Internet Appendix to "Revolving doors on Wall Street"*

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This appendix contains survey data, our analyst identification process, KMV methodology detail, sample reconciliation, descriptive statistics, robustness tests, a detailed discussion of analyst optimism, and secondary analyses of benefits to covered companies omitted from the manuscript to conserve space. Figure A.1 plots the average expected default probability (EDF) in event time, beginning 12 quarters prior to analysts' separation dates (Panel A) and in calendar time, during the period between 2007 and 2012 (Panel B). Table A.1 Panel A reports average and median characteristics of covered companies. Panel B reports average sample bond ratings, by rater. Table A.2 replicates Table 8 of the manuscript employing issuer ratings in lieu of the average bond ratings for each issuer. Table A.3 replicates baseline bond-level analysis (from Table 4) and issuer-level analysis (from Table 8) excluding transitions for which we could not verify that the same analysts rated all bonds issued by a particular issuer. Table A.4 tests the historical ratings quality produced by transitioning analysts. Table A.5 (Table A.6) examines new bond issuance activity (watch list provisions) for covered companies around the transition date. Finally, Table A.7 documents derivatives business and CDO underwriting activity of covered companies.

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A.1. Salary Survey Data

Underlying our revolving door hypothesis (as well as the talent transfer hypotheses of Bar-Isaac and Shapiro, 2011, and Bond and Glode, 2013) is the assumption that credit rating analysts make more money after their transitions. To support this assumption, we tabulate survey data compiled by Glassdoor.com from Moody's and Goldman Sachs as representative firms. Assuming rational career development on the part of the transitioning analysts, one might rule out job categories at investment banks with average salaries below the average analyst's compensation at the rating agency. Either way, the upside potential at Goldman Sachs appears higher than that at Moody's. Anonymous, self-reported survey data are not verifiable, but these estimates reflect the more lucrative career paths assumed by existing studies and the authors of the Dodd-Frank legislation.

Employer and Position	# Employees reporting	Average salary including bonus	Lowest reported salary	Highest reported salary
Moody's				
Financial data analyst	9	$51,931	$40,000	$75,000
Financial analyst	9	$83,063	$50,000	$140,000
Associate analyst	54	$104,073	$60,000	$130,000
Analyst	22	$149,292	$100,000	$200,000
Assistant Vice President	20	$156,147	$93,000	$200,000
Vice President	16	$235,422	$128,000	$409,000
Goldman Sachs				
Analyst / developer	315	$91,735	$60,000	$131,000
Finance associate	108	$105,952	$71,000	$175,000
Senior analyst	83	$109,843	$61,000	$220,000
Associate	339	$123,649	$54,000	$245,000
Senior analyst developer	399	$127,460	$80,000	$182,000
Research associate	138	$162,118	$78,000	$253,000
Intermediate associate	118	$191,214	$85,000	$300,000
Vice President	77	$221,484	$110,000	$506,000

A.2. Identifying Analysts

We collect historical ratings reports from each of Moody's, Fitch, and S&P. In addition to indicating the credit rating assigned to the covered company, each report lists the names of the analysts who wrote the report and assigned the rating. We retrieve reports for Moody's and Fitch from these raters' respective websites. Because S&P's reports are not available on its website, we purchase a subscription to RatingsDirect. We compile a time series of reports from each CRA for all rated financial institutions. We then look for changes in the composition of the analysts listed on the reports around the dates of the transitions on the ETRs. Analysts listed on covered companies' reports prior to the transition dates but missing on subsequent reports become candidates. We filter this list of candidates by excluding analysts whose names appear on ratings reports for other companies after the transition dates. For example, if Analyst A and Analyst B both disappear from ratings reports for a particular company after a transition date, but Analyst B later appears on a report for a different company, we identify Analyst A as the transitioning analyst associated with the ETR.

We supplement these data by hand collecting resume data from *LinkedIn*. We subscribe to *LinkedIn*'s *Corporate Recruiter* which allows us to identify all individuals reporting employment at the Big 3 CRAs as well as the covered companies in our sample. Specifically, we use the names of covered companies and CRAs to search two fields in *LinkedIn*'s search engine: *current company* and *past company*. We populate *current company* with the names of the covered companies, only, whereas we populate *past company* with the names of the covered companies and the CRAs. This step yields three to five candidates for each transition. We read each of these profiles and determine which candidate, if any, matches the transition record for each ETR.[1] We identify complete demographic information, including education and employment history, for 70 individuals.

[1] We employ several criteria during this step. For example, we require the ending date a candidate's employment in the rating agency to roughly match the separation date recorded in the ETRs. We also require the candidate's position in the rating agency conform to the requirements of ETR disclosure (i.e., excluding summer interns, technical support, customer services, etc.)

A.3. KMV Methodology

We employ a market-based measure of credit risk estimated by Drucker and Puri (2009) which is, in turn, based on Merton (1974)/KMV methodology described in Crosbie and Bohn (2003).

$$Default\ risk = \frac{V_A - D}{V_A * \sigma_A},$$

where D is the amount of debt, defined as the debt in current liabilities plus one-half long-term debt. V_A is the market value of assets and σ_A is the one-year asset volatility. V_A and σ_A are unobservable, but are approximated by using the market value of equity (V_E), the past-one-year equity volatility (σ_E), the three-month treasury bill rate (r), and debt (D) and by solving Merton's (1974) model of pricing a firm's debt and equity for a one-year time horizon (T=1):

$$V_E = V_A * N(d_1) - e^{-rT} * D * N(d_2)\ ,$$

$$\sigma_E = \frac{V_A}{V_E} * N(d_1) * \sigma_A\ ,$$

where

$$d_1 = \frac{\ln\left(\frac{V_A}{D}\right) + \left(r + \frac{\sigma_A^2}{2}\right)T}{\sigma_A\sqrt{T}},$$

$$d_2 = d_1 - \sigma_A\sqrt{T},$$

and N(.) is the cumulative normal distribution.

