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Mortgage Banking Update *and more . . .*

Vol.3, Issue 1 — Winter 2001

Building Online Relationships

Second of a series focused on building profitable online relationships

Success in today's competitive Internet environment is a constant and ever-changing challenge. There has been tremendous growth in online activity with businesses spending millions of dollars for Web sites that provide valuable content and transaction capabilities. With competition just a click away, however, it is becoming increasingly clear that companies need to do more than just have an online presence. Businesses must engage consumers and consistently meet their expectations through a quality online experience and effective customer service if they hope to achieve profitable online relationships. Businesses that effectively attract browsers and convert them to loyal customers will ultimately succeed.

(continued on page 3)

A Note from Tim Ryan and Mike Seelig, Co-Chairs of the PricewaterhouseCoopers Mortgage Banking Services Group

Some of you may have noticed that we modified the name of our newsletter to “Mortgage Banking Update and more . . .” The name change reflects the addition of content that is not solely focused on mortgage banking operations. It also echoes the way many in the industry are not solely offering traditional mortgage products. As companies redefine themselves based on customer needs and technological advances, they are offering or aligning themselves with other companies that offer alternative asset class products.

This issue of our newsletter features several articles that address aspects of different consumer finance operations such as challenges in raising capital through asset securitization, exception reporting in alternative asset classes, best practices in warehouse lending operations, and performance standards in the manufactured housing industry. We hope you agree with our new direction and that you find our perspectives on industry hot topics valuable.

As always, we welcome your feedback on our newsletter. Should you have any questions, or any areas where you would like us to explore, please feel free to contact us:

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The online mortgage industry has continued to grow as businesses recognize the importance of providing loan origination and servicing capabilities online. The TowerGroup, a leading financial services research firm, recently stated that while Internet originations will account for only 1.4% of the over \$1 trillion in originations in 2000, this is expected to grow to 10.2% of the total by 2005. TowerGroup also expected US lenders to spend \$249 million on Internet-related mortgage technologies in 2000 with projected spending to reach \$502 million by 2005.¹

A recent Fannie Mae study echoes this by reporting that one-third of those surveyed currently consider the Internet a viable method for obtaining a mortgage and 51% believing that most home mortgages will be handled online by 2005.²

As companies move to develop an online presence and take advantage of the growth of e-business, they are spending significant resources to provide in-depth information and technical transaction capabilities. While all of this is beneficial, many businesses are failing to consider the customer perspective by not addressing the overall experience and customer service provided online. This customer focus is critical to achieving customer loyalty and profitable online relationships. As a recent Harvard Business Review article stated, "In the end, loyalty is not won with technology. It is won through the delivery of a consistently superior customer experience."³

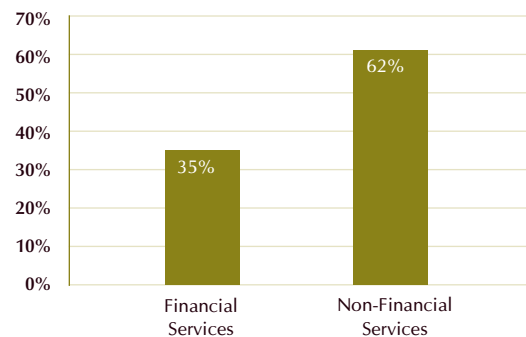
Two key ways to deliver a superior customer experience are to provide a user-friendly, easily guided Web site and to support effective and efficient customer service. Focusing on these critical drivers of an e-business strategy will enhance customer loyalty, a requirement for profitability.

Create a Superior Customer-Focused Online Experience

Both media and industry analysts have come to the same conclusion — Web sites must focus more on customers. Forrester Research recently stated that many

sites "are designed for marketing — not customer — goals" and that to improve, sites need to be organized from the customer's perspective and provide a personalized and easily-guided experience. In a recent report, "Financial Web Sites Underserve Customers," Forrester found that of the financial services sites reviewed, only 35% were organized by customer goals, 24% wove customer service into their site, and only 18% offered a guided search capability.⁴

Site organized by customer goals



Companies have been focused on the content and transaction capabilities when developing their sites and many have done a good job including privacy and security disclosures as part of this online content. This is important as consumers still consider online privacy and security a top concern and they are more confident transacting business with a company that sufficiently discloses their privacy and security policies. With the implementation of the Gramm-Leach-Bliley Act, however, financial institutions will be required to provide a certain level of disclosure and companies will have to do more to gain a competitive advantage. One of the ways to achieve this is by making a Web site more customer-focused.

Most companies with an online presence are expending significant resources to provide a lot of information such as loan terms and rates, payment calculators, and application details. While this is all-important to the online lending process, few have considered what a customer is looking for and how they may go about finding it. Even at those companies that have considered customer needs, the information is often not organized in a manner consistent with customer goals.

¹ TowerGroup, Needham, Massachusetts, towergroup.com, October 2000.

² "Web Mortgages Taking Hold in U.S.," E-Commerce Times, October 5, 2000.

³ Reichheld, Frederick R. and Phil Scheffer, "E-Loyalty: Your Secret Weapon on the Web," Harvard Business Review, July-August 2000.

⁴ Shevlin, Ron and Paul Hagen, "Financial Web Sites Underserve Customers," Forrester Research, August 23, 2000.

For example, few companies provide FAQs to address the questions that customers ask or to explain why they are collecting certain information or making certain requests. If customers cannot readily find the information they are searching for or if they are left confused, the chance of them doing business with that company via more costly but traditional channels is low, and the likelihood of clicking over to a competitor's site is high.

Customers are looking for a site that is comprehensive, yet provides a user-friendly, easily guided experience. Businesses can exceed customer expectations and provide such an experience by looking at their site from the consumer perspective. Research has shown that there are key areas that impact a customer's online experience. These customer-specific drivers include:

- **Site structure** — Does the site layout present the site concept in a user-friendly and informative format to its targeted users?
- **Product descriptions** — Is the information provided clear, concise, valuable, and applicable to assist all levels of consumers in comparing and purchasing products?
- **Ease of locating products and information** — Can consumers immediately locate products and relevant information? Is there a clear menu structure with predictable and logical categories?
- **Ease of navigation and interaction** — Are online processing capabilities functional and is the navigation scheme intuitive?
- **Quality of user resources and tools** — Are resources provided to consumers informational and functional?
- **Ability to obtain assistance** — Are consumers provided with easily accessible assistance through a wide variety of mediums, such as tutorials, demos, FAQs, and "contact us" capabilities?
- **Site functionality** — Are site links and downloads functional and timely?
- **Security and privacy disclosures** — Are complete disclosures made to address security and privacy?

Assessing a site against these drivers, as well as benchmarking it against them is key for a company that desires to provide a competitively superior online experience to its customers that will enhance customer loyalty to its site.

Provide Effective and Efficient Customer Service

Another key driver of customer loyalty is the customer service experience. Financial services companies have excelled at providing high quality customer service through their established call centers. As people move to the Internet to obtain information and perform transactions, however, they will also want the ability to ask questions and obtain service online. This online customer contact, through a site's "contact us" feature and e-mail, is a new customer service channel that businesses must now master if they hope to gain loyal online customers.

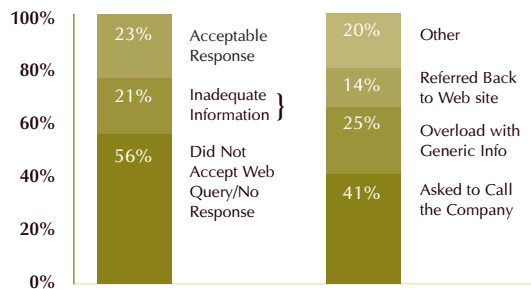
It is becoming increasingly clear that high quality customer service is essential to build customer loyalty and motivate consumers to become repeat transactors in the online environment. A recent Business Wire article noted that seven of ten consumers whose service request was responded to within 24 hours gave the site a high satisfaction rating on customer service, and eight of ten said they would be very likely to repurchase from the site.⁵ There appears to be a gap, however, between what consumers think is important and the current quality of customer service. An April 2000 Jupiter Communications study noted that 72% of online customers believe customer service is important, while only 47% were satisfied with the service they received.⁶

A May 2000 study by Celent Communications presents an even bleaker picture of the state of customer service among financial institutions. In a survey of 150 firms, 56% did not accept Web queries or respond to electronic customer inquiries and over 20% provided inadequate information, such as an overload of generic information, a request to call the call center, or a referral back to the Web site that had not provided the adequate information originally. Only 23% of the firms

⁵ "Harris Interactive E-Commerce Survey Affirms Importance of Effective Customer Service; Respond and Resolve - And Do It Within 24 Hours," Business Wire, June 6, 2000.

⁶ April 2000 Jupiter Communications Study reported in "Wanted: Loyal E-Shoppers," Industry Standard, August 7, 2000

provided acceptable responses.⁷ While businesses are starting to recognize the importance of providing quality customer service, it is evident that many still have some work to do. Forrester Research reiterates this lack of readiness in a recent report that noted that while 70% of firms view the contact center as critical, only 26% have Web-enabled their call centers.⁸



Source: Client Communications Study, as reported in Bank Marketing International, 8/23/00

While businesses must focus on their customer service to gain customer loyalty, there are many other benefits to making this effort. Customer communications are also a rich source of marketing and operational information. Analyzing the nature and content of online customer contact, as well as evaluating a company's policies and procedures for online customer service, present a significant opportunity for a company to reduce costs, increase reliability of products and services, and enhance the effectiveness of their marketing and online presence.

What could a company gain by analyzing its customer contact? For starters, repetitive questions regarding its mortgage products or the transaction process may mean that the company's online information is confusing or incomplete. Multiple complaints about incorrect account balances may imply that there are problems with the processing of payments. Analyzing these communications will enable a company to identify the root cause of contacts. Not only will this allow a company to assess the effectiveness of its online marketing and customer service, it can act as an early warning signal of more significant operational issues. In addition to learning more about customers, marketing, and operations, reviewing customer contact will also help reduce costs. Servicing customers through e-mail and the Web site's "contact us" area is significantly less expensive than servicing through the call

center. Understanding and monitoring customer communications, as well as identifying ways to shift contact to less expensive channels, will become more critical to online success as businesses focus on customer service and its impact on customer loyalty and profitability.

PricewaterhouseCoopers has worked with several organizations to improve their online business from their consumers' perspective which, in turn, has helped these businesses provide the competitively superior online experience that is critical to building customer loyalty.

Focusing on customer needs and expectations means looking at the problem from the customer's point of view. Our experiences show that focusing on customer objectives and value drivers and evaluating how well the site is aligned with customer expectations is critical to building profitable online relationships. This assessment often involves improving the content, structure, and functionality of the site to better engage customers and encourage transactions.

In our experience, companies that have focused on the customer experience have realized significant benefits such as:

- A higher conversion from browsers to loyal customers by engaging them in a superior online experience that encourages initial and repeat transactions.
- Reduced incidences and costs of customer misunderstandings.

Customer loyalty is also significantly driven by the customer service received. Identifying the common root causes of customer inquiries, comments, and complaints, assesses potential weaknesses in the customer contact area, and provides insight into the process flow and ultimate resolution of customer communications. Analyzing these areas has helped companies improve their service levels and moved them closer to providing a superior customer service experience for their online customers. In addition, the companies are provided with insights into consumers' perceptions of product, service, delivery, and experience.

7 "Financial Services Companies Not Responding to E-Mail," Bank Marketing International, August 23, 2000.

8 Forrester Research, "Kick-Starting Contact Centers," October 2000.

Analyzing customer communications and the customer service process has yielded significant benefits for several companies, including:

- Identification of ways to shift contact volume from a more costly channel, such as the call center, to the less costly channel of e-mail and the Web site's "contact us" feature.
- Identification of customer service process improvements that can lead to increased productivity of the customer service department, decreased volume of contact received, increased quality, and decreased cost of contact responses.
- Identification of common causes of contact that can help companies proactively address the causes, develop standard responses to contact received, and identify sales opportunities.
- Establishment of a monitoring system for changes in common causes of contact.

Everyone is now recognizing that customer loyalty is a necessity for businesses to achieve online profitability in today's competitive Internet economy. By engaging consumers and consistently meeting their expectations through a competitively superior online experience and effective customer service, businesses will achieve the customer loyalty required to build profitable online relationships.



For more information on web site assessments and customer contact analyses, please contact PricewaterhouseCoopers' BetterWebSM at (877) 792-6363, Maryann Murphy at (617) 439-7369 or maryann.murphy@us.pwcglobal.com or Stan Gorski at (973) 236-5179 or stanley.p.gorski@us.pwcglobal.com.

Roundtable Draws Attention to Retention Challenges

In September 2000, members of the PricewaterhouseCoopers Mortgage Banking Group hosted a customer retention roundtable for 14 top mortgage companies to discuss the increasing importance of retention in the mortgage industry. The objective was to identify challenges, share industry best practices, and discuss retention metrics that would be useful to capture in PricewaterhouseCoopers' Quarterly Customer Retention Survey. This article highlights the areas discussed.

Retention Units Becoming More Popular

Awareness of the fact that it is more cost effective to keep current customers than obtain new ones has led many companies to employ a customer retention strategy. As a result, many mortgage companies have formed some sort of retention unit within their organizations to support retention efforts. Two major structures were noted:

1. Some companies have formed a separate sales retention group or telemarketing group that receives leads from scripted employees in the servicing operation. Tactics employed to receive the leads range from paying for closed sales to "trinkets" for recognition.
2. Other companies send the retention leads to the loan officers. In some cases loan officers receive less commission on existing customers.

