**	
		(0.019)			(0.021)	
Bair connections		−0.022				
		(0.038)				
Other candidates combined			0.002			0.028***
			(0.007)			(0.010)
Number of firms	582	582	582	27	27	27
R-squared	0.048	0.049	0.048	0.795	0.941	0.880

according to Intrade's prediction market, were 45% for Geithner, 26% for Summers, 10% for Corzine, 9% for Volcker, and 8% for Bair.[25] We follow the procedure discussed above, using data from muckety.com, to find personal connections to firms for these candidates. We list the firms connected to the other candidates and the nature of those connections in Appendix Table A10.

We conduct OLS regressions to test the effect of connections to all candidates on cumulative abnormal returns following the Geithner announcement. We employ the full sample in these tests so as to retain a reasonable number of connections to the other candidates (although we continue to exclude Citigroup from the regressions). Results of these tests are reported in Table 8. The first three columns report results with CAR[0, 1] as the dependent variable. For purposes of comparison, column 1 reports coefficients for Geithner connections alone. Column 2 reports the result with the measures of Summers, Corzine, Volcker, and Bair connections included. The coefficient on Geithner connections remains significant—the coefficient increases from 0.020 to 0.023 and the standard error increases from 0.005 to 0.010. The coefficients on connections for Summers and Corzine are positive but not significant. The coefficients are negative for the other two candidates.

In column 3, we create a combined connections variable—this is a dummy variable equal to one if a firm is connected to either Summers, Corzine, Volcker, or Bair. When included in a regression with the Geithner connection variable, this variable is small and positive but insignificant, whereas the Geithner connections coefficient remains significant.

In the final three columns of Table 8 we repeat the same structure of regressions but with the percentage change in CDS spreads as the dependent variable (this is a smaller sample and we do not have data on any Bair-connected firms). The coefficient on Geithner connections is negative and significant in columns 4, 5, and 6, again indicating that the market expected benefits specifically for Geithner-connected firms.

When included separately, the coefficients are positive and significant for Corzine- and Volcker-connected firms; the coefficient on Summers-connected firms is negative but not significant. When we combine all non-Geithner connections in column 6, this variable is positive (and thus opposite-signed to the Geithner effect) and significant. In this case, the Geithner effect is twice the magnitude as in column 4 (−0.070 compared with −0.035), although the standard error also doubles, reflecting some degree of multicollinearity in the smaller CDS sample.

Overall, the falsification exercises reported in this subsection suggest our results are not spurious, for example, capturing the reaction of Geithner-connected firms to major events (unrelated to the nomination of Geithner). Nor are we picking up the response of a certain type of firm that tends to be both highly connected to leading figures and more likely to benefit from certain kinds of (potentially) sound macroeconomic policies that Geithner could have been expected to pursue. Our results also suggest that the timing of Geithner's appointment, in the midst of the crisis, was crucial to our finding that connections matter; we do not find similar reactions to the announcement of other Treasury Secretaries during less turbulent times.[26]

[25] James Pethokoukis, "Geithner tops odds for next Treasury Secretary," *U.S. News & World Report*, November 15, 2008. Geithner (2014) confirms that Summers was his main rival for the job.

[26] We also study the abnormal returns of firms connected to other members of Obama's first cabinet when their nominations were announced. Of Obama's other 13 new cabinet members, only one, Eric Shin-

5. Geithner's tax problems

A secondary event related to Geithner's nomination as Treasury Secretary allows us to further test the relation between Geithner connections and firm value. On Tuesday, January 13, 2009, the Senate Finance Committee publicly disclosed that Geithner had failed to pay over $34,000 in taxes while an employee of the International Monetary Fund. This disclosure cast doubt on whether Geithner would be confirmed by the Senate. If the market expected Geithner-connected firms to derive value from his position as Treasury Secretary, then this event should have been associated with negative stock returns for Geithner-connected firms, at least to the extent that the market believed that Geithner's confirmation was truly in jeopardy.

To measure the impact of this news on Geithner-connected firms, we define event day 0 as January 14, 2009, because the Senate Finance Committee announcement was made after the market closed on January 13, 2009.[27] As for the end of the event period, it is impossible to determine exactly when it became clear to most market participants that Geithner would be confirmed, despite the tax issue. We examined all articles concerning Geithner and his taxes appearing in *The Wall Street Journal*, beginning on January 14. The first article to predict that Geithner would be confirmed appeared on Wednesday, January 21, or event day 4.[28] (The markets were closed on Monday, January 19.)