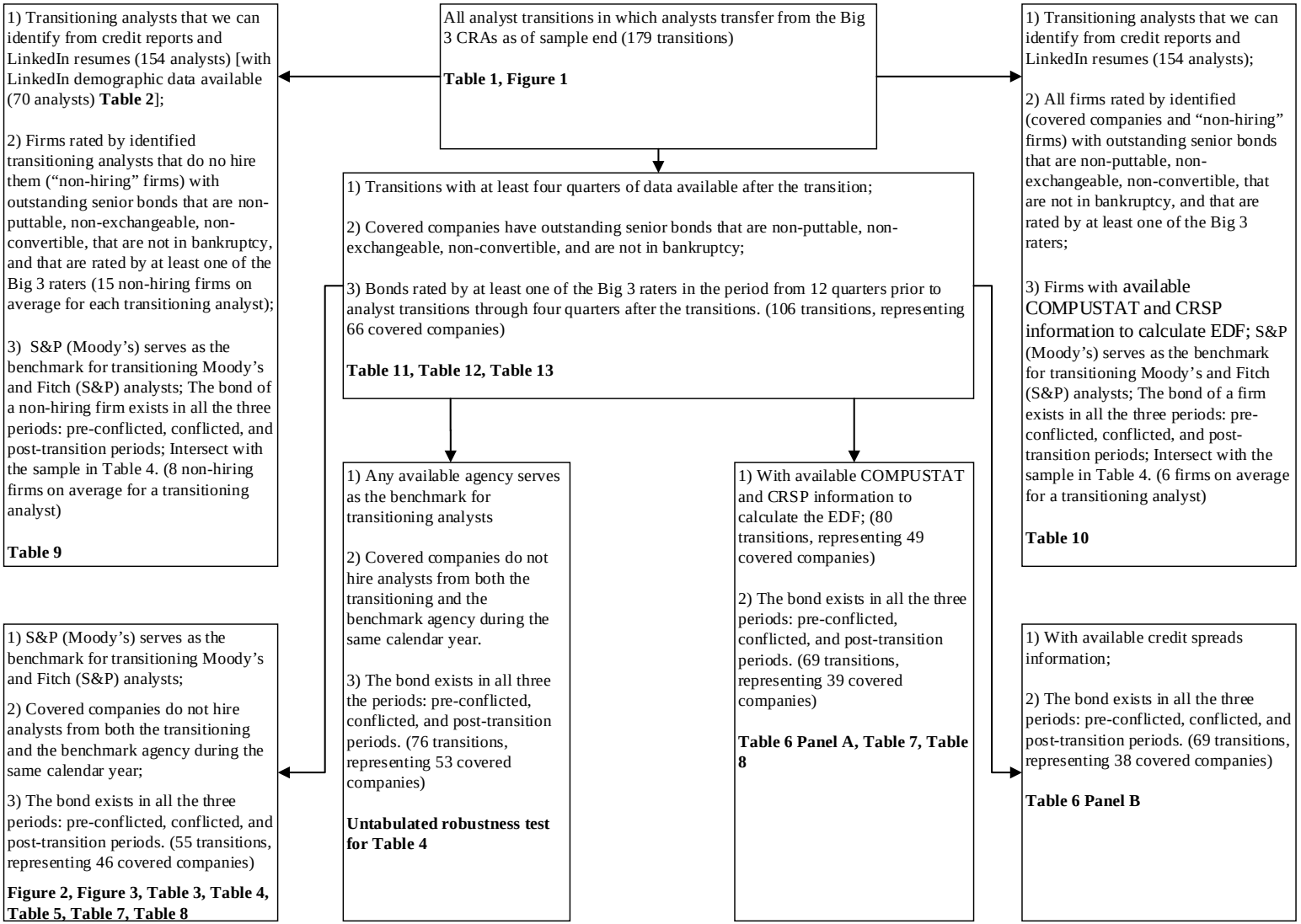
The expected default probability (EDF), capturing fundamental credit risk, is then calculated as $N(-d_3)$, where

$$d_3 = \frac{\ln\left(\frac{V_A}{D}\right) + \left(\mu - \frac{\sigma_A^2}{2}\right)T}{\sigma_A\sqrt{T}},$$

and μ is the annualized asset return, calculated using the estimated asset value V_A.

A.4. Sample reconciliation

This figure displays the filters we apply for our tests and the number of observations in the sample after each set of filters.



A.5. Descriptive Statistics

Panel A of Table A.1 describes characteristics of the covered companies in our sample. These are large financial institutions; the average (median) firm has $1.5 ($1.4) trillion in book value of total assets, $17.7 ($15) billion reported revenue and $65 ($50) billion market capitalization. Average and median total leverage is 36%; long term leverage averages 16% (18% at the median). Average and median return on assets are approximately 42 basis points, in line with averages reported by the FDIC (2011). Market-to-book averages 40% (39% median). These ratios serve as controls in our credit rating regression models below.

Panel B of Table A.1 reports summary statistics for rating levels from each CRA. Rows 1, 2, and 3 employ the sample of bonds for which Moody's, S&P, and Fitch analysts transition to the issuers they rate, respectively. This table reports average differences on a quarterly basis in the period from 12 quarters before each analyst's separation date to four quarters after the separation date. Because numeric ratings are decreasing in credit quality (increasing in credit risk) a smaller number indicates that the rater listed first is more favorable to the issuer. The last column reports differences between the average ratings from S&P and Moody's, and from Fitch and S&P, respectively.

A.6. Issuer Credit Ratings

Because rating agencies rate individual bonds, we conduct our primary analyses at the bond level. We recognize that bonds issued by the same issuer may not be entirely independent, and therefore cluster standard errors at the issuer level in regression analyses. We further address potential concerns over statistical power with robustness tests employing average bond ratings at the issuer level (Table 8 Panels A through C) and the transition level (Table 8 Panel D). As an additional robustness test, we replicate Table 8 results in Table A.2 employing issuer credit ratings in lieu of average bond ratings for each issuer. For this analysis, we collect issuer credit ratings from S&P's RatingXpress, Moody's Default and Recovery Database, and Bloomberg for Fitch.

