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Credit Risk Management

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Who Is This Guy?

Mike is the Managing Director for RSM McGladrey's Internal Audit Services. RSM McGladrey is the consulting half of the fifth-largest accounting firm (McGladrey & Pullen, LLP, and RSM McGladrey, Inc.) in the country.

Mike is responsible for managing all of RSM McGladrey's IA-related services provided to credit unions and other related financial services organizations throughout the country. His practice consists of 19 professionals who provide services to over 200 clients annually.

Mike has over 30 years of internal audit experience in the financial institution industry. Mike's credentials include certifications as a Certified Fraud Examiner (CFE), Certified Bank Auditor (CBA), Certified Risk Professional (CRP) and Certified Financial Services Auditor (CFSA).

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Presentation Outline

- What Is Credit Risk Management?
- The Roles in the CRM Equation
- Identifying and Responding to Risk
- Quantifying the Risk
- Monitoring and Managing

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Secret to a Good Presentation

- Good opening
- Good closing

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Secret to a Good Presentation

- Have opening & closing as close together as possible

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Credit Risk Management

- **Loan only to borrowers who will pay you back**

- **Questions?????**

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What Is Credit Risk Management

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What Happened?

- New and untested products
- Erosion of underwriting
- Over-reliance on automated underwriting
- Unrealistic view of the housing market – values would go up forever

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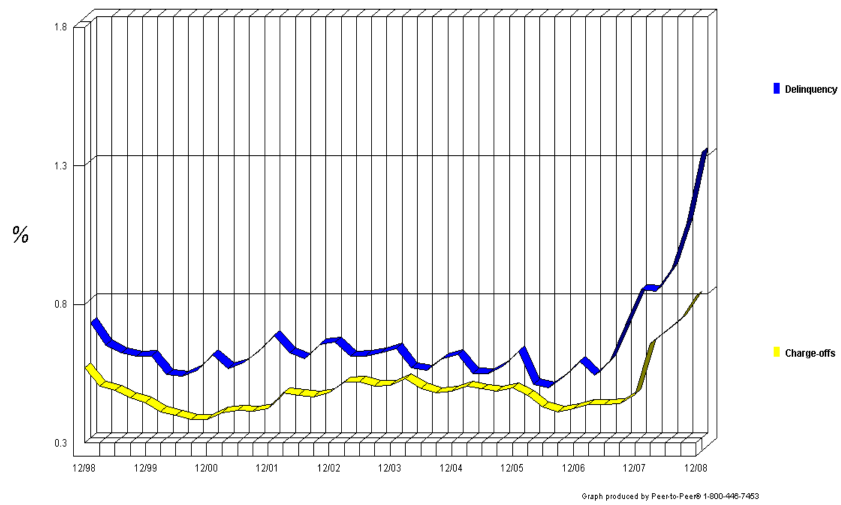
Delinquency and Charge-off Trends (12/08)



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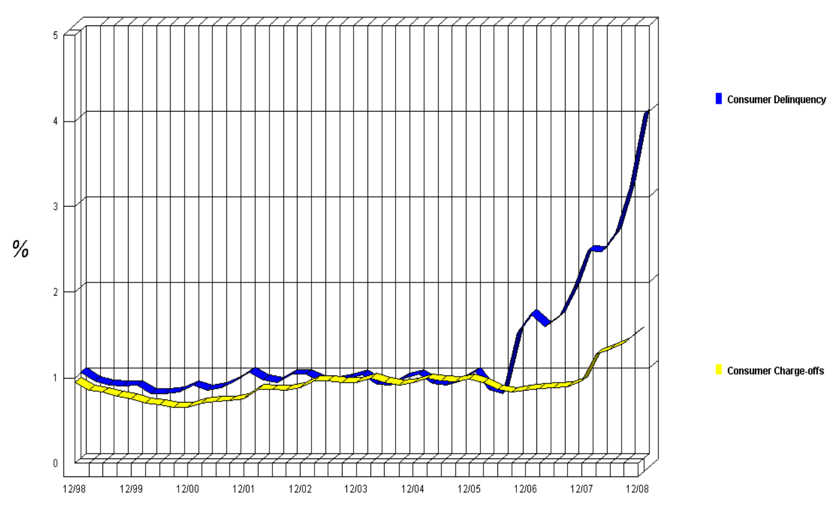
Consumer Delinquency and Charge-off Trends (12/08)