Organizationally, retention units either report to the servicing executive or sales executive but participants noted that the goal is to make retention every employees' job. However, this seems to be the case in a minority of the companies represented at the roundtable.

Channel conflict does exist, but consensus among the group was that it could be reduced through consistent communication of corporate goals and objectives. In one case, loan officers willingly referred refinances over to the telesales group but only as a result of much organizational awareness and training in that particular company.

Interestingly, although recognized managerially as crucial, retention is not yet a key goal that is integrated throughout most mortgage companies.

Cost of Retention

Industry models for retention costs are generally rudimentary, but improving. Only now are the true costs of retention being recognized. Accounting treatment permits companies to carry the servicing right asset at "market." This affects income in future years without a direct impact on current year's profitability.

Roundtable participants with retention sales units said they try to direct customers to those channels to keep down the cost of sales. Participants also discussed various customer relationship management systems currently offered in the industry but there was concern whether the cost of these systems will be paid for through improved retention.

Products Supporting Retention Efforts

Agency streamlined products and their relative importance was discussed but the participants generally felt that product was a component of retention, not the only answer. One group member shared the results of an exit survey of customers who left his company. In this case, "product" was the reason for leaving only 11% of the time.

The notable exception was the offering of a loan modification. This can be extremely efficient if the loan is in the company's portfolio and not with an investor.

What Works in Retention?

There were several tactics discussed that participants felt would lead to keeping a customer. It was noted that any retention strategy should involve a combination of several devices as no one tactic is the key to success. These include:

- Accessing Multiple Listing Services (MLS) databases and determining if a house in the portfolio is currently under a listing agreement with a Realtor
- Ascertaining through some sort of service when a customer's mortgage credit has been checked
- Soliciting customers when a "pay off" is requested (It was generally agreed that this was not very effective.)
- Utilizing "campaign management techniques" to efficiently target home equity loans and lines of credit
- Obtaining "vertical" lists of life events for need based marketing
- Statement messaging



Measuring Retention

PricewaterhouseCoopers currently conducts a Quarterly Customer Retention Survey for over eight top companies. In an effort to better measure retention efforts, the group indicated that they would like to see the following metrics in future surveys:

- Overall Retention Rate: The total number of loans “rewritten” divided by the total number of loans lost
- Channel Recapture Rate: The number of loans recaptured by a channel as a percentage of total number of loans lost, irrespective of the channel from which the loan ran-off (sum equals the overall retention rate)
- Individual Channel Recapture Rate: The number of loans running-off within a channel that are recaptured by the same channel
- Refinanced versus purchase retention rate
- It was generally agreed that correspondent loans coming back into the portfolio should be included and home equity loans excluded

Summary

The current rate environment and changes in the mortgage industry have heightened the importance of customer retention. Measurement abilities are improving, but are still relatively unsophisticated. Many companies now have active retention units and these units utilize a number of tactics. Unfortunately, there does not appear to be a single cure for retention problems but relatively small percentage point improvements in retention may mean considerable profit increases for the company that employs a successful retention strategy.



If your company is interested in participating in the PricewaterhouseCoopers Quarterly Customer Retention Survey, please contact Tony Muoio at (617) 428-8178 or anthony.muio@us.pwcglobal.com or Martin Hurden at (617) 428-8463 or martin.hurden@us.pwcglobal.com.

A Customer Relationship Management Primer

Customer relationship management (CRM) is the new buzzword at mortgage banking organizations. It seems that everyone now has a CRM strategy. In our experience in working with large companies on CRM initiatives, we have often discovered that there is a misunderstanding as to what exactly CRM is and why it is important. Thus, in this article we explain the basics of CRM.

CRM is an idea that is gaining a lot of momentum in the Internet era. The driving force behind CRM is to enhance the future value of customers by understanding and satisfying their unique needs. Mortgage bankers are recognizing that to operate in the customer economy they need to deliver what the customer wants, when and how the customer wants it. CRM is a set of processes and capabilities that helps identify, acquire, retain, and maximize customer relationships. To succeed in a CRM environment mortgage banks need to understand all relevant aspects of customer relationships and interact with customers at all levels to build lifetime loyalty.

Brick and mortar companies have typically been product management companies. Product managers are responsible for generating sales and measuring the success of various products. In these companies a customer is a transaction that is counted at the cash register. In a typical mortgage bank a customer is synonymous with a loan. Loans — not customers — are assigned unique identifiers. Therefore, when a customer refinances, a new loan number is assigned and corporate memory of this customer is potentially lost. Analysis and segmentation are usually performed at the loan (product) level. A typical mortgage bank tries to

predict when a loan could possibly refinance due to market condition changes, often ignoring customer lifestyle changes that are usually a significant catalyst in domestic economic decisions.

In a customer centric company a customer is truly the center of all activity. This is a paradigm shift for most organizations where the company has been organized around a product. To succeed in a customer centric environment mortgage banks will have to rethink their business processes, and reorganize to reflect this new focus.

A relatively common mistake is to assume that CRM is a technology issue. While it is true that CRM is enabled by technology, it is usually organizational and/or business process issues that will make or break a CRM implementation.

A CRM application creates measurable value for any organization:

- **Increased customer retention.** With the advent of the Internet, customer loyalty is at a premium. Customer retention is cheaper than customer acquisition.
- **Decreased customer acquisition costs.** Increasing retention also has a direct benefit of reducing acquisition costs. Target marketing efforts at sections of the population that are most profitable for a company will also significantly reduce acquisition costs.
- **Improved customer profitability.** CRM applications will enhance the ability of a company to maximize revenue per available customer. Enhanced cross sell and upsell capabilities as well as the capability to manage underperforming customer segments are key features of a successful CRM implementation. CRM applications will also allow a company to transform every customer contact into a revenue enhancing opportunity.
- **Increased customer lifetime value.** Understanding what is important to customers and anticipating their needs will create a sense of company/brand loyalty. Loyal customers translate directly to bottom line profit.
- **Established optimal customer contact strategy.** Customers are the most valuable asset of any company. Therefore companies should protect this asset to ensure an ongoing fruitful relationship.

This means the company should respect the right to privacy of its customers. Regulatory requirements also require that corporations respect the customers' right.

To ensure success, the responsibility for a CRM initiative should lie within the business. Typically the marketing organization spearheads a CRM implementation and is responsible for the development of the application. The IT organization should be responsible for infrastructure support as well as support services. A CRM application must allow mortgage banks to answer some key questions such as:

- Who are my most valuable customers, and why?
- What should I do to retain these customers?
- Who are my least profitable customers and how can I make them profitable?
- Who were the customers who called in the last 30 days requesting a payoff quote?
- Which customers curtail the same amount with each loan payment?
- Which customers converted to ACH payment in the last few months and why?

The ability to answer these questions will help refine an acquisition, retention, and a cross-sell strategy. Understanding these customers will also provide the company with characteristics to look for in new customers. Armed with this knowledge, marketing professionals can design targeted programs to acquire and retain profitable customers. As the customer pipeline is filled with valuable customers, companies have the ability to start segmenting these customers into various levels of profitability. The challenge is then to focus on increasing the profitability of each level.

The basic components of a typical CRM application are:

- A customer data repository
- A data-mining system
- Permission based marketing

A customer data repository is typically a data mart that is derived from the corporate data warehouse. It does not have to be the largest or most complicated data

mart in the enterprise. The purpose of this data mart is to collect all customer information available in the enterprise and manipulate it so the enterprise can see a clear picture of customer profitability.

The data-mining system allows analysts to understand previously undiscovered relationships within their data. This understanding, combined with existing knowledge, forms the basis for a successful customer segmentation program. Once a customer is placed in a segment, custom tailored marketing programs can be executed to retain and improve the profitability of these customers.

Permission based marketing is the execution arm of the CRM process. This is a key concept responsible for the success of CRM applications. Permission based marketing allows the company to communicate directly with its customers provided the customer has "opted in." All customers must be given a choice to "opt in" or "opt out." If a customer chooses to opt out he or she should not receive any direct communication from the company or any of its partners. It is the responsibility of every company

to protect the privacy of its customers. If a company abuses that relationship then it will violate the trust that is the foundation of every fruitful customer relationship.

A good permission based marketing system will allow companies to deliver targeted messages to customers. Custom offers and/or messages are typically designed for different customer segments. Executed results are then tracked to measure the success of a program as well as to get a better understanding of what worked and what did not.

Keep in mind that there is no one way to build a successful CRM environment but the goal is the same — creating a truly customer centric organization.



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Don't Forget About the Realtors

It was the best of times, it was the worst of times . . . now it looks pretty good again with refinances picking up in the latter part of 2000 and early part of 2001. According to the Mortgage Bankers Association, applications for mortgages during the week ended January 4, 2001 were up 61% from the preceding week, and refinancing accounted for 55% of the new applications vs. 45% the preceding week. As loan officers start targeting prior customers to refinance, they may want to start nurturing even more relationships — this time with their local Realtors who can be a significant source of business during the less volatile purchase volume market.

During 2000, many online mortgage bankers who focused on the refinance market failed and closed up shop, or are teetering on the edge. Many online mortgage companies moved to a B to B model that reflects a major trend in the online mortgage industry. More and more firms have left behind the frustrating battle for the elusive Web consumer and have retreated to the more comfortable world of selling services to the established mortgage industry.¹ An October 4, 2000 survey by Fannie Mae found that 56% of recent homebuyers used the Web to search for information, but just 4% applied for a mortgage online. Only one in 50 actually completed the mortgage approval process using the Internet.² It may not be the business plan that is flawed but that companies are overlooking the notion that Realtors can be critical to the mortgage process, especially in a purchase volume market.

To many first-time homebuyers their local real estate agent is their first point of contact when it comes to obtaining a mortgage. This agent has just walked the potential homebuyer through his or her dream house and the first-time homebuyer asks, "Now what?" Granted, there are some people who were pre-qualified before they drove by the first house. But, there are many first-time homebuyers who ask the Realtor to recommend a mortgage lender.

When the first-time homebuyer asks about the next step, the agent is ready with a list of his or her closest and most trustworthy loan officers who will provide service

to the agent's customer. It is imperative for the loan officer to provide quality service to the customer and qualify that customer as quickly as possible. The more efficient and effective the loan officer, the sooner the agent gets paid and the more likely the agent will refer his next customer to that agent. It is no coincidence that the agent will steer the homebuyer to the loan officer for the customer's benefit as well as his own.

It may not be the business plan that is flawed but that companies are overlooking the notion that Realtors can be critical to the mortgage process, especially in a purchase volume market.

Sales leaders/management that have identified the beneficial role that the Realtor can play consider Realtors to be their customers and have spent considerable time and expense to leverage these relationships. Marketing to and courting Realtors is a primary function within these lenders' companies. These

companies also recognize the need to stay focused and nurture the "stable" part of their business.

Sure, it is easier to generate new business during a refi market but no one knows how long it will last. Those mortgage companies that are not paying attention to the Realtor driven purchase market, and that are implicitly or explicitly relying solely on refinancing to attract customers, are missing an influential force in the mortgage process, and may be sacrificing the long-term health of their company. Don't forget about the Realtors.



For more information, please contact Brian Williamson at (617) 428-8528 or at brian.williamson@us.pwcglobal.com.

¹ Conger, Barry, "LoanTrader Shifts Its Approach," Real Estate Finance Today, November 20, 2000.

² "Mortgage.bomb," Specialty Lender Weekly, November 6, 2000.

MARK YOUR CALENDARS — THE 2001 MORTGAGE SERVICING ASSET CONFERENCE

The date has been set for this year's Mortgage Servicing Asset Conference presented by Executive Enterprises and sponsored by PricewaterhouseCoopers LLP:

Mortgage Servicing Asset 2001: Can You Still Compete?

April 30-May 1, 2001

Arlington, VA

A sample of topics and panel discussions include:

MSRs from the Perspective of Executive Management

Pete Makowiecki, Chief Financial Officer, First Horizon Home Loans
Glenn Mouridy, Executive Vice President, Chase Manhattan Mortgage
Thomas Wind, President, CitiMortgage

FAS 133 Update from the SEC Perspective

E. Michael Pierce, Professional Accounting Fellow, Office of the Chief Accountant
Securities & Exchange Commission

Regulatory Update

David Mansfield, National Bank Examiner, Office of the Comptroller of the Currency
Dan Weiss, Director, Regulatory Advisory Services, PricewaterhouseCoopers LLP

The Importance of Customer Retention

Tony Muoio, Director, Mortgage Banking Services Group, PricewaterhouseCoopers LLP
Robert S. O'Neill, Senior Vice President, Bank of America Consumer Real Estate
Lawrence P. Washington, Senior Executive Vice President, First Nationwide
Mortgage Corporation

An Analyst's View — The Impact of MSR Valuation and Hedging Practices on Mortgage Company and Mortgage Insurance Company Stocks

Gary Gordon, Managing Director, Financial Services Group, PaineWebber
Equity Research

Insights into the Derivative Implementation Group (DIG)

Timothy Bridges, Vice President, Derivatives Products Group, Goldman Sachs & Co.,
DIG Member
Deidre D. Schiela, Partner, PricewaterhouseCoopers LLP, DIG Member

The Economics of MPF Servicing Rights

Frank Whelan, Senior Vice President, Mortgage Partnership Finance Operations,
Federal Home Loan Bank of Chicago

OAS Analysis and Custom Prepayment Models

Andrew Davidson, President, Andrew Davidson & Co., Inc.

