Servicing Assets and Gain-On-Securitization under SFAS 156

Abstract

SFAS No. 156 was issued in 2006 to amend SFAS No.140 which addresses the accounting for servicing of financial assets and requires fair value accounting for the initial measurement of such servicing assets or liabilities. These servicing assets or liabilities are created at the time of a securitization contract. Under SFAS No. 156, the servicing asset or liability is no longer measured based on an allocated amount, but instead a fair value has to be reached directly. Gain on assets securitizations (GOS), under SFAS No. 140, was questioned as a vehicle for earnings management. The research question we address is whether GOS under SFAS No. 156 is more or less associated with management's incentives to manage earnings. First, we examine GOS for firm-quarters before and after the adoption of SFAS No. 156 to initially assess the association. We then focus on servicing assets as a component of GOS and evaluate the quality of servicing assets recognition. Our results indicate that there is a stronger association between GOS and both income before GOS and change in income before GOS, which are both benchmarks commonly used by management in their earnings management decisions. This provides evidence that SFAS No. 156 provides a vehicle for banks to smooth their income through GOS. In evaluating whether the quality of servicing asset recognition is related to the earnings management incentives, we find evidence that earnings smoothing is higher when the estimation error of the servicing asset on the balance sheet is higher.

1. Introduction

Asset securitization is the structured process whereby interests in loans and other receivables are packaged, underwritten, and sold in the form of "asset-backed" securities.[1] It has been a popular method of financing by financial institutions in which they transfer their financial assets or loans to another entity, typically a special-purpose entity. If the securitization is treated as a sale and the financial institution retains some servicing rights to the loans, it is required to record a servicing asset (liability) if the expected cash inflows exceed (fall short of) the obligations from the servicing contract. In March 2006, the Financial Accounting Standard Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 156, *Accounting for Servicing of Financial Assets—an amendment of FASB Statement No. 140*. SFAS No. 156 is one of several statements that amend SFAS No. 140, *Accounting for Transfer and Servicing of Financial Assets and Extinguishments of Liabilities*.[2] SFAS No. 156 addresses the accounting for servicing of financial assets and requires fair value accounting for the initial measurement of such servicing assets or liabilities. Under SFAS No. 140, it was established that upon transfer of financial assets, if service is retained by the transferor, a servicing asset or liability should be separately recognized on the transferor's balance sheet, initially measured at an amount allocated based on the transferred financial assets' relative fair values. SFAS No. 156 amended SFAS No. 140 by requiring servicing assets or liabilities be initially measured at fair value. Similar to SFAS No. 140, servicing assets or liabilities represent part of the considerations received in the financial asset transfer transaction. In other words, the recognition and measurement of such

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[1] See the Comptroller of the Currency Administrator of National Banks' handbook at http://www.occ.treas.gov/handbook/assetsec.pdf

[2] As of December 2008, SFAS No. 140 was amended by SFAS No. 155, *Accounting for Certain Hybrid Financial Instruments—an amendment of FASB Statements No. 133 and 140,* and SFAS No. 156. On the FASB's agenda, SFAS No. 140 is still pending for further amendments.

servicing assets or liabilities has a direct, dollar-for-dollar impact on the calculation of gain or loss on the transaction.

Gain on asset securitizations (GOS), under SFAS No. 140, has been questioned as yet another convenient vehicle for earnings management (Dechow, Myers, Shakespeare 2008). Under SFAS No. 156, servicing asset or liability is no longer measured based on an allocated amount, but instead a fair value has to be reached directly. Considering that there is no active trading market for such servicing asset or liability and that costs and benefits to service each underlying financial asset is unique to estimate, measurement of the servicing asset or liability is challenging and critical for the quality of GOS. The question is whether moving to SFAS 156 has changed the ability of banks to use GOS as an earnings management vehicle. This paper deals with this critical component of GOS--the servicing asset, in evaluating gain on assets securitization before and after SFAS No. 156.

The research question we address is whether GOS under SFAS No. 156 is more or less associated with management's incentives to manage earnings. First, we examine GOS as a whole, in firm-quarters before and after the adoption of SFAS No. 156 to initially assess the association. We then focus on servicing assets as a component of GOS and evaluate the quality of servicing assets recognition. Under both SFAS No. 140 and No. 156, GOS is calculated based on different financial components (the financial-components approach). Not all components are reported separately and the dollar-for-dollar impact that each component has on GOS cannot be observed directly. However, the amount of servicing asset or liability is required to be disclosed separately on the balance sheet. By studying this specific component we further ascertain whether servicing assets contributes to earnings management behavior under SFAS No. 156.

By testing whether GOS still holds as a vehicle for earnings management after the adoption of SFAS No. 156, we extend prior research on GOS under SFAS No. 140 (Dechow, Myers, Shakespeare 2008). Our results indicate that there is a stronger association between GOS and both income before GOS and change in income before GOS, which are both benchmarks commonly used by management for current income. This provides evidence that SFAS No. 156 has not eliminated the ability of banks to smooth their income through GOS. On the contrary, banks have higher GOS, all else equal, post SFAS 156.

Secondly, we evaluate whether the quality of servicing asset recognition is related to the earnings management incentives. This study employs one proxy—the net servicing fees, as the indicator of quality of servicing asset valuation. We find evidence that earnings smoothing is higher when the estimation error of the servicing asset on the balance sheet is higher. It seems that the quality of servicing asset valuation is affected by earnings management incentives. More studies of the quality of servicing asset valuation are needed to further explore this aspect.

This study contributes to the growing literature examining the accounting for financial asset securitization (Niu and Richardson 2006, Chen, Liu and Ryan 2008, Landsman, Peasnell and Shakespeare 2008; Dechow, Myers, Shakespeare 2008). Given the financial crisis looming over mortgage loans securitization and the criticism on reporting standards of asset securitization, this line of study is much needed to advance our understanding of the valuation process for securitized financial assets such as mortgage backed securities (MBS) and collateralized debt obligations (CDO).

This study differs from the previous studies in that it focuses on one specific component that contributes to the GOS--the servicing assets. Unlike previous studies that study GOS as a

whole and focus on the market participants' perception of the GOS (Niu and Richardson 2006, Chen, Liu and Ryan 2008, Landsman, Peasnell and Shakespeare 2008), this study looks at the determinant of GOS. Given that some determinants of GOS are not observable to financial statement users, the estimated nature of fair value accounting is also addressed.