We find these issuer ratings are 80% correlated with average issue ratings in our sample. As such, the results reported in Table A.2 are similar to those reported in Table 8 of the manuscript.

A.7. Do the Same Analysts Rate All Bonds Issued by a Covered Company?

Because our baseline results (Tables 4, 5, 6, and 7) are bond-level analyses, we take care to ensure that the bond ratings we analyze (i.e., senior bond ratings) for each issuer are rated by the same analysts. Toward this end, we read the analyst rating reports from each transitioning analyst. These reports typically contain a section that specifies in detail the ratings for which the covering analysts have responsibility. Below is an example rating report issued by S&P on March 11, 2011 for J.P. Morgan Chase. This report demonstrates that analysts covering the firm are responsible for the ratings of a firm's entire debt structure on this date. Assigning the same analysts to rate firms' entire debt structures seems to be consistent with economies of scale and scope in rating agencies' practices.[2]

JPMorgan Chase & Co.

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Ratings Detail (As Of March 11, 2011)*	
JPMorgan Chase & Co.	
Counterparty Credit Rating	A+/Stable/A-1
Commercial Paper	
Local Currency	A-1
Preferred Stock (11 Issues)	BBB+
Senior Unsecured (238 Issues)	A+
Senior Unsecured (11 Issues)	AAA
Ratings Detail (As Of March 11, 2011)***(cont.)**	
Subordinated (123 Issues)	A

[2] Rating agencies stress publicly that the analytical team collects and evaluates issuer management and other soft information beyond financial ratios when determining ratings of bond issues. (See the following URLs for the qualitative nature of their analysis.) Given limited resources, it is reasonable to expect rating agencies typically assign the same analytical team to rate securities of the same firm, which share common firm management and other soft information factors. (https://www.moodys.com/Pages/amr002003.aspx and http://www.standardandpoors.com/aboutcreditratings/RatingsManual_PrintGuide.html)

In our sample, there are only two transitions for which we cannot verify that the analysts are in a position to influence the senior debt ratings we include in our analysis. In one case (for a transition to Royal Bank of Scotland on September 21, 2012), the transitioning analyst's rating report only documents the firm's issuer-level rating, but does not mention ratings for bond issues. In the other case (for a transition to Deutsch Bank on August 23, 2010), the transitioning analyst's rating report only documents ratings on the firm's covered bond, which is a different type of bond from the senior corporate debt we use for our analysis. As a robustness check, we drop these two transitions from our sample and replicate our key analyses. These results are tabulated in Table A.3 below. We find only marginal changes in the results, both statistically and economically.

A.8. Changes in Credit Quality

In Figure 2 of the manuscript, we observe adverse ratings changes for both the transitioning and benchmark analysts from quarters -9 to -6 because, for many of the transitions in our sample, this period overlaps the onset of the financial crisis when many covered companies saw a deterioration in credit quality. We demonstrate this pattern more explicitly in Figure A.1 below, which plots the EDF of covered companies in both event time and calendar time. We adjust each EDF by subtracting the average EDF in the same calendar year for all issues in our sample, in order to remove any calendar time effects. Therefore, a positive (negative) value of EDF means that EDF is above (below) the sample average. In the manuscript, we address the potential concern that our results may reflect variation in rating agency reaction to changes in credit quality during the financial crisis with placebo tests (see Figure 3).

A.9. Benign Optimism

We expand here our discussion of the potential endogeneity concern that some analysts are, or may become, more optimistic for unobservable reasons. This optimism could lead the analyst to join the firm, or lead the firm to hire her away. In this case, our findings could merely reflect this sense of optimism, instead of a conflict of interest. We consider each of four ways analyst optimism could express itself in the data.

1. Cross-sectional variation in optimism: Some analysts are more optimistic than others all the time. This type of optimism is consistent with the findings in Fracassi, et al. (2014).
2. Time-series variation in optimism: All analysts become more optimistic about all firms they cover at certain times.
3. Time-series variation within analysts in optimism: Some analysts become more optimistic about all the firms they cover at certain times.
4. Time-series variation within analysts and within firms in optimism: Some analysts become optimistic about certain firms at certain times.

Our difference-in-differences approach prevents the first and second types of optimism from explaining our results. Specifically, our baseline tests employ a difference (between transitioning and non-transitioning analysts) in differences (in event time). If transitioning analysts are always more optimistic than their benchmarks, this first difference would persist across time resulting in no second difference. Likewise, if all analysts became more optimistic together, both ratings would update, again resulting in no second difference.

The results reported in Table 9 of the paper indicate that this third type of optimism does not drive our results, which leaves only the fourth type. This type of optimism must only relate to the covered companies the analysts eventually join and it must only arise prior to their separations from the rating agencies. To explain our results, this story requires that (1) transitioning analysts take favorable views of particular covered companies, on occasion, for reasons unrelated to fundamentals and (2) these bursts of optimism lead to mutual appreciation such that the covered companies hire these analysts. Under this scenario, transitioning analysts misinterpret covered companies' credit signals, and make honest mistakes in their ratings. In other words, this story suggests that transitioning analysts are more mistake-prone than non-transitioning analysts.

In order to test this possibility, we collect historical ratings data for all companies rated by transitioning analysts going back to 2007. We collect benchmark ratings for comparison. We regress transitioning analysts' ratings and benchmark ratings, respectively, on *EDF*, along with control variables, similar to equation (3) in the paper but without *Pre-Conflicted* and its interaction with *EDF*. We tabulate results in Table A.4 at both the bond level and issuer level, using

specifications with and without controls for firm characteristics. In all specifications, transitioning analysts provide ratings that are at least as responsive to *EDF* as benchmark ratings. Untabulated differences in the coefficients of *EDF* between the transitioning and benchmark analysts are all insignificantly different from zero at 10%. This result implies that transitioning analysts provide ratings with similar quality as their benchmarks, and hence are not simply mistake prone.