We first perform univariate tests in which we compare actual returns between connected and non-connected firms for event days 0 through 4. In these tests we alter the base sample to also exclude the top 10% of firms based on return correlation with Bank of America, as the Geithner tax event occurred shortly after a new Bank of America bailout was announced. We find that from event day 0 through event day 3, using the schedule measure of connections, connected firms underperformed non-connected firms by 7.9 percentage points, a difference that is significant at the 5% level. This result is consistent with a loss of value for Geithner-connected firms due to his tax issues. Personal connections and New York connections demonstrate this same underperformance, although the results are not statistically significant using these measures of connections. We also find that the fortunes of connected firms reversed on event day 4, when Geithner's confirmation appeared to be solidified, as connected firms outperformed non-connected firms on this day. The positive abnormal returns on event day 4 are statistically significant for two of the three measures of connections.

We perform similar univariate tests for actual returns for the full sample, as well as for cumulative abnormal returns for both the base sample and the full sample. These sets of results show a similar pattern of negative and significant returns through day 3 that tend to reverse on day 4, although there are exceptions to this pattern. Generally speaking, the pattern is stronger and more statistically significant when using the full sample rather than the base sample, and the pattern is weaker when using cumulative abnormal returns rather than actual returns. Appendix Table A12 presents all of these results in detail. Overall, the pattern of returns in the univariate results is consistent with the hypothesis that Geithner's tax problems created a negative shock to Geithner connections, and that concern over the news dissipated after a few days, particularly on event day 4.

We also estimate the effect of Geithner connections during his tax problems in a regression framework. We estimate Eq. (4) for the tax event, including all standard control variables as in our previous regressions. The OLS results show that Geithner connections tend to be associated with negative returns when Geithner's tax problems were disclosed, though these estimates are less precise than our main results and often are not significant. In some cases the coefficient on Geithner connections is positive, particularly for New York connections. The synthetic matching results are more consistent with the univariate results, as the coefficient on Geithner connections is almost always negative and often significant. Appendix Table A13 presents these regression results in detail. Overall, although the regression results are fairly imprecise, the univariate and regression results together are consistent with the hypothesis that connections to Geithner were a source of value for connected firms, but the market might have correctly anticipated that tax issues would not prevent Geithner's confirmation.

6. After the nomination

6.1. Hiring at Treasury

Regarding the performance of connected firms after Geithner's nomination, one area in which there is unambiguous evidence is on the important question—for our hypothesis—of whether the people hired into top Treasury roles already knew Geithner. In his memoir, Geithner (2014) explains Treasury hiring and the roles various people played in the financial rescue and subsequent reform efforts. Almost all of his key staff had some prior personal connection to Geithner—and most of them came from Wall Street firms with which Geithner had a connection during his tenure at the New York Fed.

Lee Sachs, previously with Bear Stearns and Mariner Investment Group, became a senior adviser to Geithner with

seki (Secretary of Veterans Affairs) shows a significant effect on abnormal returns in OLS and synthetic matching results. This is not surprising because 13 of 15 of Shinseki's connections overlapped with Geithner's. Three cabinet members had significant OLS effects that were not robust to synthetic matching. All other cabinet members show no significant effects or had no identifiable connections to financial firms (Defense Secretary Gates was a holdover from the Bush administration and was not tested). Of course, none of the other cabinet members would have had the same level of expected influence over financial firms as Geithner. For more detail on these results, see Appendix Table A11.

[27] Geithner's nomination as Treasury Secretary contained a large element of surprise and the president-elect's decision appears to have preceded the announcement only by a short while. In contrast, Geithner disclosed his tax issues to the transition team as early as November and had discussions on the matter on Capitol Hill in December (Geithner, 2014, pp. 266–268). It is therefore plausible that more of his tax news leaked ahead of the first media mention—making it harder for us to find effects both for the initial news and for the determination that he would indeed become Treasury Secretary.

[28] Deborah Solomon, "The inauguration: Tax issue won't derail Geithner," *The Wall Street Journal*, January 21, 2009.

responsibility for helping to design financial sector policies. Sachs worked with Geithner in the Treasury Department in the 1990s, and he talked regularly with Geithner when the latter was at the New York Fed. Sachs introduced Geithner to Matt Kabaker, who previously worked at Blackstone (a private equity firm) and who became an essential part of the core team at Treasury on financial issues. Geithner also had a close personal connection to Blackstone (see Appendix Table A2).