The remainder of the paper is organized as follows. Section 2 reviews the accounting for financial asset transfers and highlights the changes from SFAS No. 140 to No. 156. Previous studies on asset securitization are also reviewed in this section. Section 3 discusses the research questions and research design. Data collection, sampling procedure, and the empirical results are presented in Section 4. Section 5 provides concluding remarks.

2. Background

2.1 Accounting for servicing assets

A servicing asset (liability) is clearly defined by SFAS No. 156 as "a contract to service financial assets under which the estimated future revenues from contractually specified servicing fees, late charges, and other ancillary revenues are (not) expected to more than adequately compensate the servicer for performing the servicing." It is clear that valuation of a servicing asset or liability requires estimates of the future, in this case, not only future revenues, but also future costs. Following this definition, servicing asset or liability can be considered as an accounting accrual in the sense that it adjusts the recognition of cash flows over time so that the adjusted numbers (GOS) better reflect performance in the current period (Dechow and Dichev 2002). In the case of a servicing asset, the adjusted number recognized upon asset securitization, is GOS.

To account for servicing asset or liability as a separate item on the balance sheet is not a novel concept. Although previously not a common practice, it has had a long history in the mortgage banking industry. As far back as SFAS No. 65, *Accounting for Certain Mortgage Banking Activities*, issued in 1982, it was established that purchased mortgage servicing assets should be accounted for as a separate item carried on the balance sheet. Since the assets are purchased at a specified price paid, initial measurement is not an issue. The purchasing price is the valuation basis initially carried on the balance sheet, with no income statement effects. SFAS No. 65, however, created an asymmetric accounting treatment for purchased versus internally originated mortgage servicing assets or liabilities. While purchased servicing assets are recognized on the balance sheet, internally originated servicing assets are not, and they reflect no value until revenues are collected.

This asymmetric accounting treatment was corrected by SFAS No. 122, *Accounting for Mortgage Servicing Rights* issued in 1995, where internally originated servicing rights are recognized and carried on the balance sheet. The problem is, without a purchasing price, the question arises of what the measurement basis for such assets on the balance sheet should be. The FASB's solution is to allocate a portion of total costs of the underlying mortgage loans to such servicing assets, based on relative fair values of the loan without the service, and the servicing assets. In other words, to facilitate the cost allocation, fair values of both the underlying loan without the service, and the servicing assets, have to be measured separately. SFAS No. 122 was superseded in 1996 by SFAS No. 125, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*, which, in turn, was superseded in 2000 by SFAS No. 140, with the same title.

SFAS No. 122 may have been short-lived, but it established an important accounting approach carried through the current statement, that has profound income statement implications---the financial-components approach. Under the financial-components approach "after a transfer of financial assets, an entity recognizes the financial and servicing assets it controls and the liabilities it has incurred, derecognizes financial assets when control has been surrendered and derecognizes liabilities when extinguished" (SFAS No. 140 Summary). Under SFAS No. 140, each financial-component shall be initially measured at fair value, and then be allocated a carrying amount. The total amount to be allocated is the cost of the underlying financial assets, and the allocation is based on financial-components' relative fair values at the date of transfer. Gains or losses on the asset transfer transaction are calculated based on the allocated carrying amounts. Financial-components retained, such as the servicing assets, are treated as considerations received in the transaction and contribute to the gain recognition. In other words, the estimation of fair value of each and every financial-component is the basis for gain or loss recognition. Given the cost-allocation mechanism, financial-components' impacts on gain recognition is indirect, not dollar-for-dollar.

2.2 From SFAS No. 140 to SFAS No. 156

SFAS No. 156, issued in March 2006, amended SFAS No. 140 by requiring that servicing assets be measured at fair value, as opposed to at an amount allocated based on relative fair values of all financial components. On the income statement side, the net effect is to change servicing assets' impacts on gain-on-asset-transfer from indirect to direct, dollar-for-dollar.[3] An

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[3] This study focuses on Gain-on-assets-securitization (GOS). However, SFAS No. 140 and No. 156 address financial assets transfers, including both sales and securitizations. The focus is on Gain-on-assets-transferred.

illustration given in SFAS No. 140 and amended by SFAS No. 156 helps to contrast the difference.

((Exhibit 1))

A company originates $1,000 of loans that yield 10 percent interest income. This company then sells the $1,000 principal plus the right to receive interest income of 8 percent to another entity for $1,000; service is retained. The company will receive half of the interest income not sold and the remaining half is considered an interest-only strip receivable that it classifies as an available-for-sale security. At the date of transfer, the fair value of the servicing asset and the interest-only strip receivable are $40 and $60, respectively. This means that the fair value of the loans, including servicing is $1,100. Under SFAS No. 140, servicing asset is carried at $36 ($1,000 cost allocated based on relative fair values of all components, $40/$1100); gain-on-asset-transfer is $90 (cash proceeds $1,000 less allocated cost of loan, $1,000/$1,100=$910). Under SFAS No. 156, servicing asset is carried at $40, its fair value. Gain-on-asset-transfer is $94, increased by almost 5% (proceeds from sale of loan and servicing asset, $1,040 less allocated carrying amount of loan and servicing asset, $946). The increase in gain comes, dollar-for-dollar, from the valuation of servicing assets[4].

A 5% increase in gain is significant in the above illustration, but what is even more significant is the departure from the cost-based gain recognition. Under SFAS No. 140, for servicing assets as well as for other financial-components, the carrying amount of each component is allocated, and therefore, limited to the cost of the asset transferred. By requiring

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[4] SFAS No. 156 addresses the measurement basis for servicing assets and liabilities only, but not for other financial components. Until SFAS No. 140 is further amended, under SFAS No. 156, other components such as the interest-only strip receivables are still measured at the allocated basis. For detailed example, see SFAS No. 140 paragraph 65 and amendment in SFAS No. 156.

servicing assets to be measured and recognized at fair value, SFAS No. 156 allows an accounting method that recognizes internally created value without going through the market mechanism such as sales. In other words, the interaction of the financial-components approach and the fair value measurement basis gives financial asset transfers the opportunity to recognize internally created value that otherwise would not be recognized until economic benefits are materialized as revenues. Considering that servicing assets are thinly traded and each service is unique to the underlying financial assets, fair values of the servicing assets cannot be easily verified. As a result, gain-on-asset-transfer cannot be easily verified.