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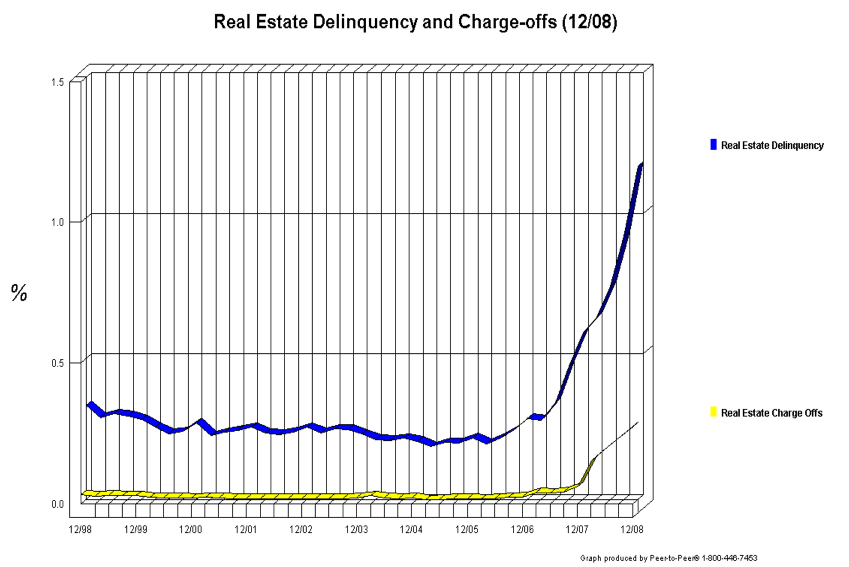

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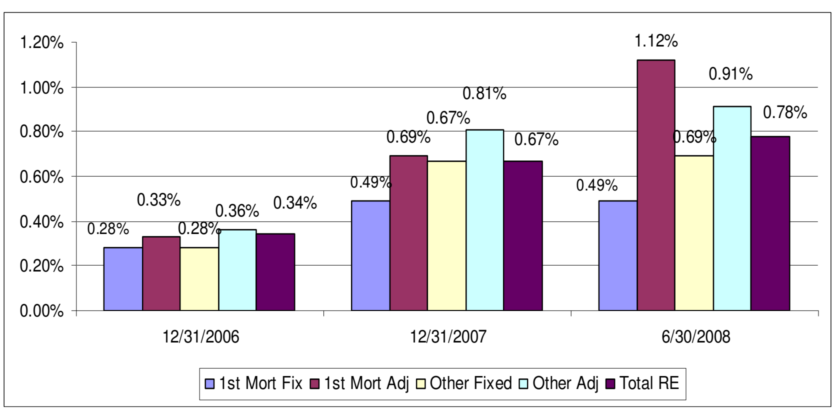
Real Estate Delinquency



Source: NCUA Letter 08-CU-21

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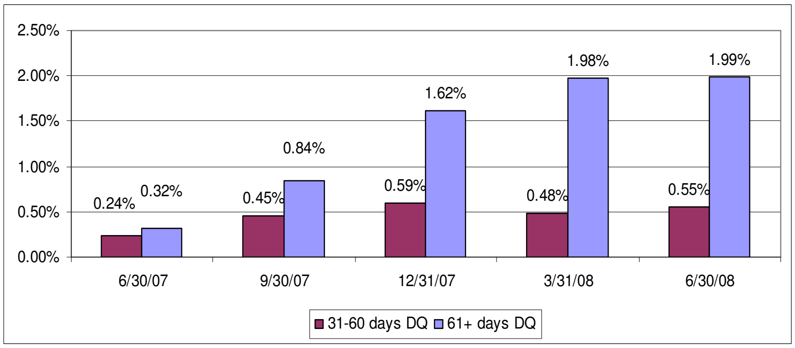
Interest Only & Payment Option Real Estate Loans



As of June 30, 2008: IO & PO loans totaled $7.2 billion or about 2.5% of total real estate loans.

Source: NCUA Presentation, 2008 AICPA Conference on Credit Unions

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Typical Responses to Rising Delinquencies and Charge-offs

- Tightening credit standards
- Closing or reducing credit lines
- Shutting down delivery channels (e.g., indirect auto dealers, subprime 3rd parties)
- Increasing collection activities

Problem: These efforts are generally made AFTER the credit union has begun experiencing increased delinquencies and charge-offs. Delinquency and charge-off statistics are LAGGING indicators.