A.10. Covered Companies

We explore here the potential benefits of analyst transitions to the covered companies. First, we test whether issuers capitalize on inflated ratings by issuing more debt. Second, we test whether rating analysts reduce asymmetric information between the issuer and the CRA. Third, we test whether the rating analysts help the issuer manage (game) the ratings process. This notion differs from the asymmetric information argument in which issuers want CRAs to better understand their business. Rather, the ratings management argument is one in which issuers want to better understand the CRAs' rating processes (analogous to hiring IRS agents to compile and report taxable income) and grease the proverbial wheels as in Jin and Lee (2011).

If covered companies capitalize on inflated ratings obtained by transitioning analysts, then we should observe increased debt issuance during the conflicted period. Table A.5 reports the number of new bond issues and the average amount of these new issues per firm, by quarter relative to the separation date. The results are mixed. The number of new issues clearly indicates that these covered companies issue more bonds in the conflicted and post-transition periods (when the ratings are more favorable) than in the pre-conflicted period (when the ratings are harsher). The average number of new issues per firm-quarter in the pre-conflicted period is 5.46. This number becomes 7.62 in the conflicted and post-transition periods combined. However, the average issue size is smaller in the later time periods ($750.3 million in the pre-conflicted period versus $408.7 million in the conflicted and post-transition periods combined). As such, we cannot conclude from Table A.5 that covered companies capitalize on inflated ratings.

If credit rating analysts are hired to mitigate asymmetric information, then we should

expect that hiring issuers are especially opaque or otherwise sensitive to information asymmetry. Our sample is comprised primarily of large, public financial institutions covered by several equity analysts.[3] In other words, our sample firms are not opaque. Still, Morgan (2002) argues that financial institutions are more difficult to rate than industrials.

Two points in time during which issuers should benefit from better communication with rating agencies are the point of new issues and the addition of an issuer to a CRA watch list.[4] Table A.5 does not indicate that analysts are hired prior to new issues. We further consider the timing of covered companies' additions to watch lists in Table A.6. In order to support the asymmetric information hypothesis, the analyst transitions should (1) come from the CRA placing the covered company on a watch list and (2) follow shortly after the watch list announcement. We find no such evidence. For example, on average, the last time covered companies were on the transitioning agency's negative (positive) watch list was 10 (25) quarters before the separation date. Covered companies do not seem to hire rating analysts to improve communication when placed under review.

Results in Table 7 Panel B of the paper suggest the hiring firms' ratings remain less informative (and slightly inflated) in the post-transition period than they were in the pre-conflicted period. This evidence suggests a potential benefit (in addition to skilled labor) for covered companies hiring rating analysts. This finding is consistent with Bond and Glode (2014) who model the transfer of talent from regulators to banks resulting in increased misbehavior at the banks. In our setting, lost talent at the CRAs potentially emboldens and enables issuers to game the rating process.

Another implication of a ratings management hypothesis is that covered companies should be especially sensitive to the ratings process, and hence, have the most incentive to manage their

[3] Large firms are generally more transparent (see Vermaelen, 1981 and Diamond and Verrecchia, 1991) and equity analysts produce more information than CRAs (see Ederington and Goh, 1998).

[4] Indeed, Moody's (1998) reports an asymmetric watch list resolution: 76.44% (65.77%) of issues placed on an upgrade (downgrade) watch list are upgraded (downgraded).

ratings. Because most of our covered companies are financial institutions, we explore a few channels through which credit ratings have real effects on these firms' operations, and compare whether the covered companies in our sample are more subject to these real effects than a control group of financial institutions that do not hire rating analysts.[5]

First, we note an over-representation of depository institutions in our sample of covered companies. Forty-three percent of covered companies are depository institutions compared to 25% of the control sample. The FDIC relies in part on credit ratings to differentiate risk and establish depository insurance premiums.[6] Therefore, the large presence of depository institutions among covered companies could arise because these firms have heightened incentives to manage the rating process.

Second, bank credit ratings are also relevant for derivatives business; see Eavis (2012) and CFA (2013). We document the derivatives underwriting activity of our covered companies in Table A.7 Panel A. The *Quarterly Report on Bank Trading and Derivatives Activities* (obtained from the Comptroller of the Currency Administrator of National Banks) reports the derivatives underwriting by the largest 25 individual underwriters and for the balance of the industry on a quarterly basis. We manually merge the covered companies in our sample with these underwriters by company names. We then aggregate these data to an annual level and report the percentage of our sample of covered companies among the largest 25 underwriters. We find an over-representation of the largest derivatives underwriters in our sample of covered companies. Specifically, 28% to 50% of our covered companies are among the largest 25 derivative underwrites in the 2000-2012 period (column 1). By comparison, this percentage is only 4% to 6% for the control group over this time period (column 3). In addition, the ratio of derivatives underwritten to underwriters' total assets is also significantly higher than that for control

[5] We apply the same filters as in our main analyses to construct the control group, yielding 682 financial institutions.

[6] See "Long-term debt issuer ratings" in FDIC (2006, page 20).

companies (column 2 versus column 5). The derivative underwriting activity of covered companies again suggests incentives to manage the rating process.

Finally, under a ratings management hypothesis, hiring issuers learn from the rating analysts how to manage CRA evaluation of soft information (i.e., qualitative analysis). Griffin and Tang (2012) and Griffin, Nickerson, and Tang (2013) document the subjectivity in credit ratings of CDOs in particular and Cornaggia, et al. (2014) find that CDO ratings are more likely inflated than ratings of other asset-backed securities. We thus compare the CDO underwriting activities of our covered companies to the control companies in Table A.7 Panel B. We do not examine the characteristics of the CDO ratings directly. Rather, we employ the exposure to the CDO market as a proxy for the benefits of ratings management.