2.3 Previous Research

In the literature, there is a clear shortage of studies focusing on servicing assets as a financial-component. Most studies either address GOS as a whole or study the market reactions to accounting numbers reported under the financial-component approach.

Niu (2007) studies the stock market's reactions to GOS reported under the financial-components approach and finds a positive association between GOS and stock returns. The interpretation is that market participants treat GOS in the same manner as they treat other earnings information. The fact that GOS under the financial-components approach is of an estimated nature does not negatively affect investor's perception of the reported numbers. An, Dong and Gabriel (2009) estimate the pricing effects of the financial-components approach and find that with internally created values recognized upon assets securitizations, pricing of the underlying loans are reduced. Overall, securitizations create values through the financial

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components; given the reduced loan pricing, financial assets transferors, through securitization, still achieve substantial profits by recognizing values of other financial components.

Another line of study considers the risk retention in evaluating whether the market treats securitization as sales or secured borrowings (Niu and Richardson 2006, Chen, Liu and Ryan 2008, Landsman, Peasnell and Shakespeare 2008). The general findings are that the stock market treats securitizations almost like secured borrowings. That is, risks associated with the underlying assets are viewed as belonging to the transferor, not the transferee, usually a special purpose entity. Those studies do not specifically address the financial-components approach. Both Chen, Liu and Ryan (2008) as well as Landsman, Peasnell and Shakespeare (2008) mentioned an implicit recourse liability to the transferor. If the financial-components approach is strictly applied, there should be no implicit asset or liability; every component should be explicitly measured and recognized before GOS can be calculated. In that sense, there is a deviation from the approach required by the accounting standards. Nevertheless, none of the studies specifically address the valuation of servicing asset or liability as a financial component in securitization.

The implicit recourse liability and the deviation from the strict application of the financial-components approach lead to the question of possible earnings management. Another line of study examines GOS as a potential vehicle for earnings management. Dechow and Shakespeare (2009) question if managers time securitization transactions to obtain accounting benefits. They find that 41 percent of the quarter's asset securitization transactions occur in the third month of the quarter, and almost half of these occur in the last five days of the quarter. This implies that securitization is used as an earnings management vehicle. Dechow, Myers and Shakespeare (2008) also study whether GOS is used as an earnings management vehicle with

compensation benefits. Their findings support the hypothesis that managers engage in earnings management through GOS. They find that firms report larger gain on securitization amounts when pre-securitization earnings are low or lower than the prior year's level. In terms of the effects on management's compensation, GOS is not treated substantially different from other components of earnings. CEO's equity compensation is almost as sensitive to GOS as to other gains. These findings mirror that of Niu (2007). Information users, internally or externally do not differentiate GOS from other components of earnings.

One important assumption in Dechow, Myers and Shakespeare (2008) is that GOS is completely discretionary. Following the financial-components approach, under both SFAS No. 140 and No. 156, GOS is calculated based on fair values of all components. If fair values of all components can be reached and verified independently, then their assumption will not hold true; GOS is not completely discretionary. To use GOS as an earnings management vehicle, the key lies in the fair value estimation for all financial-components. The fact that not all components have readily available fair values, and that managers have to exercise discretion in their estimates, give reasonable support that GOS is completely discretionary. The discretionary nature of unverifiable fair value accounting has been studied on different accounting topics and the effects of earnings management have been documented (Ramanna and Watts 2008). This study follows previous literature and treats GOS as completely discretionary. Furthermore, the servicing asset or liability is considered an accounting accrual that summarizes future economic benefits in calculating GOS in the period of financial asset securitization.

3. Hypotheses Development and Research Design

3.1 Hypotheses

Following Dechow, Myers and Shakespeare (2008), this study hypothesizes that managers have incentives to increase accounting earnings using GOS when earnings before GOS are low or negative. The initial hypothesis is that there is a negative relationship between GOS and earnings before GOS. From SFAS No. 140 to No. 156, the accounting for servicing assets, and thus the recognition of GOS, are further unhinged from the cost of the underlying financial assets and focus entirely on fair value, which is unobservable. If managers use GOS as a vehicle to increase accounting earnings under SFAS No. 140, then we expect to see the effects continue under SFAS No. 156. It is therefore hypothesized that there is a negative relation between the size of GOS and pre-GOS earnings under both SFAS No. 140 and No. 156.

Notice that GOS and servicing assets are potential earnings-smoothing vehicles. Managers can achieve the desired effects through their discretion over the timing and amount of financial assets securitization and through the assumptions used to reach fair value of financial components. This study focuses on the relation between GOS and pre-GOS earnings but does not include variables to hypothesize managers' decreasing incentives (Riedl 2004). Presumably, if there are incentives for managers to decrease earnings, securitizations are not used as a vehicle, or simply delayed.

H1: There is a significant negative relation between GOS and pre-GOS earnings under both SFAS No. 140 and No. 156.

To further explore the property of servicing assets recognition and its impact on earnings, this study develops a measurement of the quality of servicing assets recognition. SFAS No. 156

defines servicing assets as "the contract to service financial assets under which the estimated future revenues from contractually specified servicing fees and other ancillary revenues are expected to more than adequately compensate the servicer." By definition, valuation of servicing assets depends heavily on the estimation of future events. To this end, similar to any other accounting accrual, the quality of servicing assets valuation can be measured by the estimation errors (Dechow and Dichev 2002); the less the estimation errors, the more precise the recognition of servicing assets, and the better the quality of servicing assets valuation.

Unlike other accounting accruals where estimation errors are estimated by the error term in a regression model that regresses working capital against cash flows (Dechow and Dichev 2002), estimation errors of servicing assets are captured by "net servicing fees" reported on the financial statements. Following the financial-components approach, servicing assets summarize future benefits of servicing upon securitization, so when benefits eventually materialize in the form of cash inflows, it cannot be recognized again, or else that would be double-counting. Instead, when fees or other ancillary revenues are collected, they should be netted against the amortization of the servicing assets. If servicing assets are precisely estimated and amortized, the benefits (cash flows) should be washed by the amortization. In that sense, any reported "net servicing fees" represents estimation errors. The netting effects and the reporting of the errors are clearly explained in the definition of the Call Reports that banks file with the Federal Reserve System[5].

