

# The Future of Automated Underwriting

## “More Important than Ever”

Research Report

November 2007



*Committed Partner. Creating Results.*

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## Executive Summary

### Top Findings

**General Agreement that Automated Underwriting (AU) is more important than ever (even if people could not agree on exactly what an AU is).** *This lack of ability to discuss AU at a granular level was found to be a major cause of project delay, even failure.*

**Almost all lenders reported difficulty getting the value out of an implementation.** *Companies find the technical issues (and there are many) easier to resolve than the business issues. AU's impact on business model, or transforming process and organization was difficult for many.*

**There is no consensus view for the future of AU, but some scenarios are more likely than others.**

- Manual UW for non-Agency stays the norm – Not Likely
- Multiple AUS offerings by Investors – Not Likely
- Industry Utility will emerge – Possible
- Top-10 will have their own AUS – Likely

### CC Pace Analysis & Point of View

**Companies should emphasize the AU platform as their key operating platform, instead of the LOS.** *The AU platform provides the best way to balance efficiency with loan quality, and to establish consistency and control.*

**The “Top-10” have their AU strategy; many other lenders need to revise theirs.** *A number of companies are modifying their business strategy, have vendor issues, or other reasons that their AU strategy has been called into question.*

**Lenders have an opportunity to implement best practices for rules maintenance, to reduce maintenance cycle times, manual testing required and to improve quality.** *Lack of focus on maintenance was a major cause of frustration and guideline implementation delay. This trickled into difficult testing, longer cycle times and true monetary loss.*

**Suitability testing will be the next great battleground for decisioning.**

**The future direction of automated decisioning will likely be a greater reliance on trusted third party databases for data verification than relying upon borrower supplied data.**

## Introduction

The summer of 2007 was a period of tremendous turmoil in both the mortgage industry and capital markets. As markets deteriorated, industry participants began to question the role of underwriting, or lack thereof, in the quality of the mortgage loans originated in the past few years. Were Automated Underwriting Systems part of the problem? What is the future of Automated Underwriting (AU)?

To better answer these and other questions, CC Pace conducted a research effort to determine lenders' opinions on the future of automated underwriting. The research led us to conclude that AU was in fact more important than ever. This paper presents the results of CC Pace's research, along with our analysis and insights.

### What is Automated Underwriting?

Even though every person we contacted was willing to talk about AU, each had their own definition of what it meant. Most people, however, could agree on a general definition:

**Automated Underwriting:** A system that provides a full credit decision and loan specific conditions, based on the data provided and a trusted credit report, which carries the same weight as a human underwriter's decision. It is subject to income, property and other data verification. It answers the questions: "Is this loan approved? What do I have to do?"

However, below that level, people differed significantly in the details.  
(See *Findings for details*.)

We found there was also some confusion regarding other decisioning tools that could best be defined as:

**Product, Pricing & Eligibility engines (PPE):** A query showing the products a loan is eligible for, and the current pricing (rate/point combos) for a selected product. "Assuming that this loan is approved, what product and price can I offer the customer?"

**PreQual:** Decision-based, "rate sheet"- level rules using a minimal set of input data focused on questions about credit and debt-to-income. "How can I structure this loan to qualify?"

**Decisioning Systems:** A combination of PreQual, PPE and AU tools.

*Our respondents clearly described how the lack of clarity of definition and unshared assumptions about what AU means was a major cause of project delays and even project failure.*

## Research Methodology

The objective of our research was to better understand the industry's beliefs about the current AU marketplace and its future direction. CC Pace interviewed a cross-section of the industry to gather data and insights. Our focus was on lenders but we also included a number of mortgage insurance companies and vendors in our process. In all we interviewed 40 people from 32 companies across four industry segments ("Top-10" lenders, other leading lenders, third-party service providers and technology vendors), spending some 30-60 minutes with each of them.