We collect banks' CDO underwriting information from the ABS database.[7] Based on this database, we create a table containing the annual CDO underwriting amount for each bank in each year. We then merge these banks with the covered companies in our sample, using the company name and year of analyst transitions. We tabulate CDO underwriting activity in millions of dollars and as a percentage of market share, in each year from 2000 through 2007. The differences in CDO underwriting activity between covered companies and control companies are significant at 1% in each year.[8] To the extent that CDO underwriting activity provides a reliable proxy for these issuers' sensitivities to the ratings process, these results provide additional support for the ratings management hypothesis. However, none of these secondary analyses allow us to draw strong conclusions about the motivation of the hiring firms, beyond a natural talent transfer.

[7] We thank *Asset-Backed Alert* for providing this data. The dataset contains the initial terms and origination information (including underwriting banks) for all rated CDO issues globally. See Shivdasani and Wang (2011) for further discussion of this database and the list of major CDO underwriters.

[8] The increase in CDO underwriting activity observed in Table A.7 is consistent with the evidence provided by Shivdasani and Wang (2011) and Nadauld and Weisbach (2012).

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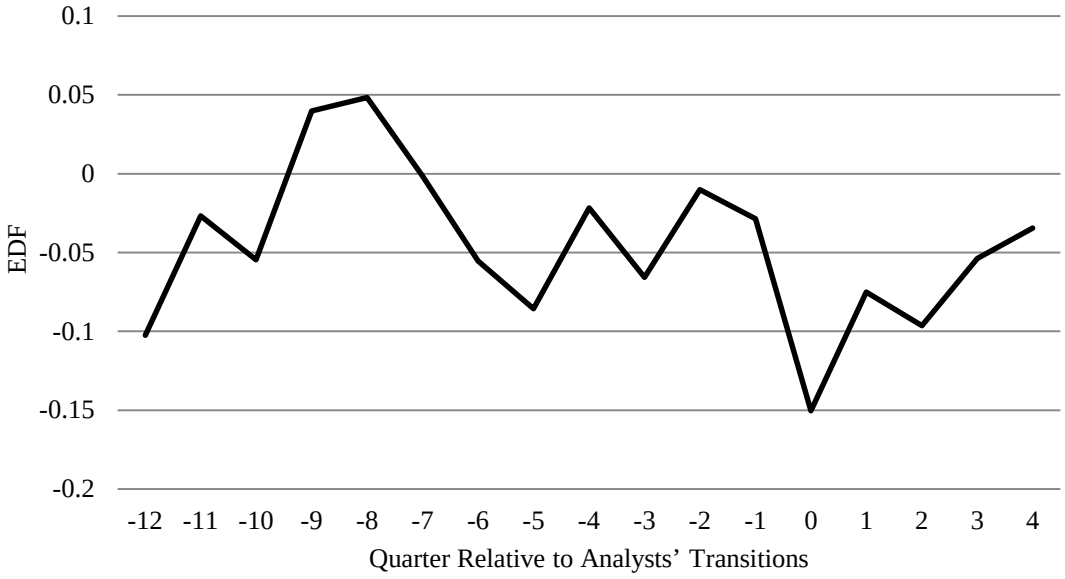
Panel A: EDF in event time



Panel B: EDF in calendar time

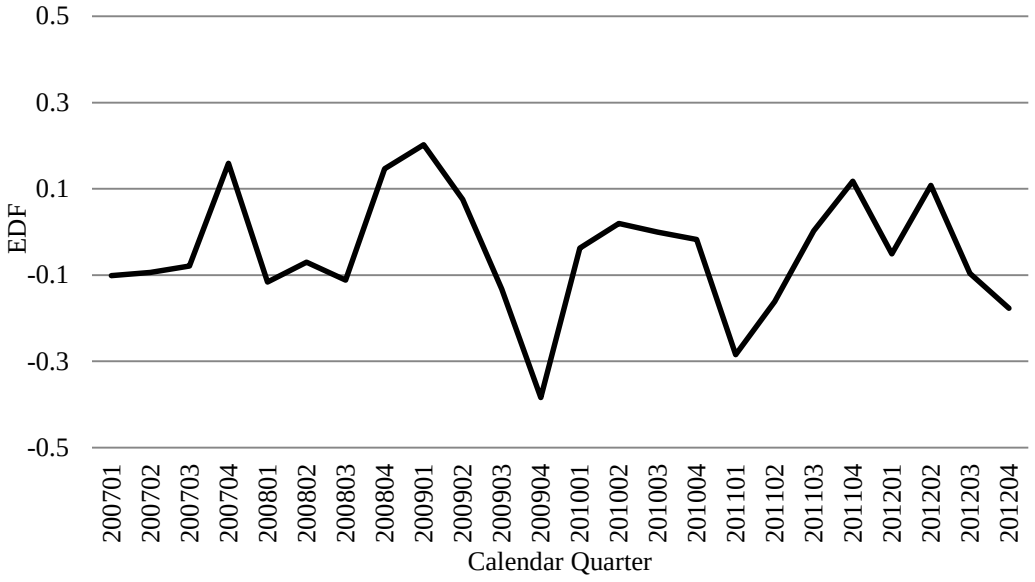


Fig. A.1. EDF in event time and in calendar time. Panel A presents the average expected default probability (EDF) of the covered companies in event time, beginning 12 quarters prior to analysts' separation dates. Panel B presents the average expected default probability (EDF) of the covered companies in calendar time, during the period between 2007 and 2012. EDF is derived from a Merton (1974)/KMV model, as described in Section A.3, and are calendar-year adjusted as the differences between the raw EDF and the mean EDF of all issues in our sample in the same calendar year. Information on rating analysts' transitions come from employment transition reports (ETRs) filed by the credit rating agencies.

Table A.1
Descriptive statistics.