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[5] In the Call Reports, net servicing fees "report income from servicing real estate mortgage, credit cards, and other financial assets held by others. Report any premiums received in lieu of regular servicing fees on such loans only as earned over the life of the loans. For servicing assets and liabilities measured under the amortization method, banks should report servicing income net of the related servicing assets' amortization expense, include impairments recognized on servicing assets, and also include increases in servicing liabilities recognized when subsequent events have increased the fair value of the liabilities above its carrying amount. For servicing assets

This study looks at the magnitude of the reported net servicing fees as an indicator of the estimation error. The closer the net servicing fee is to zero, the less estimation error, and the better quality of servicing assets valuation. Since servicing assets have different expected durations, and banks continue to issue new securitizations, "net servicing fees", or the error term, in the current period is treated as an outcome of a moving average. This study does not attempt to further average this error term.

If the valuation of servicing assets, and thus the recognition of GOS, is used by managers as an earnings-smoothing vehicle, it is hypothesized that the quality of servicing assets valuation is negatively related to managers' earnings-increasing incentives. Stated in the operational form, when estimation errors, or "net servicing fees" increases, it is more likely GOS is used as an earnings management vehicle.

H2: When GOS is used as an earnings-smoothing vehicle, the quality of servicing assets valuation decreases.

3.2 Research Design

We first replicate the Dechow, Myers, and Shakespeare (2008) results for the SFAS No.140 period and extend it to the SFAS No. 156 period through the following model:

$$GOS_{iq} = \alpha_0 + \beta_1 \, INC_{iq} + \beta_2 \, D*INC_{iq} + \beta_3 \, MBS_{iq} + \beta_4 \, CONSBS_{iq} + \beta_5 \, COMMBS + \varepsilon_{iq} \qquad (1)$$

and liabilities re-measured at fair value under the fair value option, include changes in the fair value of these servicing assets and liabilities. "

Where GOS_{iq} = Net securitization income for bank i in quarter q. (from Schedule HI – consolidated income statement)[6];

INC_{iq} = the income benchmark used as the earnings management incentive proxy which is either Pre-GOS or $\Delta Pre\text{-}GOS_{iq;}$

$Pre\text{-}GOS_{iq}$ = Net income for bank i in quarter q (Schedule HI) less net securitization income during quarter (GOS);

$\Delta Pre\text{-}GOS_{iq}$ = Pre-GOS earnings in current quarter – Pre-GOS earnings in same quarter in prior year;

D = A dummy variable, where D=0 for observations under SFAS No. 140 and D=1, for observations under SFAS No. 156. Therefore, the coefficients for Pre-GOS earnings are β_1 for observations under No. 140 and $(\beta_1+\beta_3)$ for observations under No. 156; for ΔPre-GOS are β_2 for observations under No. 140 and $(\beta_2+\beta_4)$ for observations under No. 156;

MBS_{iq} = Outstanding principal balance of 1-4 family residential loans sold and securitized with servicing retained or recourse or other seller-provided credit enhancements for bank i in quarter q (Schedule HC-S);

$CONSBS_{iq}$ = Outstanding principal balance of consumer loans sold and securitized with servicing retained or recourse or other seller-provided credit enhancements for bank i in quarter q (Schedule HC-S); consumer loans include home-equity lines, credit card receivables, auto loans, and other consumer loans;

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[6] All bank holding companies with assets greater than $500 Million and those meeting other criteria, regardless of size are required to report on a quarterly basis form FR Y-9C (Consolidated Financial Statements for Bank Holding Companies). These include Schedule HI (Consolidated Income Statement), Schedule HC (Consolidated Balance Sheet) in addition to sub-schedules. Most notably, schedule HC-S (Servicing, Securitization, and Asset Sale Activities) include off-balance sheet information about the banks' asset securitization activities.

COMMBS$_{iq}$ = Outstanding principal balance of commercial loans sold and securitized with servicing retained or recourse or other seller-provided credit enhancements for bank i in quarter q (Schedule HC-S); commercial loans include commercial and industrial loans as well as all other loans, leases, and assets;

ε_{1iq} = The error term.

All variables other than total assets are deflated by prior quarter total assets to adjust for heteroscedasticity. The two earnings variables, Pre-GOS and ΔPre-GOS, are the proxies for incentives to manage earnings. Specifically, lower levels of pre-GOS are expected to be associated with income-increasing management through GOS. Hence we expect a negative coefficient. The same holds for ΔPre-GOS. We also add the size of the off-balance sheet securitized assets as control variables. GOS should be higher for banks with higher securitization and the amount of gains may differ depending on the different types of loans securitized. This is true since the three types of loans hold inherently different levels of risk (See Chen, Liu and Ryan, 2008). Mortgage-backed securities are the least risky types of loans, followed by consumer loans, followed by commercial loans. The total of these three types of securities constitute asset-backed securities (ABS).

To test for H1, a pooled-firm-quarter sample ordinary least square regression is used to estimate the coefficients, which infer the relationship between GOS and Pre-GOS earnings in the SFAS156 period.

The second hypothesis relates to the quality of servicing assets valuation. We expect the quality of the servicing asset valuation to be negatively related to managers' earnings-increasing incentives. To test for H2, the same regression is used, but firm-quarter observations are sorted

into decile subsamples based on the absolute magnitude of net servicing fees, which proxies for the estimation errors. Lower deciles have lower estimation error and so it is expected that GOS is not heavily used as an earnings management vehicle.

3.3 Sampling Procedure

We obtain quarterly financial data from the Commercial Bank Database, which collects data from the Federal Reserve Bank of Chicago (FRB Chicago). This database contains data of all banks filing the Report of Condition and Income (named "Call Report") that are regulated by the Federal Reserve System, Federal Deposit Insurance Corporation (FDIC), and the Comptroller of the Currency. These reports include balance sheet, income statement, risk-based capital measures and off-balance sheet data. The database includes commercial banks and savings banks and has data available quarterly from 1976. We collect data from the quarter ending March 31rst, 2001, which is the effective date for accounting under SFAS No. 140, up to the quarter ending December 31rst, 2008.[7] SFAS No. 156 was issued in March 2006 and stated that "An entity should adopt this Statement as of the beginning of its first fiscal year that begins after September 15, 2006. Earlier adoption is permitted as of the beginning of an entity's fiscal year, provided the entity has not yet issued financial statements, including interim financial statements, for any period of that fiscal year. The effective date of this Statement is the date an entity adopts the requirements of this Statement."[8] The Pre-SFAS156 period includes all quarters from March 2001 up to December 2005 and the post-SFAS156 period includes are all quarters in the years 2007 and 2008. The year 2006 is dropped from the analysis to alleviate any problems associated

[7] This was the latest available date at the time of data collection.
[8] See http://fasb.org/pdf/fas156.pdf , p.3.

with early-adopters. This results in a sample of 1,448 observations with non-missing variables, which consist of 1,062 bank/quarter observations in the pre-SFAS156 period and 386 bank/quarter observations in the post-SFAS156 period.