The Nuts and Bolts of FAS 133

James Edwards, Senior Vice President, Global Finance Director, HomeSide Lending,
Chairman of the MBA's SFAS 133 Working Group
Alison B. Utermohlen, Senior Director, Financial Management, Mortgage Bankers'
Association of America (MBA), Staff Representative to the MBA's SFAS 133 Working Group
David Guy, Manager, Mortgage Banking Services Group, PricewaterhouseCoopers LLP

A Capital Markets View of MSRs

Simon P.B. Aldrich, Director, CDC Mortgage Capital
William R. Greenberg, Director, CDC Mortgage Capital

For more information, contact Andrea Connor at andrea.connor@us.pwcglobal.com or check out Executive Enterprises' Web site at www.eeiconferences.com.

Managing Compliance Risk Under Gramm-Leach-Bliley Consumer Privacy Regulations — Are You Ready?

With the enactment of the Gramm-Leach-Bliley Act (the “Act” or “GLBA”) and the subsequent adoption of privacy regulations by the banking agencies and the Federal Trade Commission (“FTC”), the issue of personal data protection has moved to the top of the priority list for most mortgage banking companies. To protect the trust placed in the mortgage industry by the public the industry needs to proactively implement privacy protections for customers and consumers. Not to do so will invite adverse publicity for individual institutions and the industry, regulatory enforcement action, and more limiting legislation to protect the privacy of borrowers and loan applicants.

At first glance, achieving compliance with the new privacy regulations may appear to be a fairly straightforward exercise: develop a privacy policy, communicate that policy, give customers and consumers notice and the ability to opt out before sharing data with nonaffiliated third parties, and implement appropriate measures to ensure the security and confidentiality of customer data. However, as mortgage companies and banking institutions begin to interpret and analyze the practical implications of the regulatory requirements, there is an immediate realization of the complexities and challenges that lie ahead.

In a competitive environment where institutions have pressure to increase revenues and profits, all knowledge including information about consumers is in play. Therefore, mortgage companies or business units of larger financial services organizations should carefully evaluate their existing operations and develop a strategy to protect their consumers’ nonpublic personal and financial information within their complex and changing business model. Comprehensive privacy statements will be needed and these statements must be accurate with respect to an institution’s information sharing practices. Accordingly, back-end data management practices will have to be reviewed to ensure they support the privacy statements. As part of privacy due diligence and impact studies, all marketing strategies, joint marketing agreements, customer service strategies, e-business strategies, and operations and mergers and acquisitions will need to be reviewed.

One of the biggest challenges facing all financial institutions is coordinating the privacy compliance effort of all business units and affiliates. Although the ultimate responsibility of complying with the privacy regulations may lie with legal counsel or the compliance area, without full cooperation and dedicated resources from each business unit and support function within the company (and its affiliates) the implementation of a detailed work plan and timetable will be ineffective and inefficient, and the company will increase the risk of a breach of the regulations.

GLBA Privacy Regulations Background

The Gramm-Leach-Bliley Act (also known as Financial Modernization) was signed into law on November 12, 1999. This legislation opened the door for competition and convergence within the financial services industry. The sponsors of the bill, understanding both the potential value and risk of a single institution holding an individual’s banking, insurance (e.g., health), and investment information, developed Title V of the Act to regulate and protect certain aspects of consumer privacy.

The Act requires the applicable regulatory bodies (SEC, FTC, OCC, FDIC, OTS, etc.) to develop regulations that enforce the spirit of Title V. Those regulations have been finalized and will apply to all mortgage companies from November 13, 2000. The FTC has broadened its authority by widening the definition of a financial institution. Any company significantly engaged in

providing financial services to individuals, families, or households are scoped in. This includes mortgage originators, brokers, and servicing companies. In short, the FTC's privacy rules:

- Are based on requirements outlined in Title V of the Act;
- Require a financial institution to provide certain notices to consumers and customers about its privacy practices and policies;
- Describe the conditions under which a financial institution may disclose nonpublic personal information about consumers to nonaffiliated third parties;
- Require the implementation of reasonable measures to ensure the security and confidentiality of customer data; and
- Provide a method for consumers and customers to prevent a financial institution from disclosing their personal information to nonaffiliated third parties by "opting out" of that disclosure, subject to certain exceptions.

Compliance with the privacy regulations is mandatory for all affected companies by July 1, 2001. To clarify, the systems, data management practices, opt out notices, privacy statements, customer service strategies, e-business strategies, etc., must be in place and operational by this date. Additionally, the regulators have made it clear that although the cut-off for compliance extends to the summer of 2001, they may begin judging the readiness of particular companies as early as the fourth quarter of 2000.

Implementation Issues Specific to the Mortgage Industry

Due to the complexities of the mortgage process and the dynamics of the active secondary market, implementing the privacy regulations is going to be more difficult for mortgage companies than for most other financial services institutions. Some nuances of the mortgage industry have been specifically addressed by the rules issued by the FTC and banking agencies while others will require very careful analysis and interpretation of the regulations against current business practices and processes.

For example, the determination of an institution's consumers and customers is critical. The regulations require initial and annual privacy notices to be delivered to all customers whereas consumers need only be provided with an initial privacy notice if the institution plans to share nonpublic personal information about that consumer. A customer is defined by the rules as a consumer with whom the company has an ongoing relationship. In working through these definitions and implications, a mortgage company must consider the chain of events that can occur after a potential borrower signs an application form. The FTC's regulations state that a customer relationship is established when a loan is originated. However, if the servicing rights are transferred or sold, then the customer relationship is also transferred. Consider also the scenario where the loan is purchased without servicing rights, i.e., the originator retains the servicing rights. The rules provide that the purchasing institution would establish a consumer relationship, therefore requiring that company to give notice if the consumer's nonpublic personal information were to be shared with nonaffiliated third parties. A broker establishes a customer relationship with an individual when the



individual engages that broker to find a suitable loan. When that individual completes an application form for a particular lending institution, a consumer relationship is established between the potential lender and the applicant. A customer relationship is not established until the loan is closed.

Other examples of practical considerations for mortgage companies include:

- Determining whether certain relationships and investments constitute an “affiliate” per the definitions of the regulations. For example, all acquisition channels as well as limited partnership and equity investments should be reviewed.
- Performing due diligence and establishing controls over information practices of third party vendors, such as appraisers, title insurance companies, closing agents, mailhouses, telemarketing partners, sub-servicers, etc.
- Developing privacy training and an employee privacy program to ensure compliance with the company’s privacy policy at all times.
- Delivery of privacy notices and opt out forms to joint account holders and to online customers and consumers.

The Workload to Comply Is Significant and Potentially Costly

Although the founding principles of privacy legislation are normally straightforward, the regulatory, political, and operational considerations add significant complexity to implementation. Companies are being faced with matters of policy and interpretation with few relevant benchmarks and without industry precedent. As Orson Swindle, FTC Commissioner, recently stated,

“The Commission has extended the deadline for compliance with the Rule until July 1, 2001, because there are likely to be substantial costs for financial institutions - including those operating online — associated with modifying their practices to comply with such a broad and intricate rule.”¹

The privacy regulations also require an institution’s privacy notice to be accurate with respect to the organization’s business practices. Consequently, an institution must have a comprehensive understanding of its data collection, management, and sharing policies and practices, as well as those of its affiliates, and the nonaffiliated third parties with which it shares customer data.

What Should You Do Next?

The first critical step in ensuring your organization meets the July 2001 deadline is to assign formal responsibility and accountability for achieving compliance with the privacy rules. This should include forming an executive level steering committee to set policies and provide stewardship to a working task force. The working task force should be responsible for implementation, coordination, and communication of a detailed compliance project plan and timetable. The detailed plan should include mechanisms to track progress and this should be communicated regularly to the executive level steering committee and ultimately the Board. Ideal candidates for the working task force are representatives from compliance, legal, IT, marketing, operations, e-business, customer service, and each business unit or product line. *The biggest challenge for many institutions will be the coordination between various business lines required to ensure consistent privacy practices and policies within the enterprise.*

Other critical steps in moving towards compliance include:

- Comparing current privacy and security policies and practices to the regulatory framework and applicable agency rules.
- Identifying inconsistencies between current practices and public position on privacy and security.
- Identifying and understanding in detail data collection, use, and sharing practices across affiliates and with nonaffiliated third parties, and determining the need for opt out notice and implementation.
- Performing due diligence on third party providers to ensure they are also moving towards compliance with the privacy regulations and will use customer information appropriately at all times.

¹ Orson Swindle, FTC Commissioner, “E-Commerce: The Future of Banking and Financial Services,” June 16, 2000, Boston MA.

- Determining system and process requirements for providing opt out notices and for processing and complying with consumer responses.
- Developing an ongoing compliance framework to monitor continual compliance with privacy regulations as well as relevant state privacy laws and other federal privacy initiatives.

Complying with this myriad of rules can be a costly, inefficient, and risky undertaking or, if approached properly, it can be a catalyst for improving operational efficiency and strengthening customer relationships. Companies that focus on short-term regulatory compliance will lose the ability to manage privacy as a competitive issue. The effective management of privacy issues is becoming a core competency for any organization that

depends on the collection, use, and sharing of personal customer information in order to do business. The key to success is to think strategically and develop a structured approach — built on an informed interpretation of the legislation — which addresses all applicable aspects of the regulations across multiple business units, channels, products and partners or affiliates.



Should you have additional questions regarding the impact of privacy and the regulatory requirements on your organization please contact Tara Laybutt at (617) 428-8915 or tara.laybutt@us.pwcglobal.com or Maryann Murphy at (617) 439-7369 or maryann.murphy@us.pwcglobal.com.

Regulatory Alert — California Reconveyance Statute

On June 19, 2000 the Fourth Appellate District of the State of California delivered its decision in the matter of Bartold vs. Glendale Federal Bank, a more stringent interpretation of California civil code 2941. The court's decision imposes new, more demanding requirements on mortgage companies in their processing of reconveyances, and the amount of time allowed for a "request for reconveyance" on a loan payoff in the State of California. In effect, the statute now requires a request for reconveyance to be completed the same day a loan is satisfied.

In order to fully understand the new restrictions, it is important to examine the process of lien reconveyance. At the time of origination the borrower executes a promissory note and a deed of trust (i.e., the loan documents) as a security interest in the property to the lender. In order to give notice to third parties of the encumbered property, the documents are recorded at the county recorder's office. Further, a trustee holds legal title until the mortgage is paid in full. The mortgage company generally sends certain key documents to a custodian company that holds the documents in custody for the mortgage bank until the loan is paid in full.

Once a borrower has satisfied his/her mortgage obligation, the mortgage company, in most cases, requests a copy of the loan documents from the

custodian. The loan documents are then delivered to the trustee (the request for reconveyance has taken place after the trustee has received the documents), signed, and sent to the county recorder's office. The county recorder's office images the documents and sends a copy back to the mortgage company. The mortgage company is responsible for delivering the documents to the borrower.

The California civil code 2941 subdivision (b) 1 states,

*"When the obligation secured by any deed of trust has been **satisfied**, the beneficiary, (mortgage bank) or the assignee of the beneficiary shall execute and deliver to the **trustee** the original note, deed of trust, request for full reconveyance, and other documents as may be necessary to reconvey, or caused to be reconveyed the deed of trust."¹*

¹ California Statute 2941

Under the California statute, after a loan is satisfied, a mortgage company is required to execute a request for reconveyance (as noted above in the civil code), and complete the full reconveyance process soon afterwards. The statute is designed to ensure the borrower of timely recording of reconveyances, and encourages a prompt reconveyance by penalizing any unwarranted delay of the process.

As a result of the new ruling of *Bartold vs. Glendale Bank*, it would appear that the complicated and typically time consuming process of requesting reconveyance must now be completed the day the mortgage is satisfied. Most mortgage companies would find it difficult to complete the request for reconveyance process the day the loan is paid off.

There are financial penalties associated with non-compliance with the new California statute. The statute requires that a borrower is entitled to \$300 from the mortgage bank if the request for reconveyance does not take place in a timely (i.e., simultaneous) fashion. The consequences to this clause are clear:

for each 5,000 loans there is \$1,500,000 worth of exposure and for each 50,000 loans, \$15,000,000 worth of exposure. In addition to collecting the \$300, the borrower reserves the right to take legal action against the mortgage bank for failure to comply with the statute (further unlimited exposure).

While additional steps and procedures can be developed to meet these stringent requirements going forward (for example, the transfer of trustee status), there is clearly a significant cost associated with those changes. In addition, the mortgage company should consider the potential liability for reconveyances already completed under existing processes and therefore non-compliant. This is a significant issue for any company that services loans originated in California.



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Foreclosure and Reserve Modeling: Do You Know Where and Why Losses Are Occurring?

Best practice reserving modeling currently involves the creation of loan level default data warehouses that evaluate a loan's current default operational compliance rate with accounting information (by comparing tracking event data to investor standards) to project future losses. The focus of this article is to provide an understanding of this type of model and how it helps a mortgage company both prevent and detect default related financial losses. In addition, the article provides information on the methods for implementing such a model.