Geithner brought in one close adviser who was not from the private sector—Meg McConnell, who had worked with him at the New York Fed. However, she only stayed at Treasury for a few months. Almost all other members of the core Treasury team had worked at a Wall Street firm. [29] Lew Alexander, a Citigroup executive, played a central role on Geithner's financial team. Gene Sperling had worked for Goldman Sachs and became an important adviser to Geithner. Mark Patterson, then a Goldman Sachs lobbyist, was hired as Geithner's chief of staff. David Miller, another Goldman Sachs alumnus, became TARP's chief investment officer.[30] And Herb Allison, formerly a senior executive at Merrill Lynch and TIAA-CREF, ran TARP as assistant secretary.

Even those staff not literally from Wall Street had some existing connection to Geithner. For example, Neal Wolin, whose private sector experience was at The Hartford, an insurance company, became Deputy Treasury Secretary. However, Wolin had previously worked in the Rubin-Summers Treasury during the 1990s, so this is again consistent with Geithner hiring people from within his personal network. Michael Barr, previously in the Clinton Treasury and then a professor at the University of Michigan, was brought in to work on housing.

None of these facts—or indeed our event study findings—suggest any inappropriate actions or motivations. And obviously market participants could not know and surely did not guess correctly regarding the precise individuals whom Geithner would seek to hire. However, consistent with our interpretation of market expectations, all the senior roles in Geithner's team were filled with people whom he knew well, typically from working closely with them previously.

6.2. Firm-level outcomes

It is beyond the scope of this paper to evaluate fully the consequences of policy pursued by Geithner's Treasury Department. These policies were complex and are not easy to assess using an event study methodology. In addition, issues of who gained what benefit are clouded by the lack of publicly available information on what was the true state of balance sheets in early 2009. Despite the challenges of assessing performance with financial statement data, we have studied standard performance measures for the firms in our sample over a longer period. The results show no significant differences in profitability (return on equity) or firm value (Tobin's q) for being connected to Geithner during 2009 and 2010 (the two years when Geithner was at Treasury and which can be considered the most turbulent in terms of macroeconomic uncertainty and financial policy decision-making). The results show that New York-connected firms have higher valuations in general, but this premium is no higher during 2009 to 2010 than in the pre-period (before he went to Treasury) or post-period (after the macroeconomy stabilized). We also find little indication of a significant Geithner connection effect on financial performance in the pre-period or post-period. (More details on these results are found in Appendix Table A14.)

The lack of a subsequent long-term performance differential for Geithner-connected firms does not necessarily mean that investor perceptions about the value of Geithner connections during the crisis were incorrect. The stock price reaction upon Geithner's nomination could have arisen from the market's perception that connections would be especially valuable in the event of a more-severe market collapse, which did not transpire. Although this collapse did not materialize, it was a reasonable possibility at the time of Geithner's nomination. In short, the expected value of benefits could have been higher than the value of benefits actually received.

7. Conclusion

The announcement of Timothy Geithner as President-elect Obama's nominee for Treasury Secretary in November 2008 produced a cumulative abnormal return for financial firms with which he had a connection relative to other comparable, non-connected firms. According to our estimates, this excess return was about 6% at the close of the first full day of trading after the announcement and about 12% after ten trading days. Our findings are robust and similar using different measures of connections, with flexible controls for firm size and other characteristics, and also with a synthetic matching methodology. There were subsequently abnormal *negative* returns for connected firms when news broke that Geithner's confirmation might be derailed by tax issues, although these returns are less precisely estimated.

The excess returns for being connected to Geithner most likely reflect the market's expectation that, during a period of turbulence and unusually high policy discretion, the new Treasury Secretary would have a great deal of power, and that he would rely on a core group of employees and a small social network for real-time advice—and that these people were likely to be drawn from financial institutions with which Geithner had connections.

Our results cannot be explained by the idea that Geithner just brought a safe pair of hands to the management of the economy, or by the notion that Geithner and his advisers solely favored large, complex Wall Street firms at the expense of other financial institutions. Our results control flexibly for firm size, profitability, and leverage, and are based, therefore, on differences between connected and non-connected financial institutions of roughly the same size. Consistent with this interpretation, Geithner's Treasury initially hired key personnel from financial institutions with which he was connected.

[29] These details in this paragraph are confirmed on pp. 529–538 of Geithner (2014).

[30] Michael J. De La Merced, "Treasury's warrior at the negotiating table," *The New York Times*, January 31, 2011.

If this interpretation is correct, expected benefits from being connected to the U.S. Treasury Secretary potentially accrue to firms primarily during turbulent times, such as during the crisis atmosphere of November 2008. Once policy discretion declines and the speed with which important decisions have to be taken slows down, the perceived value of these connections should become less important as traditional constraints on executive power presumably reassert themselves. However, if there were in the future to be serious economic or financial instability, personal connections to the Treasury Department could again become valuable.

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