Panel A presents characteristics of covered companies. We obtain financial information from the Compustat quarterly database. Total Assets is the value of total book assets; Market Equity is the total market value of equity; Total Sales is the total value of sales; Leverage is the ratio of total debt from the balance sheet to total assets; Long-Term Debt Leverage is the ratio of long-term debt from the balance sheet to total assets; Profitability is the ratio of operating income before depreciation to total assets; M-B Ratio is the ratio of the market value of assets to total book value of assets, where the numerator is defined as the sum of market equity and total debt; Profitability Growth is the growth rate of profitability during the past quarter. Panel B displays summary statistics for ratings of bonds issued by covered companies to which rating analysts from Moody's, S&P, and Fitch transition. We measure ratings on a quarterly basis from 12 quarters before each rating analyst's separation date to four quarters after. We obtain credit ratings from the Mergent Fixed Income Securities Database (FISD). Numeric ratings are decreasing in credit quality (increasing in credit risk). The last column reports differences between the average ratings from S&P and Moody's, and from Fitch and S&P, respectively. Standard errors from t-tests are in parentheses. *** indicates significance at the 1% level.

Panel A: Characteristics of covered companies

	Number of Bond-Quarter Observations	Mean	Median	Standard Deviation
Total Assets ($M)	150,324	1,527,635	1,422,701	751,689
Market Equity ($M)	158,952	65,417	50,066	46,505
Total Sales ($M)	148,041	17,674	15,005	9,612
Leverage	148,505	0.360	0.361	0.179
Long-Term Debt Leverage	148,505	0.163	0.180	0.068
Profitability (ROA)	122,385	0.422%	0.417%	0.372%
M-B Ratio	147,140	0.403	0.390	0.189
Profitability Growth	106,277	-0.172	-0.129	2.186

Panel B: Bond ratings

	Number of Bond-Quarter Observations	Mean	Median	Standard Deviation	Differences in Rating Means
(1) Moody's	123,706	4.312 (≈ Aa3)	4 (= Aa3)	2.302	
(2) S&P	58,643	4.664 (≈ A+)	5 (= A+)	1.586	(2) - (1) 0.352*** (0.011)
(3) Fitch	57,457	3.959 (≈ AA-)	4 (= AA-)	1.348	(3) - (2) -0.705*** (0.008)

Table A.2

Issuer-level analyses using issuer credit ratings.

This table presents results from OLS regressions. Regression specifications in Panel A, Panel B, and Panel C correspond to those in Table 4, Table 6 Panel A, and Table 7, respectively, in which the dependent variables are all calculated using issuer credit ratings. Year Fixed Effects are indicator variables for calendar years. Issuer Fixed Effects are indicator variables for bond issuers. CRA Fixed Effects are indicator variables for S&P's analyst transitions, Moody's analyst transitions, and Fitch's analyst transitions. Benchmark Rating Letter Fixed Effects are indicator variables for the broad benchmark rating categories. Issuer-Transition-Pair Fixed Effects are indicator variables for each issuer-transition pair. Standard errors are clustered at the issuer level in specifications with Issuer Fixed Effects, and at the issuer-transition-pair level in specifications with Issuer-Transition-Pair Fixed Effects. Standard errors are in parentheses. Intercepts are not reported. Panel D repeats the analyses in Panels A to C at the transition level. In section (1) of Panel D, for each transition we calculate the difference in the mean of Rating Difference in the pre-conflicted period and the mean of Rating Difference in the conflicted period; the average of the differences for all transitions is reported. In section (2), for each transition we calculate the difference in the ratings' correlation with EDF in the pre-conflicted period and ratings' correlation with EDF in the conflicted period; the average of the differences for all transitions is reported. In section (3), for each transition we calculate the difference in the mean of Rating Difference (ratings' correlation with EDF) in the conflicted period and the post-transition period; the average of the differences for all transitions is reported. In section (4), for each transition we calculate the difference in the mean of Rating Difference (ratings' correlation with EDF) in the pre-conflicted period and the post-transition period; the average of the differences for all transitions is reported. ***, ** and * indicate coefficients significantly different from 0 at the 1%, 5% and 10% levels, respectively.

Panel A: Rating Differences

	Transitions of Conflicted Analysts from Moody's, S&P, and Fitch				Moody's Redacted Analyst Transitions	
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-Conflicted	0.416***	0.410***	0.131*	0.142**	0.050	0.049
	(0.157)	(0.138)	(0.073)	(0.072)	(0.076)	(0.066)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Issuer Fixed Effects	Yes	Yes	No	No	Yes	No
CRA Fixed Effects	Yes	Yes	No	No	No	No
Benchmark Rating Letter Fixed Effects	No	Yes	No	Yes	Yes	Yes
Issuer-Transition-Pair Fixed Effects	No	No	Yes	Yes	No	Yes
Observations	645	645	645	645	190	190
Within R-squared	0.243	0.184	0.005	0.006	0.002	0.002

Panel B: Ratings' responsiveness

	Transitioning Analysts' Ratings				Benchmark Ratings	
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-Conflicted × EDF	0.693**	0.494**	0.506**	0.617***	0.129	0.085
	(0.271)	(0.216)	(0.234)	(0.174)	(0.277)	(0.199)
Pre-Conflicted	0.135	0.009	-0.004	-0.304***	-0.289	-0.157
	(0.152)	(0.163)	(0.161)	(0.115)	(0.210)	(0.143)
EDF	-0.155	-0.011	0.150	-0.138	0.103	-0.053
	(0.315)	(0.272)	(0.333)	(0.213)	(0.213)	(0.204)
Long-Term Debt Leverage			0.444	-0.0854		1.497
			(1.974)	(1.808)		(1.850)
Profitability			-18.26	-3.687		5.798
			(19.61)	(19.44)		(9.041)
M-B Ratio			2.497**	0.730		-1.973
			(1.149)	(0.953)		(1.408)
Sales			0.204	0.037		0.025
			(0.208)	(0.166)		(0.183)
Profitability Growth			-0.004	-0.001		-0.048***
			(0.033)	(0.025)		(0.015)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Issuer Fixed Effects	Yes	Yes	Yes	No	No	No
CRA Fixed Effects	No	Yes	Yes	No	No	No
Issuer-Transition-Pair FE	No	No	No	Yes	Yes	Yes
Observations	547	547	547	547	315	315
Within R-squared	0.062	0.352	0.371	0.054	0.544	0.055