Average Historical Loss Methods and the Need to Connect Financial Losses with Default Operations

The current foreclosure reserving methodology that is predominantly used in industry practice is based on a projection of average historical losses. This method has

proven effective in operational environments where the compliance and amount of operational backlogs remain fairly constant. In environments where default operations are either improving or declining, the average reserve methodology will significantly lag operational reality. As a result of this disconnect between operations and accounting some companies have been forced to take material charges to reserves

without knowing specifically the cause of the losses or when the losses were expected to stop. They simply knew their average loss per loan was rising at an ever-increasing pace.

In nearly all mortgage companies where we have seen significant default losses there has been inadequate management reporting. The common thread with this reporting is that there is no connection between the default compliance rates and their corresponding financial impact.

Default operations personnel can state, "This is my first legal compliance rate" or "This is my conveyance rate." Accounting personnel can answer the question, "What is my average loss for the month?" In most environments neither can say, "My first legal compliance rate for this month was 86%. Of the 14% of loans that just missed first legal, we have already been curtailed one month of debenture interest that is costing the mortgage company \$500 per month per loan."

Default operations compliance and processing timeliness are often internally measured based upon units of accounts without regard to its investment in the underlying asset of the foreclosure. Accounting departments often track advances outstanding and losses on a historical basis. Future loss projections impacted by historical performance ignore current favorable and unfavorable trends in default performance. The impact of current internal performance is not measured until post claim processing is completed and a loss is analyzed.

This delay in performance measurement has driven the need for more refined tools to identify where losses are occurring and why they are occurring so that both corrective action can be taken and material financial surprises can be eliminated. Outlined below is how companies are using loan level reserve models as the tool to answer the key questions of where and why losses are occurring.

Creation of Loan Level Foreclosure Reserve Models in the Mortgage Industry

Utilizing the tracking information contained in the default modules of a company's servicing system and developing "expert program code" to evaluate compliance with various investor and state guidelines, loan level reserve models have been developed.

In addition to projecting loss reserves, these data warehouses link a servicer's outstanding advances to provide the organization's finance and servicing departments with the ability to match unit operating performance to outstanding ledger advances for foreclosure advances and GNMA pool buyouts. Armed with this information these mortgage companies

developed sophisticated reporting modules to age and evaluate the advances.

The prioritization of workflows can now consider the outstanding investment of the account being worked and can identify interest curtailments as a result of missing key foreclosure timelines.

In nearly all mortgage companies where we have seen significant default losses there has been inadequate management reporting.

Linking the general ledger to the organization's default modules via a default data warehouse provides definite advantages to any organization. Government insured loans have uncontrolled losses built into their programs as well as events that create losses that are considered "controllable." For government insured loans, a model can be constructed to incorporate the following concepts:

- Event driven loss recognition permits the recognition of losses at the occurrence of the event that caused the interest curtailment.
- The model is defined to allow default operations and finance to arrive at a uniform loss definition that serves to build good communication between the units through "speaking the same language."
- The model can take projected loss information and build predictive factors to better anticipate future loss trends.

Steps to Build a Working Foreclosure and Reserve Model Data Warehouse

Once the decision has been made to create the model, the implementation team, consisting of a mix of default, accounting, and IT professionals, performs the following key steps:

- Performing a walkthrough of existing default processes to identify key source systems and assessing technology infrastructure needs.
- Mapping fields required for the reserving model database.
- Designing key reserving and operational reports to meet company specific needs.

Performing a Walkthrough of Existing Default Process and Assessing Technology Infrastructure

Management should complete a high-level walkthrough of the default operating environment. This should include discussions with management of key operating units and a review of internal management reports used to manage the day-to-day operations. This process would include the identification of key data and key source systems that must be mapped to a data warehouse environment. Most of the servicing and default system software products developed today provide the tools to efficiently create this data mapping environment. Key systems to identify would include:

- General ledger
- Servicing system
- Default loan systems — claims, loss mitigation, foreclosures, REO, bankruptcy, and loss analysis
- Ancillary systems associated with documents, records, and inspections

A review of the company's technology resources and requirements needs to be incorporated into the modeling process. The organization's technology structure, available resources, and processing requirements are critical to the success of establishing an efficient environment to create and maintain a foreclosure and reserve model. Requirements would



consider factors such as availability of a dedicated server, database software, the LAN environment and connectivity considerations to databases, ad hoc query tools, and ancillary reporting systems. Technology staffing requirements would include the availability of hardware and technical personnel and programming personnel. The population of end users using the model also needs determined.

Mapping Fields Required for the Reserving Model Database

Mapping data and systems to the data warehouse is critical and would include several steps:

- A determination of systems that require importing.
- Detail identification of where each required field to be mapped is located.
- Preparation of the definition of how to present various categories of work activities along the foreclosure timeline. Typically, these categories follow the organizational structure of the default asset management division.

- A determination of the population of loans to be included which generally includes loans active in a default workstation, loans with outstanding foreclosure advances, and other delinquent loans that require a reserve.
- The identification of all accounting advances that are defined as foreclosure advances and claims receivable from GNMA pool buyouts. Loan investments, accrued interest, and pool interest advanced can also be included in this identification process.
- The incorporation of reserve methodology policies within the model environment to identify specific losses on reserves.

Designing Key Reserving and Operational Reports to Meet Company Specific Needs

Output from the model can provide some very important information to assist in controlling the foreclosure operating environment, including the following:

- Presentation of key category aging classifications.
- Exception reports to provide a guide to prioritize workflows and to “slice and dice” data.
- Building the reserve, isolating “controllable” losses (interest curtailments and other disallowed expenses) from “noncontrolled losses” (two months interest, debenture rate differences, and certain out-of-pocket advances).
- Identification of loans eligible for GNMA early pool buyout.
- Loan level data reporting for reserves, advances, and losses.
- Trend analysis of losses and identification of root causes for inefficient operating performance.
- Best execution models in comparing expected losses to alternative loss mitigation actions.

Factors in implementing a successful foreclosure and reserve model as described include the following:

- Communication and understanding of terms between accounting and default asset management personnel.

- A commitment from internal IT personnel in building and supporting the model.
- A commitment of personnel to utilize exception and trend reports.
- Availability of hardware and database software.
- Availability of mandatory information to meet minimum information mapping requirements.
- Cooperation and information from outsource vendors.
- Validation of the quality of the data being imported into the model. (It is critical that key action dates including first legal dates, reporting dates, sales and conveyance completion dates, and claims filed dates, are accurate.)
- The identification of an “owner” of the system who supports the model.
- The development of controls over importing data and securing and changing program code.
- Documentation of the model.

The creation of a foreclosure data warehouse and foreclosure and reserve model can provide a powerful accounting tool for default and finance management to measure default asset management performance on a real time basis. By bringing together default asset management, finance, and technology, a company wide solution can be offered to control and understand one of the most significant servicing expenses.



For more information regarding the development of a foreclosure and reserving model, please contact John Adams at (617) 428-8016 or john.m.adams@us.pwcglobal.com or John DelPonti at (704) 344-7583 or john.delponti@us.pwcglobal.com.

Industry Practices in Foreclosures

Foreclosure expenses represent one of the more significant cost elements in the mortgage industry and are evaluated in a multitude of ways. The recognition and presentation of foreclosure expenses are impacted by several factors including: (1) how the foreclosure reserve is established; (2) the impact of early pool buyout programs; (3) how interest is accrued for loans bought out of GNMA pools; and (4) the timing and methodology in analyzing and writing off foreclosure advances. PricewaterhouseCoopers compiled information to provide a general framework of common practices among mortgage companies so as to compare their losses to the mortgage industry.

Overview

In June 2000, PricewaterhouseCoopers invited the largest servicers of government loans to participate in a survey of industry practices surrounding the reserve for foreclosure losses, the processing and analysis of foreclosure losses, and accounting for early pool buyouts. Sixteen of the top 25 government servicers participated. In the aggregate, these 16 mortgage companies service over \$350 billion, or nearly two-thirds of all GNMA servicing.

The following observations were made from the information received:

Reserves

- A majority of servicers establish a reserve for foreclosure losses based upon the loan's delinquency or foreclosure status. Most of the servicers include all government insured loans serviced in establishing a reserve and increase the loss requirement on the loan as its state of delinquency deteriorates.
- Most servicers establish reserves at a rate per loan based upon historical loss experience. Lengths of historical experience vary, but the most common time period is 12 months.
- Several servicers establish their reserves based upon a specific identification of losses within the existing portfolio, which we anticipate will gain acceptance as servicers develop more sophisticated models to capture foreclosure and accounting data.
- Nearly all servicers include VA no bids as a portion of their foreclosure reserve split equally between estimating future losses based upon historical levels of no bids and allocating losses for specifically identified no bids.

- Half of the mortgage companies surveyed reserve for conventional loan losses.
- Responsibility for calculating the reserve predominantly rests with the company's corporate accounting/finance unit.

Early Pool Buyouts

- Most servicers utilize an early pool buyout strategy, generally buying loans out of pools at 90 or 120 days. Over half of the servicers with an early pool buyout strategy base their buyout decision using a floating rate of interest based upon an internal cost of funds index as opposed to a fixed rate of interest that generally ranges from 8.0 % to 9.5 %.
- Servicers are split as to whether they hold their buyouts as an investment or sell these loans.
- Seventy-five percent of the servicers accrue interest on GNMA pool buyouts, with the majority accruing at the VA and FHA program recovery rates for the applicable period that is recoverable.

Supplemental Claims

- Servicers are split with respect to the accounting treatment of supplemental claims. Half of the mortgage companies set up a receivable for supplemental claims while the other half treat the collection of supplemental proceeds as a recovery.

Foreclosure Losses and Disallowed Expenses

- The level of disallowed out-of-pocket expenses for FHA loans ranged from \$164 per loan to \$2,490 per loan, with a median of \$935 per loan. Best practice performers substantially eliminate delays in conveying properties to HUD and eliminate costly unrecoverable property and preservation costs. Best practice performers are also successful in reinstating foreclosure action timely on discharged bankruptcies.

- The level of disallowed expenses for VA loans ranged from \$200 per loan to \$2,300 per loan, with a median of \$589 per loan.
- Of those servicers disclosing loss information, unrecovered interest losses on FHA loans ranged from a gain of \$2,925 to a loss of \$3,188. Unrecovered interest losses on VA loans ranged from a gain of \$3,210 to a loss of \$3,238. These interest losses were impacted by the interest accrual policies of the organization, the average UPB of loans held by the servicer, and the quality of operations in mitigating curtailed interest losses.
- The four most common reasons for foreclosure losses are untimely initiation of first foreclosure legal action, untimely reinstatement of a foreclosure action on a discharged bankruptcy, missing insurance and guarantee certificates, and delayed conveyance due to property and preservation issues.
- A majority of servicers analyze their government losses by segregated loss components between unrecoverable interest and disallowed out of pocket expenses.
- Though current industry practice is trending toward more detailed information to analyze the components of unrecoverable interest, half of the mortgage companies indicated they present unrecoverable interest loss information to management in one single category.
- Half of the mortgage companies present disallowed out-of-pocket expenses in detail sub-categories by reason in presenting information to management.



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Analysis of Loss Information

- Most servicers present loan loss information by insurer to management.

Is USAP Relevant for Today's Mortgage Servicer?

At year-end thoughts begin to turn to the extensive effort required to produce audited financial statements, 1098 and 1099 tax documents, and, of course, the required Uniform Single Attestation Program (USAP) letters. This minimum servicing attestation program involves significant commitment from multiple disciplines across the mortgage banking industry. Particularly impacted by this work are servicing management and personnel, internal auditors, and certified public accountants as they seek to deliver a value added product to investors and the management of the mortgage company.

In the early 1990s, the mortgage banking industry underwent many changes including the advancement of technology, consolidation, the creation of mega-servicers, and increased legislation that has impacted mortgage banking operations. While these changes have taken place, the minimum standards that measure servicer performance have remained unchanged since 1993.

At that time, the Mortgage Bankers Association (MBA) revised the USAP after careful deliberation with leaders of the MBA, public accounting firms, the Association of

Certified Public Accountants, representatives of secondary marketing agencies, and the Affiliation of Mortgage Banking Auditors to ensure the standards adequately addressed servicer and investor concerns. The USAP program represented the best thinking of these parties at that time about the minimum servicing standards by which servicers and investors could measure the effectiveness of a company's servicing operations. However, with all the changes in the industry in the past seven years it may be time to revisit this important doctrine to ensure it meets the current

needs of interested parties by covering the operational risks now faced by this ever changing industry.

