

July 12, 2010

VIA EDGAR AND E-MAIL

Daniel L. Gordon, Branch Chief
Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, D.C. 20549

RE: American Capital Agency Corp.
Form 10-K for the year ended December 31, 2009
Filed February 25, 2010
Form 10-Q for the quarter ended March 31, 2010
Filed May 3, 2010
([File No. 001-34057](#))

Dear Mr. Gordon:

American Capital Agency Corp. (the "Company"), has filed today via EDGAR with the Securities and Exchange Commission (the "Commission") an amendment to each of the Company's Form 10-K and Form 10-Q filings referenced above.

The numbered paragraphs below respond to the comments of the staff of the Commission (the "Staff") contained in your June 29, 2010, letter to the Company (the "Comment Letter"). In each numbered paragraph, we have set forth the Staff's comment followed by the Company's response thereto.

Note 4. Repurchase Agreements, page 88

- 1. For each of the quarters of the last two years, please provide us with a table showing the average amount of repurchase transactions outstanding during the quarter and the amount of these repurchase transactions outstanding as of the end of each quarter. To the extent there are significant variations between the average level of these transactions and the amounts outstanding at each quarter-end, please explain to us why. In future periodic filings we believe the inclusion of the information described above would be useful to investors and should be included.**

The attached Exhibit A includes a table showing the average amount of the Company's repurchase transactions outstanding during the quarter and the amount of these repurchase transactions outstanding as of the end of each quarter since its initial public offering of common stock on May 20, 2008. To the extent there were significant variations between the average level of these transactions and the amounts outstanding at each quarter-end, the Company has included an explanation of such difference. The Company will include such information in its future periodic filings.

Exhibit 31

- 2. We note that the certifications filed as Exhibit 31 to your Form 10-K are not in the proper form. Specifically, paragraph 4(b) has been omitted. The required certifications must be in the exact form prescribed; the wording of the required certifications may not be changed in any respect. Accordingly, please file an amendment to your Form 10-K that includes the entire filing together with the certification of your current CEO and CFO in the form currently set forth in Item 601(b)(31) of Regulation S-K. Please also amend the certifications in Form 10-Q filed for the first quarter of 2010, as necessary, in response to this comment.**

The Company has filed an amendment to its Annual Report on Form 10-K for the year ended December 31, 2009 and an amendment to its Quarterly Report on Form 10-Q for the quarter ended March 31, 2010, each of which includes the entire report together with the certifications of the Company's current CEO and CFO in the form currently set forth in Item 601(b)(31) of Regulation S-K.

General

3. After reviewing any amendments to your filing and the information you provide in response to these comments, we may have additional comments.

The Company acknowledges the Staff's comment.

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In submitting this letter, the Company acknowledges:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filings;
- Staff comments or changes to disclosure in response to Staff comments in the filings reviewed by the Staff do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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We hope this letter addresses the Staff's questions and comments. If we can be of assistance in facilitating the Staff's review of our responses to the Comment Letter, please contact Cydonii V. Fairfax at (301) 841-1384 or me at (301) 841-1405.

Sincerely,

/s/ Samuel A. Flax

Samuel A. Flax

Executive Vice President and Secretary

Attachment: Exhibit A, Table of Repurchase Transactions

cc: Kristi Marrone
David Goldschmidt, Esq.

Exhibit A, Table of Repurchase Transactions

American Capital Agency Corp.
Repurchase Agreements for the Period Ended and as of Period End
(dollars in thousands)

Period Ended (1)	Repurchase Agreements		Average Leverage (2)	Leverage as of Period End (3)	Leverage as of Period End, Net of Unsettled Trades (4)
	Average	as of Period End			
May 20, 2008 through June 30, 2008	\$1,331,825	\$ 2,166,616(5)	4.9:1	8.3:1	8.3:1
September 30, 2008	\$1,795,218	\$ 1,434,363(6)	6.8:1	5.4:1	5.2:1
December 31, 2008	\$1,355,267	\$ 1,346,265	5.1:1	5.2:1	5.2:1
March 31, 2009	\$1,537,798	\$ 1,849,473(7)	5.6:1	6.4:1	7.0:1
June 30, 2009	\$2,139,402	\$ 2,346,875	7.0:1	7.5:1	7.7:1
September 30, 2009	\$2,693,851	\$ 2,949,010	7.2:1	6.9:1	7.3:1
December 31, 2009	\$3,637,220	\$ 3,841,834	6.8:1	7.0:1	7.3:1
March 31, 2010	\$3,787,583	\$ 4,651,115(8)	6.5:1	7.6:1	7.9:1

- (1) Represents the three month period ended, except for the period from May 20, 2008 (date of initial public offering of common stock) through June 30, 2008.
- (2) Average leverage during the period was calculated by dividing the Company's average repurchase agreements outstanding for the period by the Company's average stockholders' equity for the period.
- (3) Leverage as of period end was calculated by dividing the amount outstanding under repurchase agreements by the Company's stockholder's equity at period end.
- (4) Leverage as of period end, net of unsettled trades was calculated by dividing the amount outstanding under the Company's repurchase agreements and net liabilities and receivables for unsettled agency securities by the Company's total stockholder's equity at period end.
- (5) The Company completed its initial public offering of common stock and commenced operations on May 20, 2008. The ending repurchase agreement balance reflects the deployment of proceeds from the initial public offering on a levered basis.
- (6) The ending repurchase agreement balance is less than the average balance for the quarter due to de-levering the Company's balance sheet during quarter in an effort to manage portfolio risk during the peak of the liquidity crisis and declining availability of repurchase agreement financing. The Company's leverage decreased from 8.3:1 as of June 30, 2008 to 5.4:1 as of September 30, 2008.
- (7) The ending repurchase agreement balance is greater than the average balance for the quarter due to the Company re-levering its balance sheet following improved conditions in the liquidity market and resurgence of repurchase agreement financing availability. The Company's leverage increased from 5.2:1 as of December 31, 2008 to 6.4:1 as of March 31, 2009.
- (8) The Company's ending repurchase agreement balance is greater than the average balance for the period due to deploying new equity capital raised during the quarter. In addition, the Company reduced leverage at the start of the quarter in anticipation of announcements by Fannie Mae and Freddie Mac that they would purchase substantially all of the severely delinquent loans from mortgage pools collateralizing agency securities ("GSE buyouts") and the resultant potential impact on the Company's short-term liquidity needs. Later in the quarter, following the GSE buyout announcements in February 2010, the Company increased its leverage to 7.6:1.