	"Top-10" Lenders	Lending Leaders	Third Party Service Providers	Technology Vendors
Interviews (40 Total)	9	13	9	9
Responsibilities of Interviewees	Sales, Chief Credit Officers, Operations & Due Diligence	Lending Executives, Secondary Marketing, Chief Credit Officers, Operations, Product Development, Operations & Sales	Sr. Executives, Credit Risk Management, Contract UW, Product Development, Sales & Technology	Senior Executives, Sales & Operations

Participants responded candidly, providing their own personal view (not necessarily that of their employers) and were promised anonymity. We asked ten questions, ranging from "What is an AUS?" to having participants rate the likelihood of different scenarios. We tested four hypotheses with our respondents regarding how the AUS market might develop going forward:

- **The Top-10 Lenders will all have proprietary AU systems**
- **There will be multiple AUS' by investors**
- **Loan Prospector & Desktop Underwriter will dominate for agency products, manual underwriting preferred for non-agency products**
- **An industry utility will develop providing access to multiple score cards**

For each scenario, respondents were asked to rate it: **Very Likely, Likely, Possible, Not Likely or Very Unlikely.**

Not all participants provided an answer for each of the four hypotheses, and where we had multiple participants from the same company, the responses were averaged for reporting and analysis.

## Our Findings

There were a number of important findings distilled from our research that provided us with clear insights into both the current state of AU and where we are heading.

- **There is general agreement that AU is more important than ever (even if people could not agree on exactly what an AU is).** *This lack of ability to discuss AU at a granular level was found to be a major cause of project delay, even project failure.*

Our research showed that AU is considered to be more important than ever. **Blame for the current situation was placed on loosened underwriting guidelines and lack of data verification—not that decisions were automated.**

All lenders wanted a single point of decisioning that covered the credit spectrum and intergrates agency decisions.

The participants could agree on the need for an AU and on an operational definition of AU, but once people started to discuss specifics, agreement fell apart. Differences in definition were found along the following lines:

- Is AU a platform or a decision?
- How is the decision made? (rules versus scorecard)
- What is the purpose – credit decisioning consistency, sales efficiency, or operational efficiency?
- Integration of agency systems with lender decisions.

This lack of AU clarity also extended to some vendors and service providers. We saw many examples of vendors unable to differentiate between the requirements for a conduit's purchase decisioning system and a lender's underwriting decisioning system. Their limited awareness and understanding of the current market will also impact the time and effort necessary to reframe their systems.

### CC Pace's AU Workshop

That people could not agree on the specifics of automated underwriting was not news to us. To counteract this issue, CC Pace has held AU workshops for a variety of lenders over the years.

Our workshop is a 2-day offering. We quickly:

- Discover what is important to the client
- Make an assessment of their current state
- Share our wealth of information and insights in a 4 hour customized presentation that typically covers:
  - Interdependence between AU and corporate business model
  - Process and organizational transformation (end-to-end impact)
  - AU as a platform
  - Methods for decisioning – rules and scorecards
- Facilitate a highly interactive AU Strategy brainstorming discussion on how the client can take action. This session is facilitated by CC Pace subject matter experts, and is proven to quickly get to the core questions and help to determine how to move forward.

A separate presentation on the capabilities of the major decisioning vendors is also available.

## Our Findings

- **Almost all lenders reported difficulty getting the expected value from their AUS implementation.**

Companies find the technical issues (and there are many) easier to resolve than the business issues. AU's impact on business model—or transforming process and organization—was difficult for many.

Although many tend to underestimate the technical effort required for rules projects, our research showed that lenders struggle even more with the business transformation around AU. Viewing AU as a technical project led to struggles for our respondents in five areas:

- Many had not given proper consideration to the impact of AU on their business strategy. Lenders found themselves grappling with questions like: Do we use AU to generate high volumes of loans, which is a commodity business focus, or stay as a niche lender? Can we get sales people to say “No” to deals?
- We heard of issues with how data is validated when there is an automated loan approval. Our lenders reported the need for a renewed emphasis on training to ensure that the data is validated instead of simply a cursory review of the document containing the data.
- Most felt the need for a well-defined process for the use of appraisal validation tools (such as AVMs) and fraud tools is critical to ensure quality of the automated loan approval. In most cases these processes were not defined or documented.
- Virtually everyone found that transforming the business processes and organizational structures is harder than they expected. The AU vendors, while adept at the technical implementation, often provide limited support in this area.
- Many lenders started AU projects without first taking the time needed to fully understand the business issues, and the resulting confusion caused delays, missteps and wasted expense.

- **There is no consensus view for the future of AU, but some scenarios are more likely than others.**

As we tested our future state hypotheses with our participants, there was no runaway winner, but some scenarios received more credence than others. As detailed on the next two pages, there was however, a clear loser as a very high number reacted against the likelihood of manual underwriting remaining prevalent for non-agency loans.