Many within the mortgage banking community are currently asking this same question and a diverse group of mortgage industry participants has recently organized to open discussions among itself and with the MBA to determine if the time is right to revise the USAP. Currently, USAP focuses on such areas as custodial bank account reconciliations, escrow analysis and disbursements, application of payments, recording of disbursements made on the behalf of borrower and investor records, and adjustment to ARM loans. And while the current standards address delinquencies, there currently are no particular requirements for addressing the significant risks associated with the foreclosure process such as meeting time lines provided by the Federal Home Administration (FHA) and by Veteran Affairs (VA). Other potential risks not addressed by the current USAP standards include the following:

- The implementation of new legislation such as the Home Owners Protection Act of 1998 that requires mortgager servicers to notify borrowers that PMI is no longer required once a loan achieves a loan-to-value ratio of 80%
- The implementation of the various privacy acts and legislation
- Management of the outsourcing arrangements for such functional areas as taxes and insurance, customer services assignments, etc.
- The increased reliance of servicing systems and the controls surrounding the systems
- Compliance with pooling and servicing agreements between servicers and investors
- Potential financial impact of not meeting lien release deadlines that vary among states

The key to effectively revising the USAP program is to add benefit to servicers and investors by providing a consistent measure of operational risks faced by mortgage servicers and by improving the efficiency with

which the necessary program steps are executed. Additionally, benefits that may accrue include:

- An improvement in foreclosure loss rates and associated expenses as inefficiencies and process issues are discovered
- A reduction in the amount of time needed to complete compliance testing of the minimum standards that may release human capital to perform other activities
- The identification of opportunities to reduce loan servicing costs by analyzing process flows for efficiencies
- An improved understanding of the overall system of internal control and an opportunity to leverage this work to meet COSO requirements for entities subject to this regulation

In October 2000 an initial meeting of the USAP workgroup was convened in Washington, DC to discuss the possibility of revising the USAP. Representatives from the internal auditing departments of most mortgage servicers, as well as the public accounting firms responsible for issuing the signed servicing letters, gathered to open the dialogue with the MBA. The basis for the discussion was a listing of possible USAP revisions and related benefits that were compiled from all constituents. Essentially, the workgroup has decided that USAP does need to be updated and has resolved to approach the AICPA with their concerns and suggestions.

The last decade has given rise to several substantial changes in the mortgage industry. Given the dynamic industry in which mortgage companies operate, doesn't it make sense that the minimum servicing standards for which companies are required to maintain are ever changing to respond to new risks and technology?



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Manufactured Housing Industry Aims for Standardization of Lending Practices

In an effort to consistently provide quality credit products into the asset-backed securities sector of the financial marketplace, the manufactured housing industry has recently embarked on launching a best practices program to establish a minimum set of performance standards for lenders. The following article presents a brief overview of this voluntary program and the key components of the minimum performance standards.

Over the past 18 months, the national manufactured housing industry trade association, Manufactured Housing Institute (MHI), has developed a standardized group of minimum performance standards for the lenders within this sector of the asset-backed securities marketplace. The primary rationale for establishing these performance standards is to enhance the level of assurances to the financial markets regarding the quality of the industry's finance receivables. Rating agency, investment banker, and investor confidence in lending products secured by manufactured housing is critical to the continuous flow of capital into this important sector of the asset-backed securities market. Absent this support and regular flow of capital, the entire manufactured housing industry — including manufacturers, retailers, lenders and most importantly, the manufactured home buyer — would suffer from the resultant financial constraints.

Program Overview

MHI's initiative, currently referred to as the Lender Best Practices Program, is a voluntary program under which lenders within the manufactured housing industry may participate to facilitate the financing component of a manufactured home sale transaction. This program has been developed by an MHI task force comprised of various manufactured housing lenders and retailers. While final roll-out of this program is subject to the approval of various interested parties, the underlying minimum performance standards central to the program have been substantially determined and defined.

The central theme behind the Lender Best Practices Program is to establish a framework specifically designed to increase the volume and stability of funding sources available to a participating lender by

demonstrating loan quality control through the consistent application of systems and operational standards in the financing process. The Lender Best Practices Program, as currently developed, would work as follows:

- First, the lender must choose to participate — participation is not required of all lenders as the Lender Best Practices Program is a voluntary program; however, to participate, the lending institution must a) be a member of MHI; b) agree to comply with all aspects of the Lender Best Practices Program; and c) agree to pay the fees associated with participation in the program.
- Second, the participating lender must create a plan that details the systems, policies, and procedures currently established (or which will be established) to maintain adherence to the MHI-developed minimum performance standards.
- Next, the participating lending institution's plan — as well as their ongoing compliance with the provisions of the plan - would be subject to examinations by an independent, third party firm (as approved by MHI) to ensure that:
 - the plan conforms with the minimum performance standards, and
 - the participating lender's ongoing operations are in compliance with the provisions of their internally-developed plan.
- Lastly, a participating lender satisfactorily meeting these requirements and demonstrating continued compliance with the minimum performance standards would be awarded with a status designation that could be used in advertising and other communications.

This status designation would be recognized by the rating agencies, investment bankers, and investors within the asset-backed securities market, thereby indicating that the participating lending institution has consistently applied a system of policies and procedures designed to assure the validity of the underlying credit information.

Minimum Performance Standards

Lending institutions participating under the Lenders Best Practices Program must demonstrate a minimum level of standards in the following four performance areas:

- Program Guidelines and Quality Control;
- Loan Origination, Underwriting, Servicing, and Reporting;
- Borrower Information and Verification; and,
- Business Partner Approval, Training, and Information Verification.

Each of these four areas and the related minimum performance standards are briefly summarized in the following section:

- *Program Guidelines and Quality Control* — The initial performance area relates to the appropriateness of safeguards against misrepresentations and other fraudulent activities and the specific guidelines regarding actions to be taken if misrepresentations and fraudulent activities are encountered. Key components of the minimum standards in this performance area would require the lender to have in place the following:
 - policies and procedures to prevent fraud and misrepresentation
 - rules of accountability for employees involved in the origination and purchase of manufactured housing loans
 - periodic training requirements
 - quality control plans and review procedures
 - corrective actions to be taken when policy violations are identified

- *Loan Origination, Underwriting, Servicing, and Reporting* — The next performance area relates to underwriting criteria and the systems in place for the servicing and reporting of loan performance. Key components of the minimum standards in this area would include:

- verification procedures for borrower income, employment status, and downpayment
- loan closing and document retention policies and procedures
- quality control plans and review procedures
- policies and procedures for underwriting, including specified limits for judgmental and policy overrides
- independent validation of internally developed credit scoring models and automated underwriting systems
- policies and procedures for collection of delinquent loans as well as foreclosure and repossession activities
- periodic training requirements
- reporting of historical loan performance
- compliance with fair lending and other regulatory considerations

- *Borrowers* — This performance area relates to the accuracy and completeness of borrower information obtained through the financing process. Key components of the minimum standards in this performance area would include:

- independent verification of borrower information
- analyses of credit bureau information and loan application information and procedures undertaken if any inconsistencies identified
- exception funding approval policies and procedures
- corrective actions to be taken if fraud and/or misrepresentations identified

- *Business Partner Approval, Training, and Information Verification* — The final performance area is intended to provide additional assurances that manufactured housing retailers, brokers, and other business partners within the financing transaction

perform pursuant to agreed-upon practices and procedures, with appropriate monitoring of performance by the lender. Significant standards within this area include:

- policies and procedures related to the approval and qualification of business partners
- corrective actions to be taken if fraud and/or misrepresentations are identified
- ongoing standards/requirements to maintain the lender-business partner relationship
- dispute resolution procedures

Summary

In recent years, the manufactured housing finance industry has been experiencing inconsistent credit and financial performance with respect to the delivery of quality lending products into the asset-backed securities marketplace. This has, at times, tainted the overall confidence of the investment community in the

industry's loan products. The Lender Best Practices Program initiative as currently developed by the Manufactured Housing Institute is an example of the industry's internal, ongoing efforts to provide additional assurances to the financial marketplace regarding the quality of the industry's loan products. The minimum performance standards proposed within the Lender Best Practices Program represent fundamental controls that are integral to the operations of any institution lending in this sector, particularly those desiring to restore rating agency, investment banker, and investor confidence.



PricewaterhouseCoopers has assisted the Manufactured Housing Institute in the development of the minimum performance standards and the Lender Best Practices Program and has significant experience with the lending, servicing and securitization activities within this sector of the asset-backed securities marketplace. For more information, contact Michael Stork at (612) 596-6407 or michael.stork@us.pwcglobal.com.

NO TIME TO TRAIN?

PricewaterhouseCoopers offers customized mortgage banking continuing education courses to help train new hires, cross-train experienced personnel, and keep corporate staff, supervisors, and department leaders up-to-speed on current issues impacting the mortgage banking industry. Courses recently conducted for our clients include:

Mortgage Banking Overview

Secondary Marketing Tactics and Techniques

The Course on Mortgage Servicing Rights

Executive Level FAS 133 Issues

The Impact of FAS 133 on the Mortgage Banking Industry

Customer Care Techniques

Accounting and Reporting in Mortgage Banking

Servicing Compliance

Over 1,000 individuals have participated in these specialized courses. Courses are customized to attendees' business and experience level and are taught by experienced professionals.

For more information, please contact Jason Leitner at (212) 596-7427 or jason.leitner@us.pwcglobal.com or Andrea Connor at (617) 439-7395 or andrea.connor@us.pwcglobal.com.

Highlights from the PricewaterhouseCoopers Warehouse Lending Collateral Handling Operations Survey

PricewaterhouseCoopers conducted a comprehensive survey of industry practices surrounding warehouse collateral handling operations. This article summarizes some of the findings of this survey, for which many of the top 15 warehouse lenders (based on outstanding commitments) participated.

Strong collateral handling operations remain an integral part of a warehouse lender's operations and risk management practices. As the field of players in the industry continues to decline and the characteristics of the typical warehouse lending customer move towards the small to mid-sized mortgage company, strong collateral handling practices are becoming an increasingly important tool to mitigate the risk of loss and ensure the efficiency of operations to help the business remain profitable. Additionally, the warehouse lending industry has begun to see a steady increase in losses over the past few years, when the business has historically had very minimal losses. Several of these recent losses have been due to fraud, therefore control over the underlying collateral has been an increasingly important aspect of the business.

Survey Results

The following observations were noted from the survey:

Organization and Structure of the Department

- The warehouse lenders surveyed indicated that "middle-market" customers comprise the majority of the portfolio. Middle-market was defined as a medium sized independent mortgage company, generally with total assets consisting of \$100 million or more and a servicing portfolio of \$2 billion or more.
- Collateral handling operations are structured by customer, and collateral handling operations personnel are assigned primarily by the complexity of the borrower or credit.

Advance Methodologies

- The most commonly used advance methodology is matched funding, or the process of providing advances against the warehouse line at the individual loan level for the collateral. Borrowing bases are used as an advance methodology; however, this methodology is most often reserved for larger mortgage companies that have excess liquidity and do not require funding on a loan by loan basis.
- The average number of sublimits (i.e., concentration limits by product, wet vs. dry advances, committed for sale in the secondary mortgage market vs. uncommitted, etc.) contained within the warehouse lines is four.
- Availability calculations under the line commitment and sublimits are generally performed prior to each advance request from the customer.

Funding

- Most respondents typically fund advances against the warehouse line of credit twice each day, with one advance being a swing line advance.
- The most often used funding mechanism for advances is wire transfers.
- Most respondents perform secondary wire authorizations that consist primarily of a verification of the accuracy of the input to the wire system.
- Loan operations or a funding department within collateral handling operations is the primary area responsible for processing funding of advances against the warehouse line of credit, as well as processing payoff against the line of credit from proceeds from sale of the underlying mortgage loan collateral in the secondary mortgage market.

Miscellaneous Collateral Handling Issues

- Most collateral handling processes are performed manually, including wet advance requests, updates to the collateral system upon receipt of the dry loan package, and shipping of the dry loan package to the ultimate investor, etc. We see this as one opportunity for most warehouse lenders to improve the efficiency of their operations through automation of these processes by electronic uploads of data to the collateral handling system, as opposed to manual updates.
- E-mail and bulletin boards are the most often used medium for electronic data transmissions. Very few respondents indicated use of the Internet, which we believe is a medium that could significantly improve efficiency of operations for warehouse lenders through automated updates to the collateral handling system, as well as report generation for its customers (i.e., detail of mortgage loan collateral on the warehouse line, summaries of daily activity, etc.).
- Most respondents verify dry loan packages prior to updating the loan status on the collateral handling system or giving credit in the calculation of availability on the warehouse line and within the sublimits.
- Statements and reports of activity are generally produced daily and provided to the customers for reconciliation. These reports are generally sent to the customers by fax or by mail.
- Audits are performed on customer's collateral and operations; however, there was not a consensus on when the audit should be scheduled, such as when a customer becomes troubled or when the lender notes "red flags." We see this as one area where most warehouse lenders should consider performing these operation reviews of customers when potential red flags occur, as opposed to on an annual cycle prior to renewal of the warehouse line, or when the loans become troubled. Considering the changing nature of the customer base for most warehouse lenders (i.e., a continued shift toward the small to mid-sized mortgage companies that originate more than just conforming agency paper), warehouse lenders should consider a more risk based approach to these operational reviews.

Management Reporting

- Most respondents receive detailed volume and aging reports; however, trending, exception, and profitability

reports are not as widely obtained. Most respondents indicate limitations of the collateral handling system used as the reason these reports were not generated; however, alternate processes have generally not been developed to provide this information. We see this as one area upon which most warehouse lenders could improve. Timely receipt and review of trend and exception reports can help to identify potential problems or red flags early, which will put the warehouse lender in a better position to mitigate the risk of loss. Additionally, thorough profitability reports by customer and product will help warehouse lenders to properly price their products for risks taken, as well as provide the information necessary to determine whether the lender is making a reasonable profit from its relationships.

Collateral Valuation

- There is not a significant difference between the advance rates used for prime products vs. subprime and home equity products. Given the vast difference in the liquidity of the market for some of these products and the difficulty in hedging certain products, we would have expected to see lower advance rates for certain loan products.
- Independent valuations are generally required for loans collateralized by mortgage servicing rights.