4. Empirical Results

4.1 Descriptive Statistics

Table 1 provides descriptive statistics for the full sample (n=1,448 bank/quarter observations), and by pre and post-adoption periods.

((Table 1))

Panel A provides descriptive statistics for the full sample. The mean and median GOS are 0.021 and 0.000, respectively. On average banks incurred a loss before the GOS, as the mean pre-GOS is -0.009 (the median is 0.005). The banks on average had a high prevalence of off-balance sheet total asset-backed securities (mean and median ABS are 0.528 and 0.048, respectively). These asset-backed securities included mortgage-backed securities (MBS), consumer-backed securities (CONSBS) and commercial-backed securities (COMMBS). The financial institutions retained a small portion of these loans as interest-only strips or subordinated securities and residual interests (mean and median ARI are 0.022 and 0.000, respectively).[9] Net servicing fees, which is used as a proxy for estimation error has a mean and median of 0.007 and 0.000, respectively. The banks in the sample are large with log total assets on average of $16 Million.

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[9] ARI is set to zero if it is missing.

Panel B provides descriptive statistics in the period 2001-2005 (Pre-SFAS156 period). The GOS and Pre-GOS are almost identical to the full sample (mean and median GOS is 0.022 and 0.000, respectively, and mean and median and Pre-GOS are -0.009 and 0.006, respectively). The size of total assets is smaller in these years (mean and median log (TA) is $15.5M and $15.9M, respectively).

Panel C provides descriptive statistics in the post-SFAS156 adoption period (years 2007 and 2008). The GOS is slightly smaller than in the full sample (mean and median is 0.020 and 0.000, respectively). The pre-GOS is similar to the pre-SFAS156 period (mean and median is -0.009 and 0.003, respectively). Total asset backed securities during this period is smaller (mean and median is 0.446 and 0.018, respectively). This means that the banks in this period were able to record almost the same amount of GOS for a smaller amount of securitization (mean GOS/ABS = 4.5% in SFAS No. 156 period vs. 3.9% in SFAS No. 140 period). The size of the banks is similar to that in the earlier period (mean of log (TA) is $15.5 and median is $15.5M).

Table 2 provides Pearson correlation coefficients between the various variables in the period before SFAS156 (Panel A) and after SFAS156 (Panel B). As expected, there is a high positive correlation between Pre-GOS and ΔPre-GOS (coefficient = 0.864 and 0.341 in panel A and panel B, respectively). There is a high negative correlation between GOS and Pre-GOS (coefficient = -0.632 and –0.965 in Panel A and Panel B, respectively), which corroborates prior evidence of using the gain on sale as an earnings management vehicle to smooth net income. It is interesting to note that the correlation is much higher in the period after adoption of SFAS156. We also note that the net servicing fee (FEE) is highly correlated with GOS (coefficient = 0.644 and 0.886 in Panel A and B, respectively) as well as ABS (coefficient = 0.540 and 0.893 in Panel

A and Panel B, respectively). This indicates that the estimation error, FEE, is higher when there are more asset-backed securities. At the same time, there is also high GOS.

((Table 2))

4.2 GOS and Earnings-Smoothing Incentives

Our first hypothesis deals with earnings management incentives and the use of asset securitization as a vehicle to smooth income. Prior research (Dechow, Myers and Shakespeare 2008) has used the level of pre-GOS income and the change in pre-GOS income as benchmarks for management and thus both are indicators of earnings management incentives. Specifically, when pre-GOS is low or negative, management has incentives to use whatever tools they have to increase income (such as asset securitization to record a gain on securitization). Similarly, when the change in income prior to securitization is negative, management have the same incentives to increase income. SFAS No. 156 provides, in some cases, opportunities to record higher amounts of GOS. First, we examine the relationship between GOS and both pre-GOS and Δpre-GOS in both pre and post-SFAS156 periods. We hypothesize that there will be a significant negative association between these variables in both periods, which is consistent with an income-increasing explanation. To test whether there is an incremental earnings-management effect after the adoption of SFAS No. 156, we use a pooled ordinary least-square regression for the full sample (N=1,488) as shown in the regression (1) with GOS as the dependent variable adding a dummy variable for the period after adoption and its interaction with pre-GOS and Δpre-GOS. We add the size of the separate asset-backed securities MBS, CONSBS, and COMMBS) in the regressions to control for the difference in levels of securitization and fair value treatment. The

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results appear in table 3. We use the level of income in model (1) and the change in income in model (2) to represent the earnings-smoothing variable of interest.

((Table 3))

The first column presents the coefficients and t-values including the level of earnings before gain on securitization as the independent variable. The coefficient on Pre-GOS is as expected negative and significant (β_1=-0.284 and t-value=-22.04). The dummy variable, D (D=1 in post SFAS156 adoption periods and 0 otherwise), is used to test the significance of income smoothing in the SFAS156 period. The coefficient β_1+β_2 is more negative at -0.712 and there is incremental significance during the SFAS156 period (t-value=-12.91). In model (2), we include the change in earnings before gain on securitization as the independent variable. The coefficient β_1+β_2 is more negative at -0.804 and there is incremental significance during the SFAS156 period (t-value=-3.16). These results indicate that after the SFAS No. 156 adoption, there is more evidence of income smoothing. The coefficients for the three types of asset-backed securities are as expected. GOS is positively associated with all three types of asset-backed securities in both model (1) and model (2). The adjusted R^2 of both regressions is quite high (Adjusted R^2 = 9.15% and 70.10% for model (1) and model (2), respectively), which means that the GOS is captured by the independent variables included in the models.

Overall, the evidence suggests that under both SFAS No. 140 and No. 156, there is income-smoothing using the gain from securitization account. This extends the results shown in Dechow, Myers and Shakespeare 2008 in the post-SFAS156 adoption period. In addition, there is a higher association between GOS and pre-GOS as well as Δpre-GOS in the post-SFAS156 period, implying a higher magnitude of income-smoothing following the adoption of SFAS156.