## Our Findings

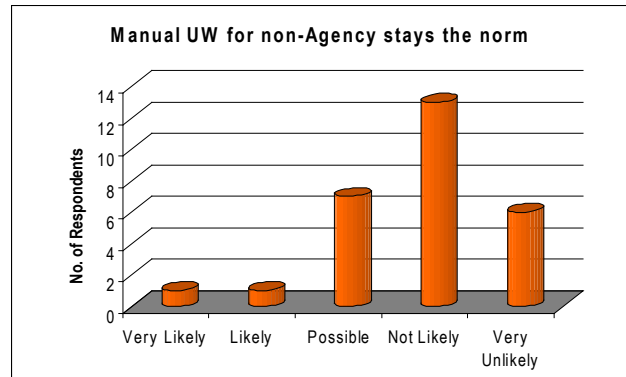
### • Manual Underwriting Will Not Last

In rejecting this scenario, our participants expressed remarkably consistent rationales for why the status quo wouldn't last.

- Because of the liquidity crisis, lenders will manually underwrite non-agency loans over the next 6-12 months, but this was viewed as a short-term response to guidelines changing faster than systems can be updated.

*"Manual underwriting will not be the norm for non-agency product—human underwriters are not necessarily better and they cost more" – Secondary Marketing Manager for a Credit Union.*

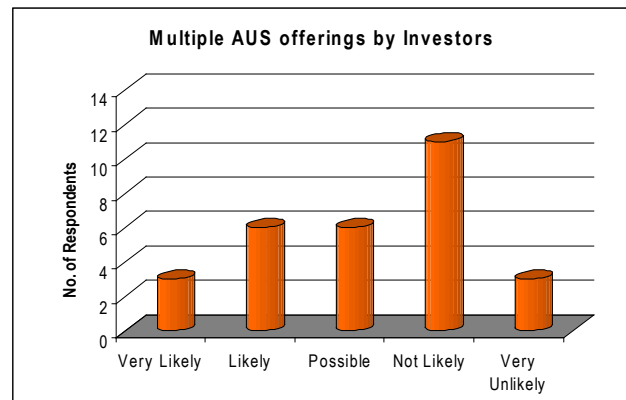
- Non-agency investors will learn from the 2007 crisis and recalibrate their models, especially with respect to layering of risk.



### • Every Investor/Lender Having Their Own AU is Unlikely

Deemed more plausible, but still unlikely, was the notion of investors creating multiple AUS offerings. This hypothesis met with the widest variability of response, related directly to differing expectations for the future of the Alt-A and/or Sub-prime market.

- Many do not expect new AUS development due to investment and data/analytics required. Furthermore, belief that the agencies will expand to Alt-A, negating the need for non-agency AUS'.
- Many agreed that portfolio lenders and



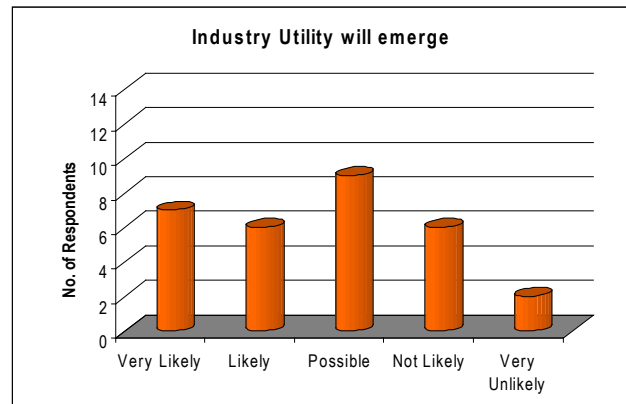
## Our Findings

niche product lenders will want to have their own proprietary AUS.

### • An Industry AU Utility is Possible

While still far from a sure bet, the possibility of the emergence of an industry utility providing access to multiple AUS' was widely held to be distinctly possible.