Summary

Given the changes in the market place, strong controls over collateral handling is crucial to the efficiency and profitability of a warehouse lender. We see significant opportunities for most warehouse lenders to improve their operations by investing in technology to improve the efficiency and effectiveness of operations; providing information necessary to identify trends and potential problems early through better management reporting; and structuring transactions such that the risks of the loan and the underlying collateral have been appropriately considered.



For additional information about the survey, or to learn how you can participate in future surveys, please contact Timothy Kviz at (612) 596-6436 or at timothy.kviz@us.pwcglobal.com.

FAS 140 Replaces FAS 125

Overview

This past September, the Financial Accounting Standards Board superseded FAS 125, “Accounting for Transfers and Servicing of Financial Assets and Extinguishment of Liabilities” with FAS 140. As a direct replacement of FAS 125, it carries forward many of the principles of FAS 125 while incorporating technical amendments to certain key points.

In essence, the Statement revises the standards for the accounting for securitizations and other transfers of financial assets and collateral, and in places requires substantial new disclosures. Although many of FAS 125’s provisions have been carried over without reconsideration, there are some major changes that will need to be considered.

The effective date for the Statement, further explained below, can vary. But in summary, the new disclosures will need to be adopted for any period ending after December 15, 2000 and new transfers of financial assets should generally follow FAS 125 until after March 31, 2001.

Key Amendments

Qualifying Special Purpose Entity’s (QSPEs) — Qualifications and Consolidations

- The qualifying conditions for a QSPE have been amended slightly. The key change is that in contrast to the 1% threshold dictated in FAS 125, third parties must now acquire at least 10% of the QSPEs’ beneficial interests (based on fair values), unless the transfer is a guaranteed mortgage securitization (defined as a “securitization of mortgage loans that is within the scope of Statement 65, as amended, including a substantive guarantee by a third party”).
- In addition, for the first time FAS 140 limits what the QSPE may hold, for example, to passive financial assets transferred to it, passive derivative financial instruments that belong to beneficial interests issued or sold, and guarantees and collateral rights that pertain to the assets it holds.
- Finally, a qualifying SPE cannot be consolidated onto the books of the transferor or its affiliates.

Removal-of-Accounts Provisions — Narrowing of the Types of Provisions Compatible with Sale Accounting

- FAS 140 significantly restricts the number of seller call options, commonly known as removal-of-accounts provisions, that can be retained over the assets transferred and still obtain sale accounting for the transfer of the financial assets.
- Whether such provisions preclude sale accounting depends on whether the transferor maintains effective control over the transferred assets.
- The new guidance in the Statement focuses on specific provision themes to consider, namely, whether removal of assets already transferred can be undertaken unilaterally and for specific assets as identified by the transferor. In contrast, transfers of financial assets subject to calls embedded by the issuers of the financial instruments, for example, callable bonds or prepayable mortgage loans, do not preclude sale accounting. Such embedded calls do not result in the transferor’s maintaining effective control, because it is the issuer rather than the transferor who holds the call.
- Clean-up calls should continue to be allowable for sale treatment.

Significantly Enhanced Disclosures for Securitizations and Retained Interests, When Accounted for As a Sale

- Disclosure requirements in this area are now greatly expanded, especially where a transfer of financial assets has been undertaken during the period and a sale has been recognized. As discussed, these disclosure requirements are effective December 31, 2000. For each major asset class the entity must now disclose:
 1. Accounting policies used to measure any retained interests and the methodology used to determine their fair values.
 2. The characteristics of securitizations and the gain or loss recognized from sales of financial assets in securitizations.
 3. Key assumptions used in measuring the fair value of retained interests at the time of securitization.
 4. Cash flows between the securitization SPE and the transferor, unless reported separately elsewhere in the financial statements or notes.

- Additional disclosures are also now required for any new interests an entity has retained in securitized financial assets during the latest reporting period. These should include:

- A sensitivity analysis or stress test showing the hypothetical effect on the fair value of those interests of two or more unfavorable variations from the expected levels for each key assumption, and a description of the objectives, methodology, and limitations of the sensitivity analysis or stress test.

- For securitized assets and any other financial assets that it manages together with them:

- The total principal amount outstanding, the portion that has been derecognized, and the portion that continues to be recognized in each category reported in the statement of financial position, at the end of the period.
- Delinquencies at the end of the period.
- Credit losses, net of recoveries, during the period.

- Finally, enhanced disclosures for collateral now require disclosure of the entity's policy for collateral and security lending and the amounts of any assets pledged as collateral not disclosed separately elsewhere in the financial statements.

Disclosure of Gains and Losses with Retained Subordinated Interests

- When a securitization features a subordinated interest retained by the transferor, FAS 140 now requires the transferor to identify and explain if any gain recognized at sale would have been greater than if the entire asset had been sold instead (with no retained interest), or to the contrary, if any losses recognized on the sale would have been higher. The new Statement requires this to be explained in the notes to the financial statements as it states that it is therefore likely that the impact of the retained interest being subordinate to a senior interest has not been adequately considered in the determination of the fair value of the subordinated retained interest.

Elimination of Special Treatment for FDIC Insured Banks

- To level the playing field, FAS 140 eliminates any special treatment for FDIC insured banks, requiring them to be held to the same isolation standards with respect to securitizations as any other entity.

Implementation Rules

FAS 140 comes into force for new transfers of financial assets effective March 31, 2001. Until then, FAS 125 continues in force and should be followed. But it is not quite as simple as that:

- Any transfers made after March 31, 2001 under exiting commitments to beneficial interest holders unaffiliated to the transferor or its affiliates and agents, should continue to be accounted for under the accounting principles in place at the date the commitment was made.
- Any QSPEs that do not qualify under FAS 140 can be 'grandfathered' provided they maintain their QSPE status under FAS 125, do not issue new beneficial interests after March 31, 2001, and do not receive assets over and beyond commitments already in place.



LOOKING FOR BEST PRACTICES IN THE MORTGAGE INDUSTRY?

- The new disclosures discussed must be adopted in full this year for fiscal years ending after December 15, 2000. However, FAS 140 does not require comparative disclosures for securitizations in periods ending on or before December 15, 2000. In addition, the new disclosures and reclassifications required for collateral transferred in secured financings are effective December 15, 2000 with prior period comparatives not required.
- Finally, any collateral previously recognized by creditors under FAS 125 but no longer allowable under FAS 140 should no longer be recognized in financial statements for periods ending after December 15, 2000 and the prior period comparatives should be restated for that effect.

Summary

FAS 140 introduces some significant changes in its replacement of FAS 125. As a replacement of the previous Statement rather than a separate amendment to be analyzed, it should be easier to digest. This article extracts the key changes but the entire Statement should be read in full to fully appreciate the extent and nature of some of these changes. A draft on an implementation guide should follow from the FASB before March 31, 2001 to further assist in determining how the amendment will affect business.



For more information on FAS 140, please contact Tom Jeter at (415) 498-7569 or tom.jeter@us.pwcglobal.com, Richard Rollinshaw at (415) 498-7872 or richard.m.rollinshaw@us.pwcglobal.com or David Guy at (612) 596-8101 or at david.guy@us.pwcglobal.com.

The Mortgage Banking Services Group of PricewaterhouseCoopers has been at the forefront of developing and publishing surveys regarding emerging trends and significant issues affecting the industry. If your company would like to participate in one of our surveys, please contact the following survey leaders:

Quarterly Customer Retention Survey

Martin Hurden, (617) 428-8463, martin.hurden@us.pwcglobal.com
Anthony Muoio, (617) 428-8178, anthony.muio@us.pwcglobal.com

*Quarterly MSR Survey**

Jon Martin, (617) 439-7368, jonathan.martin@us.pwcglobal.com
Petko Vatev, (617) 428-8821, petko.vatev@us.pwcglobal.com

Foreclosure Loss Survey

John M. Adams, (617) 428-8016, john.m.adams@us.pwcglobal.com
Dylan Mann, (414) 212-1751, dylan.mann@us.pwcglobal.com

Warehouse Lending Survey

Tim Kviz, (612) 596-6436,
timothy.kviz@us.pwcglobal.com

Alternative Asset Class Exception Reporting Metrics

Mike English, (212) 596-7357, michael.english@us.pwcglobal.com
Michael Hollerich, (212) 520-2696, michael.hollerich@us.pwcglobal.com

Please note that all surveys are published on a "no-name" basis and all information is held in the strictest confidence. Surveys are generally not distributed in the public domain but an overview of survey results is occasionally included in our newsletter and other select publications.

**Our MSR Survey currently covers the industry's top 15 mortgage servicers and focuses on accounting, valuation, and risk management issues associated with their mortgage servicing right portfolios. There has been a lot of interest from companies that fall out of that range to participate in the survey. Companies outside that range have indicated that in order to compare data more accurately, a separate survey would be more beneficial and, as such, have requested a separate survey. If you are interested in taking part in such a survey, please contact Jon Martin at (617) 439-7368 or jonathan.martin@us.pwcglobal.com or Petko Vatev at (617) 428-8821 or petko.vatev@us.pwcglobal.com.*

Complexities in the Asset Securitization Industry

Asset securitization is an increasingly attractive source of funding. In fact, in 1999 the industry saw more than \$400 billion mortgage-backed and over \$350 billion of asset-backed instruments issued. Contributors to these markets include residential mortgage, commercial mortgage, home equity, collateralized bond obligations (CBO) and collateralized loan obligations (CLO), credit card, auto, and other equipment, and trade receivable collateral products.

Growth in the industry continues to be driven by new asset types, structures, tax and accounting regulations, and a further acceptance of securitization in the capital markets. However, as the industry matures, it continues to experience its share of bumps and bruises. Servicer defaults, incorrect payment calculations, and incomplete or delayed reporting are just some of the events that have investors and the rating agencies asking the following questions:

- Once a transaction has closed, what happens to it?
- Who is responsible for the ongoing calculations, reporting, and monitoring of the collateral and bond distributions?
- Who is monitoring the parties performing the calculations and reporting for capabilities and capacity?
- How accurate should investor reporting be?
- To what degree should transactions be monitored?
- What happens when a good deal goes bad?
- With increasing complexities in the market, how can companies leverage technology?

Unfortunately, with the complexities that surround this industry, there are no easy answers.

Understanding the Roles and Responsibilities

From the servicer to the trustee to the issuer to the rating agency, each party to a transaction must have an understanding of its responsibilities. Although these are normally written and explained in the governing

documents, they can be deal or program specific, and can change throughout the life of the deal, i.e., it may be necessary for an organization to take on additional roles when certain events occur.

In order to mitigate the effects of taking on additional responsibilities, an organization must track any amendments to the governing documents as they pertain to each party's compliance to the transaction. They may also monitor responsibilities by identifying the occurrence and frequency of reporting revisions and mispayments, and track the outstanding delinquencies and cumulative losses experienced in the pool of collateral. The performance of the pool can be an indication of the performance of the parties involved.

Not adequately monitoring and preparing for such events can lead to unanticipated operational burdens and expenses. Policies and procedures — and the documentation behind them — need to be complete to capture such changes and include guidelines and implementation plans should they occur. And for the transaction, neglecting these events can lead to a possible downgrade in the ratings that ultimately reduces its liquidity.

Accuracy and Timeliness of Information

The accuracy and timeliness of information can also influence the liquidity of a transaction. The incorrect application of funds can throw balances off from month to month and can have an effect on the payments of principal and interest made through the trust and to investors. Incorrect data concerning the performance of the assets can greatly influence triggers built into the structure.

Assurance that this information is being compiled correctly and in a timely matter can be caught by performing independent calculations, through shadow processing and payment verification. Implementing such procedures comforts investors, rating agencies, and issuers that the transaction is performing as well as it should and serves as the quality control measure that assures its liquidity in the secondary market.

Leveraging Technology

Asset securitization has evolved into a technically complex, highly competitive market. As the industry grows, it places pressure on the systems involved to handle an increase in the number of assets and the number of data items processed. The trend is largely driven by new types of assets being securitized and the structural and reporting requirements of the securities being issued in the marketplace. Other factors such as timeliness, quality control, organizational growth and industry consolidation, and pricing are also placing their requirements on systems. The reliance on systems and the ability to overcome such factors of data storage, aggregation, flow, and reporting is critical for an organization to remain profitable in the industry.

Data Requirements

The complete, accurate, and timely aggregation of asset level data are fundamental requirements for the ongoing calculations of servicer remittances and bond payments for mortgage and asset backed securities. New collateral types and new structures entering the market are adding strains on the systems currently in place by expanding the typical data elements required to process a transaction.

New collateral types introduce characteristics and data elements that are specific to that asset type — from amortization characteristics to performance measures. New security structures may include structural features, or “triggers,” that act as credit enhancements to the outstanding certificate holders when the collateral performs poorly. These characteristics and features may require new data to be collected at either the asset level or at some other intermediate level.

Systems need to be designed to accommodate the storage and flow of data and be flexible for the addition of new collateral types.

Data Processing and Reporting

Many problems experienced by industry participants are directly related to the processing and reporting of collateral level data, the significant increase in the number of assets and data items processed, and the shrinking window of time allotted to perform the calculation and reporting functions.

Collateral processing requires systems that can handle large volumes of information and be utilized as a tool for users for data validation and aggregation of asset level data. Periodic processing of data requires flexibility in the timing and frequency of data updates with batch processing features being available.

Reporting should be designed to include all data necessary to perform bond payment calculations and any pool performance data necessary to perform any trigger calculations. The reporting should include any other items as they pertain to compliance to the covenants in the governing documents to the transaction. And finally, it should include all collections and disbursement information necessary to reconcile the principal and interest account held by the servicer.