4.3 Quality of Servicing Assets Valuation and Earnings Management

Our second hypothesis deals with the quality of servicing asset valuation when there are incentives to manage earnings. We hypothesize that when GOS is used as an earnings-smoothing vehicle, the quality of servicing assets valuation decreases. Since there is no known measure of quality of servicing asset valuation, we use the value of "Net servicing fees" as a proxy. This account reports the difference between actual fees earned from securitized loans and the amortization/fair value revaluation. We expect that the higher the net servicing fee (hereafter, FEE) account, the lower the quality of the estimated asset/liability at the time of securitization. In essence, the higher the levels of estimation error, the higher the association between GOS and pre-GOS (higher earnings management). We divide all observations into deciles based on the value of FEE. There are 1,368 observations that have positive values of FEE and only 80 observations that have negative values of FEE. This means that most of the observations (94%) report higher income or fees from their securitized asset than they report in amortization expense (or reduction in FMV of asset or increase in FMV of liability). We divide the 1,448 observations into deciles based on the actual value of FEE. We expect that earnings management behavior will be more prominent in the tails of the distribution i.e. in the first and last deciles, whereas the middle deciles will have the least earnings management behavior. Furthermore, since most net servicing fees are positive, we expect that the higher deciles will show more earnings management behavior than the lower fees. We run regression 1 for the separate deciles and examine the coefficients β_1 as well as the sum of the coefficients $\beta_1 + \beta_2$ to test our hypothesis in the SFAS 156 period.

((Table 4))

The results in table 4 show evidence of the association between the net servicing fees and earnings management behavior. Specifically, the highest 3 deciles, which have the highest positive estimation error (highest positive values of FEE), show evidence of earnings-smoothing under SFAS140 and SFAS156 (β_1 = -0.189, -0.939, and -0.216 in deciles 8, 9, and 10, respectively; β_2 = -0.856, -0.024, and -0.340 in deciles 8, 9, and 10, respectively, all significant at the 1 percent level). Decile 1 (with the most negative FEE observations) indicates evidence of earnings smoothing in the SFAS140 period (β_1 = -0.783, significant at the 1 percent level) but no evidence of incremental effect post-SFAS (β_2 = 0.650, t-statistic = 1.89). The remaining deciles have inconsistent behavior, with either only β_1 significantly negative (decile 5) or only β_2 negative and significant (deciles 6 and 7). There is a high explanatory power for the regressions in all deciles, other than in decile 5 (adjusted R^2 is above 20% in all regressions, other than in decile 5). These results show additional evidence of using GOS as an earnings management vehicle. Untabulated results using the change in income as the independent variable, provides similar results.

To further test the association between the earnings smoothing behavior and the estimation error proxy, we repeat the above analysis in deciles of the absolute value of FEE, rather than the actual FEE amount. In this case, we expect earnings smoothing behavior to be more apparent in the larger deciles. The results appear in table 5.

((Table 5))

As in the previous results, the highest 3 deciles, which have the largest magnitude of the estimation error (highest absolute values of FEE), show evidence of earnings-smoothing under SFAS140 and SFAS156 (β_1 = -0.189, -0.928, and -0.215 in deciles 8, 9, and 10, respectively; β_2

= -0.761, -0.019, and -0.342 in deciles 8, 9, and 10, respectively). The remaining deciles have inconsistent behavior, with either only β_1 significantly negative (deciles 1, 3 and 5) or only β_2 negative and significant (deciles 6 and 7). These results provide additional evidence of using GOS as an earnings management vehicle. Untabulated results using the change in income as the independent variable, provides similar results.

5. Conclusion

This study examines the association between managers' earnings management incentives and the recognition of gains on financial assets securitizations under SFAS No. 140 and SFAS No.156; specifically, we address the change of accounting for servicing assets, which is an important component of GOS recognition. GOS under SFAS No. 140 has been questioned as a vehicle for earnings management (Dechow, Myers, Shakespeare 2008). Under SFAS No. 156, servicing assets or liabilities is no longer measured based on an allocated amount, instead a fair value has to be reached directly. To this end, gains or losses recognized upon financial assets securitizations are unhinged from their acquisition cost basis. By requiring servicing assets to be measured and recognized at fair value, SFAS No. 156 allows an accounting method that recognizes internally created value without going through the market mechanism such as sales. Considering that there is no active trading market for such servicing assets or liabilities and that costs and benefits to service each underlying financial asset is unique, the question is whether SFAS No. 156 extends SFAS No. 140 by providing an even more convenient vehicle for earnings management through the recognition of internally created values without going through the market mechanism.

This study extends previous study on GOS under SFAS No. 140 by addressing the issue whether GOS under SFAS No. 156 is more or less associated with management's incentives to manage earnings. The empirical findings support that there is a stronger association between GOS and both income before GOS and change in income before GOS, variables commonly used to proxy for managers' earnings management incentives.

We also study the association between the quality of servicing assets recognition, as proxied by the magnitude of net servicing fees, and earnings management incentives. Following the notion that servicing assets or liabilities carried on the balance sheets summarize future benefits or obligations in servicing the underlying financial assets, concepts from the valuation of accounting accruals (Dechow and Dichev 2002) are borrowed to evaluate the quality of servicing assets recognition, and net servicing fees is used as a proxy for the errors in valuing servicing assets and liabilities. We find evidence that the higher the measurement errors for servicing assets (the higher net servicing fees), the higher the association between GOS and earnings management incentives. These findings provide further evidence that servicing assets valuations under both SFAS No. 140 and No. 156 are influenced by earnings management incentives. However, it is acknowledged that further studies of the properties of servicing assets are needed if it is treated as an accounting accrual carried at the unobservable fair value.

Overall, empirical results in this study are in line with the hypotheses that GOS and servicing assets recognitions in the post SFAS No. 156 period provide further opportunities for earnings management. Further study is needed to eliminate other factors that may affect the association between the GOS and pre-GOS income. Also the research can be extended to study the characteristics of the securitized assets and how earnings management behavior is affected by different types of loans. At the core of all securitization issues, however, is fair value accounting

and the opportunities it provides for earnings management. If internally created values, such as internally originated servicing assets, can be recognized through accounting earnings while there are no readily available, openly observable, fair values, then influences from managers' earnings management incentives are inevitable.