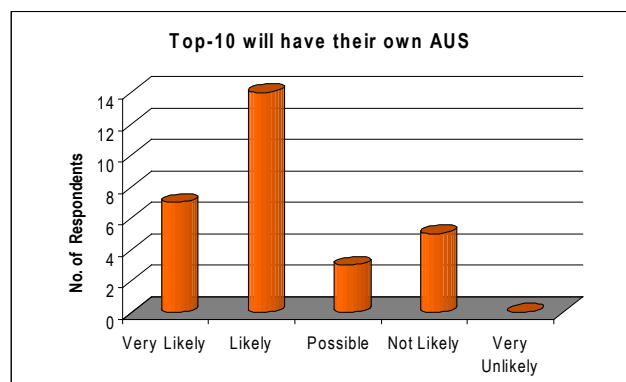
- Many felt that an AU utility might arise, although it was unclear how. Respondents thought it was a good idea, but questioned the viability—people have tried and failed in the past. Some questioned who the driver would be.
- Respondents believe that a third party would provide it but that MI companies, Wall Street and rating agencies could be the driving force. Agencies will stay on the sideline but not resist this development. However, agency involvement would create success.



### • The Top 10 Will Have Their Own AU at POS

The notion of the largest lenders, particularly those in the Top-10 of originators, developing their own proprietary AUS' was considered likely by most of the participants.

- There was strong agreement that the "Top-10" are investing in—and will probably succeed in—establishing their brand at the point of sale (POS).
- Respondents were consistent in thinking that every "Top-10" has or expects to have their own AUS. They want a single decision point for the full credit spectrum, for either their own product or for best execution between the agencies. Each has or will have their own read of mortgage credit, and expects to have an integrated decision engine for cross-selling of other consumer lending products.
- The common wisdom was that vertically integrated Wall Street firms will have their own AUS, but other Wall Street firms will not.



Finally, and importantly, our respondents were offered the opportunity to describe alternative scenarios to what we presented to them. Aside from modest variations on our four themes, they did not offer up any starkly different concepts, leaving us with the assumption that our four hypotheses were well considered.

## What Should This Mean to You

While these findings are informative in and of themselves, analyzing the results and reflecting on the ample anecdotal details provided by our respondents yielded a number of critical points worthy of additional consideration. With clear evidence that AUS is here to stay, and likely to be more important than ever to the way business is conducted, those that fully grasp its strategic value stand to gain the most from its advantages. We developed five key perspectives based on our research.

- **Companies should emphasize the AU platform as their key operating platform, instead of the LOS.**

Lenders have always desired a single point of decisioning. This was accomplished in the past by having different lender entities specialized by credit spectrum (Prime, Alt-A, Sub-prime). Recently, however, more lenders are offering multiple spectrums, and there has been a decline in mono-spectrum lenders.

This business model has created operational difficulties for many resulting from non-integrated decisioning and different workflows (by credit quality) that need to be efficiently managed.

Prior to the downturn many sub-prime lenders, and, to a lesser extent, Alt-A lenders, had already established their decisioning platform (covering sales through clear-to-close) as their key platform, with an LOS employed for the back-end and the final system of record. The CC Pace point of view is that in order to compete effectively, more lenders should move towards this architecture, albeit with proper quality controls in place.

The power of this model is the focus on the sale and the quality of the loan. Controlling these points, raising sales efficiency and pass-through rates will have a greater impact on long-term profitability than the path we have seen many lenders take, which is to focus solely on fulfillment.

Many lenders need to modernize their systems but rightly view LOS replacement as a high-risk proposition. CC Pace believes that an “AU-centric” architecture is not only a good architecture, but also has a less risky transition path with a higher ROI than an “LOS-centric” model that requires transitioning. It will be a challenge, however, for lenders that do not have a clear decisioning strategy.

*The AU platform provides the best way to balance efficiency with loan quality, and to establish consistency and control.*

- **The “Top-10” have their AU strategy; many other lenders need to revise theirs.** *A number of companies are modifying their business strategy, have vendor issues, or have other reasons that their AU strategy has been called into question.*

The “Top-10” lenders are marching down a road of branding their own decisions at point-of-sale. Many other lenders, however, are not in as good shape. Some lenders are dependant upon AU vendors of questionable financial stability. Yet other lenders are totally dependant upon Fannie Mae and Freddie Mac for their AU decisions. Some have used rules-based decisioning but now see the need for risk-based scorecards. But most do not have a clear direction for moving forward, regardless of their current situation.

CC Pace’s point of view is that your decisioning strategy is driven by your business strategy. Do you have a regional market strategy? A niche product strategy? A portfolio strategy? We believe you must get your business strategy in order first, then plan your decisioning strategy to support your business.