Panel C: Reversals and transience

	Reversal		Transience	
	Rating Differences	Ratings' Responsiveness	Rating Differences	Ratings' Responsiveness
	(1)	(2)	(3)	(4)
Conflicted × EDF		-0.292		
		(0.180)		
Conflicted	-0.135***	-0.00180		
	(0.0115)	(0.0317)		
Post-Transition × EDF				-0.599**
				(0.284)
Post-Transition			-0.246	0.369**
			(0.241)	(0.180)
EDF		0.398		0.715**
		(0.307)		(0.286)
Issuer Characteristics Controls	No	Yes	No	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Benchmark Rating Letter FE	Yes	No	Yes	No
Issuer-Transition-Pair FE	Yes	Yes	Yes	Yes
Observations	546	365	641	494
Within R-squared	0.004	0.050	0.003	0.057

Panel D: Transition-level analyses

(1) Rating Difference	Transitions of Conflicted Analysts from Moody's, S&P, and Fitch	Moody's Redacted Analyst Transitions
	0.148*	0.077
	(0.088)	(0.133)
(2) Ratings' Responsiveness	Transitioning Analysts' Ratings	Benchmark Ratings
	0.304**	0.247
	(0.122)	(0.169)
(3) Reversals	Rating Difference	Ratings' Responsiveness
	-0.046	-0.491***
	(0.130)	(0.163)
(4) Transience	Rating Difference	Ratings' Responsiveness
	-0.101	-0.155
	(0.170)	(0.175)

Table A.3
Analyses excluding transitions in which analysts may not rate all ratings of an issuer.

This table presents results from OLS regressions. The sample excludes two transitions for which we cannot verify that the analysts are responsible for the ratings that we include in our analysis. Column 1 corresponds to column 5 of Table 4. Column 2 corresponds to column 4 of Table 6 Panel A. Column 3 corresponds to column 4 of Table 8 Panel A. Column 4 corresponds to column 4 of Table 8 Panel B. All control variables are the same as in the corresponding specifications. ***, ** and * indicate coefficients significantly different from 0 at the 1%, 5% and 10% levels, respectively.

	Panel A: Bond level		*Panel B: Issuer level*	
	Rating Differences	Ratings' Responsiveness	Rating Differences	Ratings' Responsiveness
	(1)	(2)	(3)	(4)
Conflicted × EDF		0.483***		0.563**
		(0.140)		(0.220)
Conflicted	0.180**	-0.254***	0.141**	-0.341***
	(0.076)	(0.058)	(0.069)	(0.125)
EDF		0.236*		-0.223
		(0.126)		(0.172)
Issuer Characteristics Controls	No	Yes	No	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Benchmark Rating Letter FE	Yes	No	Yes	No
Issue-Transition-Pair FE	Yes	Yes	Yes	Yes
Observations	31,869	42,818	621	535
Within R-squared	0.012	0.095	0.009	0.050

Table A.4

Tests of whether transitioning analysts' ratings are historically less informative than non-transitioning analysts' ratings.

This table presents results from OLS regressions. The sample consists of bonds issued by all companies rated by conflicted analysts who transition to covered companies from Moody's, S&P, and Fitch between 2007 and 2012. In columns 1, 3, 5, and 7, the dependent variables are the numerical value of the quarterly ratings from the agency with a transitioning analyst. In columns 2, 4, 6, and 8, the dependent variables are the numerical value of quarterly ratings from the benchmark agency without a transitioning analyst. We employ S&P (Moody's) as the benchmark for Moody's and Fitch (S&P). All control variables are defined the same as in Table 6. Columns 1 to 4 conduct the analyses at the bond level and include all bond-quarters as independent observations. Columns 5 to 8 collapse bond-level ratings to the issuer-level by taking the mean of the bond-level ratings for all bonds that are issued by the same issuer during the same quarter. Year Fixed Effects are indicator variables for calendar years. Bond (Issuer)-Analyst Fixed Effects are indicator variables for each bond (issuer)-analyst pair. Standard errors clustered at the conflicted analyst level are in parentheses. Intercepts are not reported. ***, **, and * indicate coefficients significantly different from 0 at the 1%, 5%, and 10% levels, respectively.

	Bond Level				Issuer Level			
	Transitioning Analysts' Ratings	Benchmark Ratings	Transitioning Analysts' Ratings	Benchmark Ratings	Transitioning Analysts' Ratings	Benchmark Ratings	Transitioning Analysts' Ratings	Benchmark Ratings
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EDF	0.736***	0.686***	0.586**	0.476**	0.870***	0.774***	0.565***	0.409**
	(0.273)	(0.248)	(0.243)	(0.206)	(0.174)	(0.151)	(0.233)	(0.204)
LT Debt Leverage			5.112***	4.658***			3.216***	1.179
			(0.963)	(1.433)			(1.071)	(1.778)
Profitability			-66.51***	-71.63***			-33.30***	-20.24**
			(13.36)	(16.23)			(7.377)	(9.197)
M-B Ratio			0.644	-1.210			-3.416*	-5.272***
			(1.447)	(1.314)			(1.774)	(1.838)
Sales			0.139*	0.319***			0.060	0.416**
			(0.084)	(0.077)			(0.207)	(0.170)
Profitability Growth			0.030**	0.023			0.050***	0.016
			(0.013)	(0.016)			(0.008)	(0.014)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond (Issuer)-Analyst FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	253,889	253,889	253,899	253,889	2,694	2,694	2,694	2,694
Within R-squared	0.026	0.036	0.081	0.120	0.025	0.019	0.100	0.131

Table A.5
New bond issuance.