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Appendix: Variable definitions:

Variable name	Definition
GOS_{iq}	Net gain on securitization for bank i in quarter q / Total assets for bank i in quarter q-1
$Pre\text{-}GOS_{iq}$	Net income before gain on securitization for bank i in quarter q / Total assets for bank i in quarter q-1
$\Delta Pre\text{-}GOS_{iq}$	Change in net income before gain on securitization = net income before gain on securitization for bank i in quarter q less net income before gain on securitization in q-4 (same quarter of previous year)
D	Dummy variable which equals 1 in post-SFAS156 adoption period and equals 0 in pre-SFAS156 adoption period
SEC_{iq}	Total held-to-maturity and available-for-sale securities on balance sheet for bank i in quarter q / Total assets for bank i in quarter q-1
MBS_{iq}	Total mortgage-backed securities (off-balance sheet) for bank i in quarter q / Total assets for bank i in quarter q-1
$CONSBS_{iq}$	Total consumer loan-backed securities for bank i in quarter q / Total assets for bank i in quarter q-1
$COMM_{iq}$	Total commercial loan-backed securities for bank i in quarter q / Total assets for bank i in quarter q-1
ABS_{iq}	Total asset-backed securities (off-balance sheet) for bank i in quarter q = mortgage-backed securities, commercial loan-backed securities and consumer loan-backed securities / Total assets for bank i in quarter q-1
ARI_{iq}	Total retained interest on asset-backed securities for bank i in quarter q = retained interest from mortgage-backed securities, commercial loan-backed securities, and consumer loan-backed securities / Total assets for bank i in quarter q-1
FEE_{iq}	Net servicing fees for bank i in quarter q / Total assets for bank i in quarter q-1
$Log(TA_{iq})$	Logarithm of total assets for bank i in quarter q

Exhibit 1: Calculation of Gain on Securitization under SFAS140 and SFAS156:

Example: A Company sold $1,000 loan (10% interest) plus right to receive 8% interest for $1,000; it retains servicing rights and receives 1% of interest as servicing fee. Remaining 1% is an interest-only strip receivable. The fair market value of the servicing asset and interest-only strip is estimated at 40 and 60, respectively.

Panel A: Under SFAS 140:

	Fair Market Value (FMV)	% of total FMV	Carrying amount
Loan sold	$1,000	91	$910
Servicing asset	40	3.6	36
Interest-only strip	60	5.4	54
Total	**$1,100**	**100**	**$1,000**

Gain on Securitization = FMV of loan sold – Carrying amount of loan sold
= 1,000 – 910 = $90

Panel B: Under SFAS 156:

	FMV	% of total FMV	Carrying amount
Loans sold	$1,040	95	$946
Interest-only strip	60	5	54
	$1,100	**100**	**$1,000**

Gain in Securitization = FMV of loan sold (including servicing asset) – Carrying amount of loan sold
= 1,040 – 946 = $94

This example is taken from SFAS No. 140 (2000) and SFAS No. 156 (2006) as published by the Financial Accounting Standards Board.

Table 1: Descriptive statistics:
Panel A: Full sample (N=1,448)

Variable	Mean	Median	Q1	Q3	Std. Dev
GOS	0.021	0.000	0.000	0.006	0.070
Pre-GOS	-0.009	0.005	-0.001	0.010	0.077
ΔPre-GOS	-0.003	0.000	-0.002	0.002	0.043
SEC	0.183	0.152	0.074	0.258	0.147
ABS	0.528	0.048	0.000	0.556	1.056
ARI	0.022	0.000	0.000	0.005	0.063
FEE	0.007	0.000	0.000	0.004	0.019
Log(TA)	15.505	15.742	13.165	17.453	2.587

Panel B: Pre-SFAS156   (N=1,062)

Variable	Mean	Median	Q1	Q3	Std. Dev.
GOS	0.022	0.000	0.000	0.006	0.069
Pre-GOS	-0.009	0.006	0.001	0.010	0.084
ΔPre-GOS	-0.003	0.000	-0.001	0.002	0.050
SEC	0.189	0.161	0.073	0.269	0.148
ABS	0.558	0.056	0.000	0.585	1.094
ARI	0.019	0.000	0.000	0.005	0.053
FEE	0.007	0.000	0.000	0.005	0.021
Log(TA)	15.499	15.878	13.241	17.257	2.425

Panel C: Post-SFAS156 (N=386)

Variable	Mean	Median	Q1	Q3	Std. Dev.
GOS	0.020	0.000	0.000	0.001	0.072
Pre-GOS	-0.009	0.003	-0.002	0.008	0.053
ΔPre-GOS	-0.002	0.000	-0.003	0.001	0.011
SEC	0.166	0.127	0.074	0.204	0.144
ABS	0.446	0.018	0.000	0.542	0.940
ARI	0.029	0.000	0.000	0.012	0.085
FEE	0.005	0.000	0.000	0.002	0.013
Log(TA)	15.521	15.507	12.950	18.056	2.990

See appendix for definition of variables.

Table 2: Pearson Correlation Coefficients (p-values):

Panel A: Pre-SFAS156 Period:

	Pre-GOS	ΔPre-GOS	SEC	ABS	ARI	FEE	Log(TA)
GOS	-0.632	-0.286	-0.209	**0.804**	0.645	0.644	-0.211
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Pre-GOS	1.000	**0.864**	0.083	-0.446	-0.356	**-0.833**	0.195
		(0.001)	(0.007)	(0.001)	(0.001)	(0.001)	(0.001)
ΔPre-GOS		1.000	0.026	-0.133	-0.082	-0.648	0.127
			(0.389)	(0.001)	(0.007)	(0.001)	(0.001)
SEC			1.000	-0.356	-0.181	-0.177	-0.230
				(0.001)	(0.001)	(0.001)	(0.001)
ABS				1.000	0.638	0.540	-0.156
					(0.001)	(0.001)	(0.001)
ARI					1.000	0.437	-0.139
						(0.001)	(0.001)
FEE						1.000	-0.192
							(0.001)

Panel B: Post-SFAS156 Period:

	Pre-GOS	ΔPre-GOS	SEC	ABS	ARI	FEE	Log(TA)
GOS	**-0.965**	-0.231	-0.120	**0.840**	0.693	**0.886**	-0.117
	(0.001)	(0.001)	(0.018)	(0.001)	(0.001)	(0.001)	(0.022)
Pre-GOS	1.000	0.341	0.137	**-0.842**	-0.613	-0.874	0.105
		(0.001)	(0.007)	(0.001)	(0.001)	(0.001)	(0.040)
ΔPre-GOS		1.000	0.096	-0.176	0.046	-0.137	-0.017
			(0.061)	(0.001)	(0.365)	(0.007)	(0.736)
SEC			1.000	-0.209	0.008	-0.160	-0.417
				(0.001)	(0.882)	(0.002)	(0.001)
ABS				1.000	0.732	**0.893**	-0.059
					(0.001)	(0.001)	(0.251)
ARI					1.000	0.719	-0.126
						(0.001)	(0.013)
FEE						1.000	0.084
							(0.010)

See appendix for definition of variables.