## What Should This Mean to You

**So who should have full decisioning?** The non-agency securitization market is in turmoil. But there is still a need for Alt-A and sub-prime lending — filling this need will be a challenge (and therefore, profitable) for lenders that can portfolio these loans. Even jumbo loans fall in this category (although we see the timeline for renewed securitization of jumbo loans significantly ahead of the renewal of sub-prime securitization). Lenders who are originating and buying these loans should absolutely invest in building an AUS. Lenders who are portfolioing or securitizing non-prime loans need to review their AUS for scorecard decisioning versus relying solely on rules. Although it is possible to do so, only a few rules systems have actually been used to develop risk-based scorecards. It is critical that the tools you are working with can actually get you where you want (and need) to go.

But all lenders need a strategy, even if that strategy is to only decision agency loans. And it needs to be a conscious strategy, to control product mix and not waste effort on originating products that will not be funded.

- **Lenders have an opportunity to implement best practices for rules maintenance, to reduce maintenance cycle times and manual testing required, and to improve quality.** *Lack of focus on maintenance was a major cause of frustration and guideline implementation delay. This trickled into difficult testing, longer cycle times and true monetary loss.*

Early in 2007 we assisted several lenders with moving away from guidelines that allowed 100% LTV/CLTV, and found it to be an onerous process. At the time, our discussions with other lenders doing the same thing showed that it was an industry-wide issue, irrespective of what the vendor used for decisioning.

Our experience shows that almost everyone, both in and out of the mortgage industry, under estimates the requirements for maintaining decisioning systems. Few organizations consider maintenance during their initial project. Some vendors are not providing “best practices” guidelines for their products such that the systems are deployed but not easily maintainable. We found that it is not unusual for lenders to have to rewrite their rules post-implementation to make them more maintainable.

Furthermore, rules are system code, and need to be tested thoroughly. Many organizations have reported errors in mapping both the input and output data. Lenders have focused on component testing, not end-to-end testing — much less regression testing. In one case, this led to underwriting using the incorrect ARM rate, increasing the likelihood of defaults and the potential for lawsuits.

### AUS Current State & Maintenance

CC Pace frequently performs Current State Assessments, looking at the technology, process and organization used for maintaining your decisioning systems. Our “quick hit” approach will:

- Examine your process end-to-end for bottlenecks and controls
- Examine your automated regression testing strategy (or help you to establish one)
- Bring our knowledge of techniques that are applicable across vendors
- Typically bring vendor specific “best practices” as well

Our end deliverable is a report to management on your current state and its business implications, including our suggestions for how to best move forward to achieve your desired business outcomes.

## What Should This Mean to You

We believe that a process should be in place from the beginning that covers rules governance and is SOX compliant. Some components of this process would be:

- End-to-end testing methodology
- Different environments and well-defined controls from environment to environment
- Automated Regression testing capability

These steps can significantly lower the cycle time for changes, while increasing accuracy and control.

- **Suitability testing will be the next great battleground for decisioning.**

It is clear that new regulations will be coming out of the current crisis. Some form of suitability or “best loan” testing will likely be a requirement. It is likely that decisioning systems will be required to support it to adequately demonstrate that the borrower was offered appropriate loan types to choose from.

Although we can only speculate on what increased regulation might bring, it would seem likely that a lender would need to show if a borrower was eligible for a prime loan or not, and that they were then offered lowest rate (APR, not just the initial rate), lowest payment, loans with and without mortgage insurance, and the total fees required for such a loan.

Offering this many options is well beyond the capability of most loan officers to do accurately. Automation will be needed to both model suitability and document the actions taken.

- **The future direction of automated decisioning will likely require a greater reliance on trusted third party databases for data verification than relying upon borrower supplied data.**

It is clear that much of the problem with the troubled loans originated in 2005 and 2006 lies with data verification, particularly with stated income data that was not verified for reasonability. We believe that the trend in the future will be to use third party databases more, either directly from the lender’s relationship with a customer or from a vendor intermediary.

This would certainly have risk and process impacts, similar to the original reduction in documentation that Loan Prospector and Desktop Underwriter facilitated. Technically, it will be imperative for lenders to have systems that communicate well to take advantage of these capabilities.