This table presents the number and amount of new bond issues from covered companies. We report summary statistics by quarter-to-separation from 12 quarters before to four quarters after analysts' separation dates. ***, **, and * indicate averages and differences are significantly different from 0 at the 1%, 5%, and 10% levels, respectively.

Quarterly Event Time	Number of New Bond Issues		Amount of New Bond Issues ($000)	
	Mean	Difference with Separation Quarter	Mean	Difference with Separation Quarter
Q_{-12}	5.307	-2.927**	859,174	256,799
Q_{-11}	5.171	-3.063**	1,140,457	538,082
Q_{-10}	5.645	-2.589*	575,786	-26,589
Q_{-9}	6.292	-1.942	1,508,756	906,381
Q_{-8}	5.404	-2.830**	529,782	-72,593
Q_{-7}	4.829	-3.404***	402,895	-199,480
Q_{-6}	5.260	-2.974**	671,161	68,786
Q_{-5}	5.742	-2.491*	314,501	-287,874
Q_{-4}	6.180	-2.054	267,096	-335,278
Q_{-3}	6.500	-1.738	276,008	-326,367
Q_{-2}	7.002	-1.232	350,121	-252,254
Q_{-1}	7.540	-0.695	393,449	-208,926
Q_0	8.234		602,375	
Q_1	7.690	-0.543	849,981	247,606
Q_2	8.234	0.008	319,718	-282,657
Q_3	8.572	0.338	302,989	-299,385
Q_4	9.086	0.853	316,342	-286,033

Table A.6
Watch list provisions.

This table presents summary statistics for the incidence of rating agencies' watch list provisions. We report the number of quarters before an analyst's separation date when a watch list was last placed by a CRA with and without a transitioning analyst. We use S&P (Moody's) as the benchmark CRA for transitioning Moody's and Fitch (S&P) analysts. We report negative and positive watch list provisions separately.

	Mean	Median	25th pct	75th pct
Negative watch list				
Agency with a transitioning analyst	9.692	9	1	15
Agency without a transitioning analyst	13.086	11	6	16
Positive watch list				
Agency with a transitioning analyst	24.809	19	19	27
Agency without a transitioning analyst	19.528	23	8	28

Table A.7

Derivatives and CDO underwriting activity.

This table presents derivatives exposure (Panel A) and CDO underwriting activities (Panel B) separately for covered companies and a control group of 682 financial institutions that issue bonds but do not hire credit rating analysts. In Panel A, column Percentage reports the percentage of covered companies (control companies) whose bank holding companies are among the largest 25 banks in derivatives activities ranked by the notional amount of derivative contracts. Derivatives to Total Assets Ratio is the ratio of the amount of derivative contracts to total assets, conditional on the institution being among the largest 25 banks in derivatives in the given year. We collect derivative activities data from the quarterly report on bank trading and derivatives activities from the Comptroller of the Currency Administrator of National Banks. We report information from the fourth quarter of each year. In Panel B, the Amount of CDO Underwritten is the principal value (in U.S. million dollars). The Market Share of CDO Underwritten is the amount of CDOs underwritten by a covered company (control company) scaled by the total amount of CDO issued in the same year. Both variables are calculated at the institutions' parent (bank holding company) level. We collect CDO underwriting information from the ABS database managed by J.P. Morgan's Asset-Backed Alert. *** indicates differences are significant from 0 at the 1% level.

Panel A: Derivatives underwriting

	Covered Companies			Control Companies			Difference	
	Percentage	Derivatives to Total Assets Ratio		Percentage	Derivatives to Total Assets Ratio			
Year	(1)	Mean (2)	Median (3)	(4)	Mean (5)	Median (6)	(1)-(4)	(2)-(5)
2000	27.73%	7.43	2.78	5.95%	2.92	0.95	+***	+***
2001	31.64%	7.99	5.79	6.11%	2.20	1.10	+***	+***
2002	38.67%	8.73	7.76	6.11%	1.75	0.95	+***	+***
2003	38.67%	10.62	14.56	5.66%	1.98	1.24	+***	+***
2004	38.67%	12.32	14.58	5.22%	1.58	0.99	+***	+***
2005	38.67%	14.58	20.08	5.20%	1.65	1.10	+***	+***
2006	38.67%	14.59	22.30	5.50%	1.61	0.97	+***	+***
2007	40.23%	13.72	7.52	4.92%	1.70	1.28	+***	+***
2008	50.39%	19.26	5.77	4.32%	1.31	1.01	+***	+**
2009	38.91%	41.94	17.32	4.62%	1.36	1.11	+***	+**
2010	38.91%	47.49	20.25	4.32%	1.51	0.76	+***	+**
2011	38.91%	45.72	25.70	4.47%	1.28	0.82	+***	+**
2012	38.67%	42.89	28.82	4.47%	1.12	0.87	+***	+***

Panel B: CDO underwriting activity

	Covered Companies				Control Companies				Difference	
	Amount of CDO Underwritten ($Mil)		Market Share of CDO Underwritten		Amount of CDO Underwritten ($Mil)		Market Share of CDO Underwritten			
Year	Mean (1)	Median (2)	Mean (3)	Median (4)	Mean (5)	Median (6)	Mean (7)	Median (8)	(1)-(5)	(3)-(7)
2000	2246.97	1685.10	2.88%	2.16%	35.87	0	0.05%	0	+***	+***
2001	2725.70	1209.40	3.35%	1.49%	29.48	0	0.04%	0	+***	+***
2002	3186.99	1148.40	3.71%	1.34%	6.19	0	0.01%	0	+***	+***
2003	2873.19	763.00	3.29%	0.87%	7.22	0	0.01%	0	+***	+***
2004	4162.31	2504.90	3.29%	1.98%	12.28	0	0.01%	0	+***	+***
2005	8723.51	4044.00	3.46%	1.60%	28.57	0	0.01%	0	+***	+***
2006	16354.21	16933.50	3.42%	3.54%	32.04	0	0.01%	0	+***	+***
2007	13954.86	10955.60	3.41%	2.68%	51.06	0	0.01%	0	+***	+***