Table 3: Results of Regressions of GOS on Income and Income Change as Incentives for Earnings Management:

The results show the coefficients (t-values) from the following regression: (N=1,448)

$GOS_{iq} = \alpha_0 + \beta_1 INC_{iq} + \beta_2 D*INC_{iq} + \beta_3 MBS_{iq} + \beta_4 CONSBS_{iq} + \beta_5 COMMBS + \varepsilon_{iq}$

Where INC_{iq} = Pre-GOS$_{iq}$ or ΔPre-GOS$_{iq}$

Variable	Predicted Sign	Model(1)		Model(2)	
Pre-GOS	-	-0.284	(-22.04)*		
D*Pre-GOS	-	-0.428	(-12.91)*		
ΔPre-GOS	-			-0.236	(-9.95)*
D*ΔPre-GOS	-			-0.568	(-3.16)*
MBS	+	0.004	(0.94)	0.005	(0.98)
CONSBS	+	0.040	(40.78)*	0.053	(54.45)*
COMMBS	+	0.033	(10.72)*	0.043	(12.03)*
Adjusted R^2		79.15%		70.10%	

See appendix for definition of variables.

*Significant at levels less than 0.01

Table 4: Results of Regressions of GOS on Income in Deciles of FEE (Net Servicing Fee):

The results show the coefficients (t-values) from the following regression:

$$GOS_{iq} = \alpha_0 + \beta_1\,Pre\text{-}GOS_{iq} + \beta_2\,D\text{*}Pre\text{-}GOS_{iq} + \beta_3\,MBS_{iq} + \beta_4\,CONSBS_{iq} + \beta_5\,COMMBS + \varepsilon_{iq}$$

Variable	Decile1	Decile2	Decile3	Decile4	Decile5	Decile6	Decile7	Decile8	Decile9	Decile10
Pre-GOS	-0.783	-0.088	-0.066	-0.004	-0.085	0.083	0.036	-0.189	-0.939	-0.216
	(-3.42)[*]	(-1.78)	(-1.70)	(-0.25)	(-4.90)[*]	(23.59)[*]	(1.59)	(-2.75)[*]	(-24.16)[*]	(-6.83)[*]
D*Pre-GOS	0.650	0.044	0.100	0.025	0.051	-0.076	-0.082	-0.856	-0.024	-0.340
	(1.89)	(0.75)	(2.35)	(1.25)	(2.08)	(-5.13)[*]	(-2.67)[*]	(-4.57)[*]	(-0.29)	(-4.23)[*]
MBS	0.003	-0.001	0.005	0.000	0.001	0.002	0.000	-0.003	-0.032	0.784
	(0.86)	(-0.10)	(0.80)	(-0.11)	(1.15)	(2.65)[*]	(0.17)	(-1.58)	(-1.33)	(1.10)
CONSBS	0.031	0.013	0.053	0.001	0.028	0.004	0.011	0.003	0.004	0.065
	(11.01)[*]	(27.34)[*]	(23.23)[*]	(1.04)	(28.19)[*]	(2.20)	(5.43)[*]	(2.81)[*]	(2.43)[*]	(15.85)[*]
COMMBS	-0.013	-0.006	-0.012	0.001	-0.002	0.002	0.010	0.011	0.002	0.069
	(-0.17)	(-0.54)	(-1.53)	(0.51)	(-0.70)	(1.41)	(3.12)[*]	(1.27)	(0.86)	(6.10)[*]
Adjusted R^2	56.98%	92.76%	79.12%	-1.53%	97.25%	79.59%	20.58%	33.11%	86.05%	77.66%

See appendix for definition of variables.

*Significant at levels less than 0.01

Table 5: Results of Regressions of GOS on Income in Deciles of Absolute Values of FEE (Net Servicing Fee):

The results show the coefficients (t-values) from the following regression:

$$GOS_{iq} = \alpha_0 + \beta_1 \, Pre\text{-}GOS_{iq} + \beta_2 \, D*Pre\text{-}GOS_{iq} + \beta_3 \, MBS_{iq} + \beta_4 \, CONSBS_{iq} + \beta_5 \, COMMBS + \varepsilon_{iq}$$

Variable	Decile1	Decile2	Decile3	Decile4	Decile5	Decile6	Decile7	Decile8	Decile9	Decile10
Pre-GOS	-0.805	-0.012	-0.146	0.010	-0.090	0.082	0.014	-0.189	-0.928	-0.215
	(-2.57)*	(-0.58)	(-3.74)*	(0.77)	(-5.06)*	(21.54)*	(0.61)	(-2.74)*	(-23.78)*	(-6.77)*
D*Pre-GOS	0.328	-0.003	0.166	0.013	0.051	-0.084	-0.148	-0.761	-0.019	-0.342
	(0.88)	(-0.10)	(3.39)*	(0.82)	(1.98)	(-7.04)*	(-3.67)*	(-4.28)*	(-0.22)	(-4.24)*
MBS	-0.010	0.004	0.000	0.001	0.001	0.001	0.000	-0.004	-0.032	0.744
	(-0.34)	(1.64)	(0.14)	(0.84)	(1.17)	(1.84)	(0.16)	(-2.01)	(-1.32)	(1.04)
CONSBS	0.015	0.012	0.049	0.001	0.028	0.003	0.011	0.003	0.005	0.064
	(5.60)*	(2.51)*	(18.85)*	(1.01)	(27.21)*	(1.49)	(6.28)*	(2.74)*	(2.56)*	(15.85)*
COMMBS	-0.039	-0.003	-0.013	0.000	0.002	0.002	0.012	0.010	0.002	0.068
	(-0.53)	(-0.83)	(-1.11)	(-0.13)	(0.39)	(1.29)	(3.93)*	(1.10)	(0.87)	(6.01)*
Adjusted R^2	48.53%	3.25%	71.41%	-0.67%	97.03%	76.23%	30.00%	32.63%	85.64%	77.68%

See appendix for definition of variables.

*Significant at levels less than 0.01.