## Conclusions

We concluded from our research that:

- AU is more important than ever, even if people don't agree about what it is exactly.
- Respondents expect all Top-10 lenders to have their own AU, and to use that AU as a key component of their POS branding strategy.
- Many non-Top-10 lenders need to update their AU strategy, especially in the area of non-conforming product, either for their portfolio or for securitization.
- Many lenders are struggling with updating their rules systems, and are not taking advantage of best practices.
- AU platforms will grow in importance in the future.

## More Information

*"Why Should I Care About Rules Engines?"* By Tim Van Tassel and Bill Lehman, available on [www.CCPace.com](http://www.CCPace.com)

## About the Authors

**Karun Khanna**, a Director at CC Pace is focused on the Mortgage Strategy practice. Karun brings a unique blend of 20+ years of operational management and consulting experience in the mortgage lending industry driving process improvements, enabled by technology, with players such as Citicorp, Travelers, US Bancorp and Fannie Mae. He has extensive project management experience developing and implementing enterprise-wide operating platforms, with an in-depth understanding of the needs and challenges of key stakeholders, including mortgage brokers, mortgage lenders, third party settlement services providers, and the secondary market.

**Bill Lehman**, AMP, is CC Pace's Director in charge of the Mortgage Strategy practice. During his 25-year tenure with CC Pace, he has successfully led both strategic and technology projects, including creating the first automated underwriting system approved for sub-prime underwriting by S&P, The Ocwen Express<sup>SM</sup>. His experience includes numerous projects in aligning business and technology strategy, process reengineering, automated underwriting, B2B interfaces, loan origination systems and system selection. Bill has recently overseen engagements for a mixture of start-up and established firms on their future business models, application architectures, technology application selections and the implementation and integration efforts required to meet their aggressive timelines. Bill has published numerous articles, including "Managing Cyclicity" (Mortgage Banking, March 2005), "Why Should I Care about Rules Engines?" (Mortgage Banking, April 2006), "How Do You Keep Business & Technology In Sync to Minimize Issues?" (Mortgage Banking, November 2007) and others. Bill also co-authored the *Technology Handbook for Mortgage Executives*. He has a BS in Computer Science from Rensselaer Polytechnic Institute.

**Rob Larson**, a Managing Consultant with CC Pace, has over 30 years of mortgage experience in all facets of origination and capital markets, including experience as a Mortgage Broker, Mortgage Banker, and President of a Thrift subsidiary. As a consultant with CC Pace, Rob has led many engagements both domestically and internationally. Domestic engagements range from business strategy, target market intelligence to include extensive broker interviews, business process modeling and the development of Activity Based Costing (ABC) models. Internationally, Rob has led engagements in Colombia to select a core business software application and in Turkey to develop business processes and models to purchase, securitize, sell and manage portfolios of loans and securities for a secondary market conduit, an engagement in which he also managed the development of the initial core system.

## About CC Pace

CC Pace is a firm with deep mortgage lending knowledge and experience. For over 25 years, CC Pace has built its reputation on an unwavering commitment to customer satisfaction.

As mortgage industry leaders and innovators, our unique blend of industry knowledge and technical experience ensures maximum returns on business and technology investments from loan origination and secondary marketing to fulfillment and servicing.

Our services include:

- Business and Technology Strategy
- Organizational and Operational Assessment
- Process Improvement
- Program and Project Management
- Software Selection, Implementation, and Integration
- Application Development and Integration

Our core strength is our people, over 150 strong, including seasoned project managers and consultants with extensive experience in the mortgage, capital markets, credit card, and banking sectors. Our rigorous recruiting process yields a workforce of creative, mature and seasoned consultants who consistently deliver high value to our customers.

CC Pace is a relationship-oriented company, priding ourselves on our ability to forge long-term relationships with our clients based on mutual respect and appreciation. We strongly believe that the best way to develop lasting business relationships is to do a job well, on time and on budget, and to exceed expectations. Unlike many of our competitors, our focus is on delivery, not on sales. We take our clients' issues as our own, and feel that we are successful only when we contribute to our clients' success.

## Select Clients

HSBC



FannieMae

Citizens Bank  
Not your typical bank.®

CREDIT SUISSE

NAVY  
FEDERAL

Capital One

imb  
IndymacBank®

CHASE



GMAC

CIT

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GENERAL  
FINANCIAL SERVICES