Solution: A more comprehensive approach to CREDIT RISK MANAGEMENT will foster a greater ability to identify credit problems earlier and to respond more proactively to minimize the credit impact of economic downturns.

Credit Risk Management

- Credit modeling and governance issues are at the heart of the current credit crisis.
- Therefore, the risk weights and assumptions that management had applied historically should be re-examined.

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Credit Risk Management

- In the past, weighting on FICO as an indication of credit risk had been commonly practiced. However, the examination of credit risk relative to only FICO will not render the right focus. There are new behaviors.

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Credit Risk Management

- Delinquency rates among higher FICO rated borrowers are actually increasing.
  - High net worth individuals with high FICOs are one of largest groups in which foreclosure rates are growing
  - Large groups of subprime, low FICO borrowers, actually have performed better than initially anticipated
    - Work hard to keep homes
    - Multiple wage earners

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Credit Risk Management Maturity Model

Where does your Credit Union need to be?

	Now Most Credit Unions	Next Step Risk-based Management	ERM A Strategic Tool
Risk Governance	Credit risk management is primarily the responsibility of the CLO and CEO. Board-approved policies are in place. Credit risk appetite is not quantified.	Credit risk management is within the domain of the ALCO. Credit risk appetite is defined simply as the amount in which capital exceeds the PCA level.	Credit risk management is conducted thru an ERM committee. Credit risk appetite is quantified as one component of the credit union's overall risk appetite.
Risk Assessment	Lending audits are included in the annual internal audit plan. Not risk assessments	Lending business processes are included in the risk universe of an enterprise-wide risk assessment and are integrated with the internal audit plan.	Lending business processes are included in the risk universe of an enterprise-wide risk assessment and are ranked based on inherent risk.
Risk Response	Risk response is mostly about optimizing controls.	Risk response is intuitive. Purposeful decisions are made about where risk is mitigated through controls and where it is accepted.	Risk responses are based on a formal threat analysis process.
Risk Reporting and Monitoring	Historical delinquency and charge-off data.	Loan portfolio composition and key risk indicators. One-time quantification of credit risk to compare it to risk appetite.	Loan portfolio composition and key risk indicators. Ongoing quantification of credit risk based on scenarios – similar to ALM process.
Controls Assurance	Internal audit function conducts audits to determine compliance with established documentation and underwriting standards.	IA tests the effectiveness of controls.	Controls are designed to mitigate risks based on the threat assessment process. IA tests the design and effectiveness of controls in meeting risk mitigation objectives.

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Credit Risk Management – Best Practice Framework

- Determine risk management **governance roles**
- Define and quantify a credit **risk appetite**
- Conduct a **risk assessment** of all lending functional areas
- Conduct a comprehensive **threat analysis** for each significant segment of the loan portfolio
- Determine a **risk response** (e.g., mitigate, transfer, accept or avoid) for each threat
- Identify **key risk indicators**
- Perform **control assessments**

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The Roles in the CRM Equation

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Credit Risk Governance

- Roles
  - CEO
  - CLO
  - CFO
  - Board
  - Supervisory Committee
  - Internal Auditor
  - ALCO
- Risk Appetite

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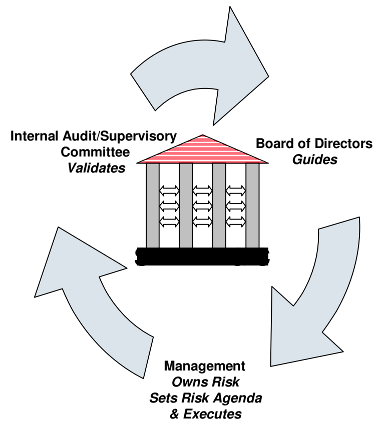
Roles & Responsibilities



Boards expand responsibility beyond strategy to include enterprise risk management.
Risks are the potential impediments to accomplishing the business strategy

The risk agenda becomes *set* by Management and *approved* by the Board.

Management's responsibility becomes the *execution* of the risk program

The Board actively *guides* management

The *validation* of the risk program becomes the focus of the Supervisory Committee and the Internal Audit function.

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Risk According to Donald Rumsfeld

"As we know, there are known knowns. There are things we know we know. We also know there are known unknowns. That is to say we know there are some things we do not know. But there are also unknown unknowns, the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult one."