Technology has given way to new, effective avenues for processing and investor reporting. Sophisticated database and Web based applications allow for timely and effective processing while offering a wide variety of delivery and presentation methods.

Performance Measures and Forecasting

Access to periodic collateral data should be made available to parties from both inside and outside of the organization. This ensures that the same data is used by all of the parties involved with the transaction.

Internal finance, compliance, and quality control departments depend on asset level data to determine the existence of documentation on the assets and possibly value of the assets prior to securitization. This access can be used to verify performance and compliance to program guidelines.

Market participants rely on asset level reporting as the basic source of information that is needed to analyze, price, trade, and settle the offered securities. Periodic balance and asset information allows for projections and forecasting of cash flows and the application of

“what if” scenario analytics. The ability to access collateral data on demand, in various formats or mediums, allows the parties to make timely decisions in the secondary market.

Finally, periodic data allows participants to track asset and servicer performance, and can be used for risk analysis when evaluating a portfolio. Systems that can be accessed for these ad hoc uses can add value and, consequently, liquidity to a portfolio.

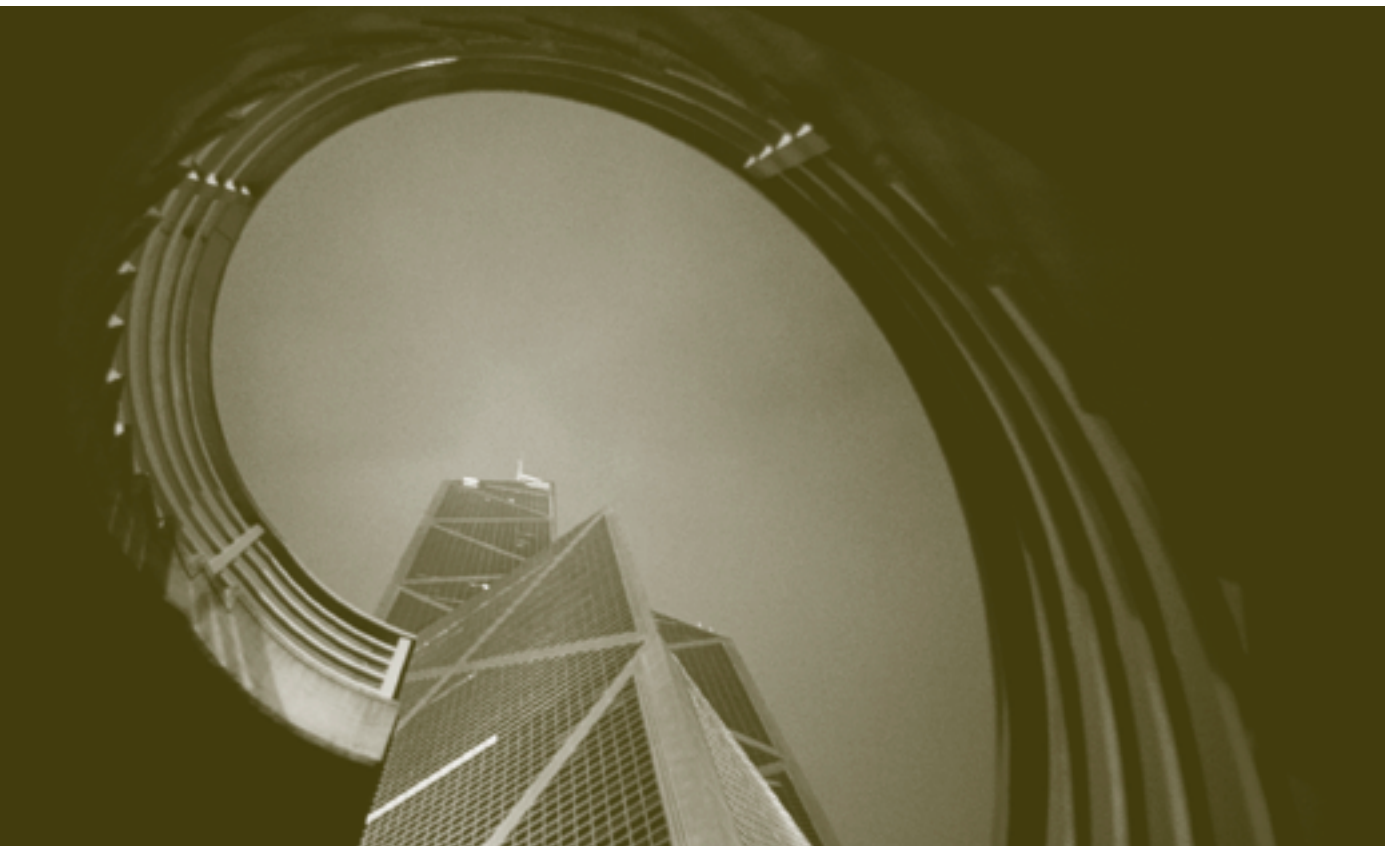
In the industry today, it is critical to build systems flexible enough for portfolio level covenants and ongoing ad-hoc requests from either inside or outside the organization. Reporting requirements on the transactions are becoming more robust with data being offered through “on demand” Web-based applications.

Structural Analytics

With new collateral types being securitized and the market maturing, master servicers, calculation agents, and trustees must be able to handle sophisticated

analytic and payment calculations. Accuracy of these calculations — and the data behind them — require a controlled, secure systems environment. Investor reporting requires portfolio level collection and disbursement information, pool performance, cash reconciliation, and activity. Each piece requires information to be gathered on the asset level and aggregated on the pool or portfolio level. The data may come in from one source or from multiple sources over multiple mediums. Tests need be established to check for accuracy and/or reasonableness of the data as it can have a bearing on the actual payments of principal and interest to the investors.

Overcoming the complexities involved in the industry and placing controls to handle them requires a high level of expertise as well as having access to systems that can perform sophisticated cash flow modeling and reporting. The ability to understand and monitor product specific or deal specific issues, and the ability to make critical decisions, requires knowledge and experience. Today’s employment environment places an added burden on the organization to prepare for the



turnover of existing staff and training of new employees. Further, this demands greater surveillance of the complexities of the transactions and the parties contracted to perform these duties.

Portfolio Growth and Diversity

As the industry grows, portfolios have increased in size and features. Further, due to recent economics and strategic positioning, loan servicers, master servicers, and trustees have experienced a large amount of consolidation. This has lent to the increase of the portfolio sizes through acquisition, which requires the players to take steps to understand each transaction. The larger and more diverse aspects of the portfolio increase the exposure to extraordinary events.

Prospects for Growth in the Industry

Peering into the future, the industry is expected to continue to expand with asset securitization being used by more participants to raise capital. This expansion is pushing across traditional collateral types, such as residential and commercial mortgage products, as well as introducing new products such as future flow assets

and less traditional trade receivables. With securitization expanding across the globe, organizations must be aware of the applicable rules and regulations that govern such transactions, the treatment of foreign currencies, and the ongoing tax implications.

Competition and pricing structures have the service providers scrambling to increase efficiencies and decrease costs. Consolidation amongst the players is expected to continue, adding to the volume of information and data processed in the limited time allotted to turn around the calculations and reporting on the portfolio.

Accordingly, each of these points addresses the need for enhanced services and sophisticated technology. For organizations involved in securitized transactions, acquiring the best services and technology is of critical importance.



For more information on the post closing services offered by the PricewaterhouseCoopers Asset Securitization Group, please contact Holly Holland at (703) 741-1729 or holly.holland@us.pwcglobal.com or Drew Persons at (703) 516-8408 or drew.persons@us.pwcglobal.com.

Regulatory Concern Over Residual Valuation

On December 13, 1999 the Federal Banking and Thrift Regulatory agencies jointly issued a guidance document on asset securitization activities in which they expressed their concern regarding industry practices. The agencies emphasized that both initial and ongoing valuation of the retained portion of securitized assets must be supported by reasonable, conservative, and objectively verifiable assumptions.

The regulators indicated that they would be more rigorously assessing how regulated entities manage and report on securitized assets and related retained interests. The guidance stated that “institutions that lack effective risk management programs or that maintain exposures in retained interests that warrant supervisory concern may be subject to more frequent supervisory review, more stringent capital requirements, or other supervisory action.” The regulators embarked upon a program to train examiners and hire new staff to more carefully evaluate securitization activities. Many

regulated institutions prepared for this heightened level of review in order to avoid unpleasant surprises. Some of the more common problems encountered by these institutions and lessons learned follow.

The most frequently encountered problems have stemmed from significant weaknesses in the securitization practices of some institutions, including non-bank issuers; namely, (1) failure to recognize and hold sufficient capital against recourse obligations; (2) excessive or inadequately supported valuations of retained interests, including, in

some cases, failure to comply with the requirements of FAS 125 (now superceded by FAS 140); (3) liquidity risk associated with over-reliance on securitization as a funding source; (4) inadequate skills to service the loans properly; and (5) absence of adequate independent risk management and audit functions.

To assure that the securitization process is without incident, institutions need to align their current policies and procedures with agency expectations. In reviewing existing policies and procedures, institutions should not consider where they stand against minimum standards, but against industry best practices. Areas that should be reviewed include:

- **Funding** — The stability of existing sources of funds and the plans to access alternative sources of funding.
- **Underwriting** — Monitoring of policy exceptions and judgmental overrides, as well as scorecard development and use of risk-based pricing tools.
- **Servicing** — Collection practices and loss mitigation, bankruptcy, and other processes.
- **Reporting** — Deal maintenance and investor reporting, as well as collateral management process.
- **Hedging** — Reasonableness of hedging strategies and instruments, and an analysis of hedge effectiveness.
- **Valuation** — Assumption development, tracking and change process, sensitivity analysis, and validations by independent third party.
- **Internal Review** — Periodic transaction testing and verification, and compliance with policies, procedures, and covenants.

A significant part of the recent focus by regulators has been on the valuation methodology (specifics of the financial model) and the reasonableness of the assumptions for residual valuations, including retained servicing rights. Accordingly, assumptions should be well supported and well documented, principally by static pool analysis and back-testing. Securitization pool performance should be evaluated under expected performance and, generally, under stress cases as well. Sensitivity of all key variables, such as prepayments,

delinquencies, losses and charge-offs, and excess spread, reflecting their impact on earnings and capital should be conducted as part of the modeling process.

Regulatory capital considerations should be reviewed in the context of the assumptions and model employed. Accurate and timely reporting of recourse obligations, reasonableness of risk-weighting of assets with recourse and related contingencies, deal structure and performance review to identify implicit or inadvertent recourse, and consideration of servicing rights are built into regulators' review of the capital needs. Newer asset classes and those that have been more volatile historically, such as sub-prime mortgages, will likely attract particularly detailed scrutiny. Again, support and documentation of these decisions must be thorough and complete as evidence of a robust process.

In summary, the regulatory agencies are making a substantial commitment to better understanding and evaluating residual valuations, assumption derivation, and model development. This commitment is being made for several reasons: first, to avoid unpleasant surprises with institutions that rely heavily on securitization for their funding sources, and second, for those larger institutions where securitization is an integral, but not dominant, part of their funding strategy, regulatory agencies have recognized the need to be able to accurately assess capital charges. Securitization is here to stay and the regulators are planning to be on the inside of the process, not on the outside. Absent efficient markets to provide realistic market values for these instruments, evidence of a thorough and rational valuation methodology is often the best method by which regulators can evaluate residual interest valuations.



For more information on processes and methodologies to assist in the residual valuation process, please contact Tom Glanfield at (703) 741-1932 or thomas.glanfield@us.pwcglobal.com or Matt Brockwell at (703) 741-1933 or matt.brockwell@us.pwcglobal.com.

Exception Reporting in Alternative Asset Classes

With the roller coaster ride interest rates are on and the uncertainty currently being experienced in the three major housing indices (housing starts, new home sales, and existing home sales), many mortgage banks are looking for new ways to generate higher and more consistent cash flows (i.e., profits). Due in part to the consolidated banking environment, alternative products, such as credit cards, home equity lines of credit (HELOCs), and automobile loans, are now being offered by many mortgage lenders. However, underwriting practices are not as highly regulated in some alternative products as they are in the first mortgage environment. This has, in part, contributed to that fact that delinquency levels are rising and personal bankruptcies are at an all time high. Without due attention being paid to underwriting policies and portfolio characteristics, managers looking to alternative products for more marginal revenue may only find decreasing returns and increasing costs of servicing.

A key component of managing these alternative asset classes is exception reporting. Exception reporting is required in order to provide accountability to a company's business rules. With more focus on exception reporting on first mortgage underwriting and servicing, it is easy for the scope of reporting in alternative asset classes to be too broad, or in some cases non-existent. This article will explore reporting methodologies and review some key reporting metrics that should be tracked in alternative asset class exception reporting.

Exception Reporting Theories

Reporting for operations that are proceeding according to plan should be minimized and attention should be focused on those elements that represent significant deviations from expectations — a fine theory indeed when applied to a bank's primary operation, such as underwriting and/or servicing first mortgages. But what if the appropriate focus isn't being given to an operation in the first place? Meaning, if an operation isn't effectively reporting on its core business (i.e., first mortgages), then how does a bank or loan servicer implement meaningful exception reports to alternative asset classes?

To achieve true exception reporting, one must be able to select records for inclusion in a report based upon significant deviation between an operation's measure and a budgeted, or baseline, amount. Selection of records for inclusion based solely on the magnitude of

an operation's measure is inadequate for exception reporting. For example, a company might have an exception report showing only level 3 or 4 (C or D) auto paper with a loan-to-value (LTV) over 115%. It might have another report to flag first mortgage loans that have never been delinquent, but also have not been subject to a HELOC cross-sell. Reporting the exceptions allows one to cut to the heart of both problems and opportunities, skipping the many instances in which performance is as expected to be. Further, by establishing baselines for exception reports, the tested metrics have more meaning when reviewed by management against current policies and/or industry baselines. Closely monitoring and adjusting these baselines when necessary adds even more meaning to a company's exception reports.

Building on this theory of skipping instances in which performance is as expected, one can explore the method of exception reporting that is referred to as the Pareto analysis — or, more commonly, the 80-20 rule. Its premise is that about 80 percent of the result tend to be generated by about 20 percent of the cause. For example, perhaps 80% of a company's defaulting credit cards are coming from a small percentage of its customers, say, those with debt ratios greater than 55%. By segregating out those customers with high debt ratios and placing them in a higher priority collection queue, the collection effort can be minimized while maximizing quality collection targets. This is just an example of the way techniques can be applied that will allow for a different view of the problems and successes in alternative portfolios.

Exception Reporting Metrics

Little has been written on specific metrics used in exception reporting, be it due to corporate confidentiality or the many varying theories and combinations that managers use in exception reporting. When putting exception metrics in place, one must first analyze the portfolio and decipher from where the largest percentage of problems originate in the current portfolio. This requires detailed knowledge of the business being reviewed. By applying the exception reporting theories discussed above, with detailed industry knowledge, businesses can develop meaningful exception reports that allow them to maximize the efficiency of collection resources and manage underwriting rules in alternative asset classes. Make no mistake, however, the success of implementing an exception reporting program depends not on the theory or methodology, but on the knowledge of the business and resultant metrics that are identified.

Further, exception reports must be spread across all levels of the business process. Exception metrics in the originations area can help managers focus on pricing issues and the effectiveness of campaign management.

Servicing managers must be kept aware of metrics measuring compliance and key collection ratios, or be

subject to possible monetary fines by state and federal agencies. The table below outlines some key exception metrics in four different asset classes.

Although this is just a small sample (PricewaterhouseCoopers has identified over 2000 metrics in the home equity and subprime lending industries alone), it demonstrates that exception metrics can help companies understand problems and act on solutions when reviewing an operation's alternative asset classes. Exception reporting can make essential financial information available throughout the company and be useful to the managers who are actively implementing and sustaining performance measurements that allow for improved processes and decreased costs. Moreover, implementing exception metrics allows people on the financial side of the business to contribute to the success of the organization on the front end, instead of waiting for improvements to show up on the bottom line.



For more information on detailed metrics used in other asset classes, please contact Mike English at (212) 596-7357 or michael.english@us.pwcglobal.com or Michael Hollerich at (215) 740-3938 or michael.hollerich@us.pwcglobal.com.

Asset Class	Metric	Description/Purpose
Auto Loans	■ Credit Score < X with LTV > Y	Track internal credit policy exceptions by measuring potential high-risk customers.
	■ Debt Ratio > X%	Track number of instances where underwriter approvals fall outside internal policies and/or industry baselines.
Sub-Prime Home Lending	■ Fall-Out Reporting	Monitor potential negative pricing trends and processing inefficiencies (e.g., application to funding ratio).
	■ Scorecard Monitoring	Provides management with the ability to monitor 'spread' or 'mix' of business over multiple credit grades. Exceptions arise when volume in one grade of business out-weighs others.
HELOC (Home Equity Line of Credit)	■ Servicing Performance Monitoring	Track compliance with investor, HUD and/or individual state servicing guidelines.
	■ Open lines with no withdrawal in X months	Track existing customers for addition to mail lists and other campaigns. These exceptions may lead to more business from existing customers.
Credit Cards ¹	■ Campaign Management	Track performance/ effectiveness of campaigns by measuring cost to response rate ratio.
	■ Campaign Respondent Quality	Measure customer quality of campaign respondents vs. existing 'like' customers.

¹ Effective campaign management lends itself to exception reporting by allowing a company to track the type of customer garnered by the campaign. If a campaign is costly or attracting non-buying or unprofitable customers (i.e., customers who typically do not utilize credit balances), then these should be considered exceptions to the scope of the campaign.

Critical Success Factors in Implementing a Successful Technology Related Project

The mortgage industry in particular lends itself to the opportunities and challenges of deploying technology to increase efficiency, enable better decision making, improve competitiveness, enhance revenue, and reduce costs. Electronic credit scoring and approval methods, automated appraisals, loan level prepayment models, integrated general ledger reporting, and customer relationship management systems are just a few of the many areas where mortgage companies are spending their IT dollars. However, there is not a direct relationship between the amount of money and resources allocated to the implementation of an information technology project and its complexity. In fact, each project — no matter how big or small — can be driven by some fundamental key concepts. Our experience has shown that without these “basics” as the foundation for the project, the risk of failure increases substantially. Interestingly, none of the success factors is focused on technology itself. Outlined below is a listing of some of the strategies that help ensure a technology implementation has the highest likelihood of success:

Solves critical business problems

Successful technology projects are enablers to address critical business problems. It is our experience that technology projects that are aligned with strategic business objectives have a very good chance of succeeding.

Has executive sponsorship

Executive sponsorship is a critical success factor for any project. This commitment will ensure that the appropriate resources are committed and that when decisions need to be made that impact multiple parts of the organization, they can be done quickly. The executive sponsors need to stay engaged with the project and typically will be part of a project steering committee.

Has appropriate focus

The importance of the project to the organization should dictate the level of involvement of resources from the organization. For mission critical applications it is important to have dedicated resources. The project manager should be responsible for resource allocation and management.

Engages teaming

Successful technology implementations result from a collaborative partnership between business and IT efforts in

which both groups share responsibility for the initiative. “Team” is a key concept for successful projects. The project sponsor has to assemble the skill sets required for success from the various parts of the organization and create a cohesive project team.

Entails frequent communication

The key to successful communication is to overcommunicate. It is also important to ensure that the project team communicates with all of the stakeholders. Successful projects typically have three main types of communication:

- **Daily updates** — At these meetings the project manager ensures that the team is working toward the milestones in the plan and that all issues are identified and addressed. During these meetings the manager can have the team review its accomplishments from the previous day, discuss issues, and agree on the tasks/goals for the day.
- **Weekly core team meeting** — The core team meetings comprise the front line project manager, business managers, and IT managers. At these meetings the project manager will review progress and bring to the team’s attention any issues so that tactical decisions can be made.
- **Biweekly steering committee meeting** — The purpose of this meeting is to ensure that project sponsors are apprised of progress. Critical issues are raised that may require executive support.

In the end, a company that can ensure that the project meets a critical business need, that the company is committed, that a cross functional team of both business and IT is in place, and that through strong project management skills any issues/problems are quickly communicated to all key sponsors, is one that has laid the foundation for success.



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Analyzing the Trend toward Profitability Focused Scoring

Scoring uses statistical modeling to analyze various attributes related to a representative population of loans for the purpose of determining a composite numerical rating for each loan or borrower. There are many different forms of scoring currently in use within the mortgage industry, including borrower or credit scores, loan scores, and entity or institution scores. Borrower scores typically use information collected from various credit reporting agencies about an individual in order to gauge his or her propensity to repay debt obligations. Loan scores use borrower credit scores as their basis, but also factor in attributes specific to the loan itself, such as note rate and loan-to-value ratio, to determine the probability of the loan being repaid. Entity scores go a step further, by combining the results of either borrower scores or loan scores to assess the quality of loans from a third party, such as a correspondent or broker.

Many participants in the mortgage industry believe that there is a strong relationship between these scores and profitability. This belief has resulted in the increased use of borrower, loan, and entity scoring in the industry for the purpose of making credit decisions, setting loan level pricing, determining the optimal mix of servicing techniques, and monitoring third parties such as correspondents and brokers.

However, current limitations in the ability of mortgage companies to track certain operational and financial information at the loan level preclude them from engaging in the statistical modeling analyses that would return a profit score with true predictive value. Instead, while technology strives to keep pace with daily operational data demands, some data gurus have resorted to a more basic analysis of the major factors that drive profitability and are currently tracked within their systems.

Unfortunately, there are relatively few factors that affect the overall profitability of a loan for which data is tracked at the loan level, the most significant of which are prepayment and default. The propensity of a borrower to prepay affects both actual cash flows, such as payoff interest lost, and opportunity costs, such as lost servicing fees. The tendency of a borrower to default affects the cost to service the loan and the net credit losses incurred.

In an effort to confirm or refute the idea that certain characteristics of a borrower and a loan could

accurately predict prepayment (and ultimately profitability), PricewaterhouseCoopers performed a study using loan level data, the results of which are highlighted below.

Prepayments

In general, prepayments occur for five reasons, including (1) interest rate reduction and equity cash-out refinances; (2) relocations and trade-ups; (3) partial payoffs or curtailments; (4) defaults, including foreclosures and bankruptcies; and (5) other reasons. Of these reasons, item 1 is the most prevalent and, as such, represents the largest component of prepayment-related cash flows.

Of the factors that affect the borrower's decision to refinance, the deviation of the borrower's note rate to currently prevailing interest rates is the most obvious factor. However, note rates themselves do not bear a strong relationship to refinancings, as borrowers tend to refinance across all interest rates, dependent upon other variables noted below.

Of the other factors that correlate to a borrower's tendency to refinance, loan size is the most important. The theory behind this relationship is that changes in interest rates affect the total cost of a jumbo loan more significantly than a conforming loan size. Therefore, more than any other factor, the higher the loan balance, the more likely the borrower is to take advantage of opportunities to refinance. As expected, our research

corroborated this theory, indicating an almost exponential relationship between the level of prepayments and the loan balance for loans above \$300,000. This relationship is also influenced by the characteristically high incomes, high credit scores, and low loan-to-value ratios exhibited in borrowers with large loans.

In addition to loan size, loan-to-value ratios appear to have a strong inverse relationship with a borrower's propensity to refinance. Not surprisingly, our data indicated that loans with lower loan-to-value ratios had a higher propensity to prepay. This makes intuitive sense, given that lower loan-to-value ratios are often indicative of borrowers with strong income and credit, all of which increase their ability to refinance. Furthermore, low loan-to-value ratios are often experienced on more seasoned loans, when borrowers may be interested in trading up into a bigger home.

The channel through which a loan is originated also appeared to be a recurring factor in the refinance data studied. The theory that correspondent and broker originated loans would represent a large percentage of refinances due to third party solicitations of borrowers and the probability of the borrower having a lack of loyalty to their loan servicer was demonstrated. Our data reflected that correspondent and brokered loans were up to 1.5 times more likely to prepay than retail loans.

Geographic region has long been viewed as a key driver of refinance activity, based upon the belief that certain demographic areas may, at certain times, experience economic conditions that contribute to faster prepayments such as mobile borrowers and higher home appreciation rates. Our data reflected that, for the period reviewed, the fastest prepayments were experienced in states such as Colorado, California, Nevada, Wyoming, and Oregon. Other states that had notable prepayments included South Dakota, Wisconsin, Arkansas, and Iowa.

The age of a loan also appears to have a slight causal relationship to refinance activity. Our data suggests that as borrower incomes and property values increase over time, there is a natural tendency to prepay, as evidenced by a 30% increase in prepayments between new loans and seasoned loans. This also makes sense given the



probability that there is typically little financial incentive and desire on the part of the borrower to repeat the loan origination process soon after completing it.

Surprisingly, we did not find a strong correlation between credit score and the tendency of a borrower to prepay. Rather, the distribution of refinanced loans was relatively static across different credit score ranges. Borrowers with both high and low credit scores have strong incentives to refinance at different times and for different reasons. Borrowers with high credit scores have low barriers to refinance due to their characteristically higher incomes and lower loan-to-value ratios than borrowers with low credit scores. On the other hand, borrowers with low credit scores also have a propensity to refinance as their credit quality improves over time, explaining the static dispersion of refinance activity across all credit score ranges.

The observations from our study need to be put into perspective. Much of the data, while historical, may not be an accurate predictor of future behavior. Furthermore, we do not purport the ability to model

human behavior; in the end, every loan is different. Furthermore, due to the small relative size of the population of loans studied, these results may not be considered to be statistically valid. Nevertheless, even though these results are not groundbreaking on their own and may not be statistically valid, they do represent some of the basic information necessary to compute a rudimentary profit score.

In the future, as data tracking mechanisms within the industry become more sophisticated, mortgage companies will use a combination of borrower, loan, and entity scores to do more than predict borrower prepayment behavior. Ultimately, industry participants will be able to accurately predict the overall profitability of a loan before it is originated, using factors such as the expected gain or loss on sale, the propensity of a borrower to pay late fees, the cost of advancing funds on behalf of the borrower, and the average float earned on loans sold to a

specific investor. The profit score will become an increasingly powerful tool in designing campaign management programs to target new loans to specific types of borrowers and to improve the profitability of existing borrowers.

Through time, mortgage companies not employing similar technology will be at risk of being adversely selected during the origination process and during bulk acquisitions. Eventually, the use of this technology will be necessary to stay competitive. Until then, mortgage companies that take advantage of this technology will see improvements in operations that will be reflected on the bottom line.



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