Source: Donald Rumsfeld, news briefing at the Department of Defense, February 12, 2002.

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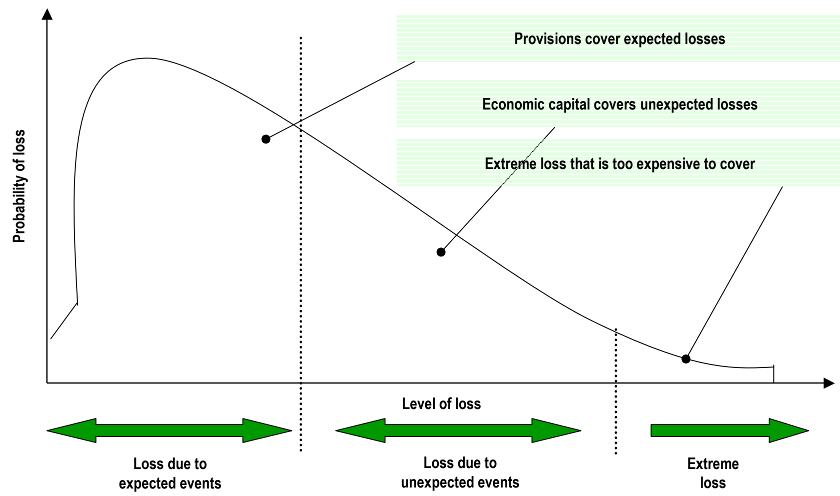
Risk Appetite - Model



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Risk Appetite

- Basically, risk appetite represents the tolerance to incur losses that are:
  - Expected
  - Unexpected
- Extreme loss is too expensive to cover.

Risk Appetite - Simplified

- Most credit unions can simply define their risk appetite as the amount their capital exceeds their minimum regulatory net worth amount.

Identifying and Responding to Risk

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Identifying Problems

- Characteristics of high risk borrowers – not the same
- Last six months of charge-offs – leading indicators
- Borrowers in negative equity positions – know your membership and geography
- Across the board – swinging of the pendulum

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Responding to Risk

Objective: Extract optimum reward from an acceptable risk exposure while minimizing cost of risk response

Risk Responses:
- Mitigation
- Transference
- Acceptance
- Avoidance

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Risk Responses

Mitigation of risk

- Through the implementation of controls, risks can be reduced to an acceptable level. (e.g., dealer management controls for indirect lending)

Transference of risk

- Establishing an agreement, securitization or some sort of insurance that transfers risk to a third party. (e.g., participation loans sold)

Acceptance of risk

- Some risks need to be taken and cannot be cost effectively mitigated or transferred. (e.g., risk-based lending)

Avoidance of risk

- It means saying no to something, whether a new product, service, vendor, or relationship. (e.g., funding a large scale commercial development project)

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Risk Response Exercises

Indirect automobile lending

- Threat 1 – Automobile dealers submit fraudulent loan application data and overstate car values.

- Response – ***Mitigate*** risk through underwriting and dealer management controls.

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Risk Response Exercises

Indirect automobile lending

- Threat 2 – An economic downturn causes higher than anticipated loan defaults.
- Response – ***Accept*** risk and implement portfolio credit quality composition monitoring.

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Risk Response Exercises

Low/no documentation real estate lending

- Threat – Borrowers overstate their capacity to repay new loans.
- Response – ***Avoid*** risk by not offering low documentation real estate loans.

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Risk Response – Key Insights

- Traditional control concepts, such as policies and procedures, continue to be relevant.
- Accepted risks need to be monitored:
  - Key risk indicators
  - Quantification
- Mitigated risks need to be confirmed:
  - Controls design and effectiveness

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Quantifying the Risk

The Traditional Way

- Traditional risk management has led to:
  - Risk left under-managed or untreated
  - False sense of security by Senior Management and the Board that all risk is known and well managed.
  - Interdependencies between risks not understood nor managed
  - Accountability for risk management left to few individuals
  - Root causes of issues not understood nor examined
  - Lack of alignment between Risk Management and the Strategic direction of the Credit Union
  - Inadequate levels of risk governance given business complexities

The Enterprise-wide Way

- An opportunity to look at the Credit Union from a holistic lens.
- A chance to understand the opportunities for benefit (upside) or threats to success (downside) for the organization.
- Defined as any external or internal event or action that can affect the company's ability to execute its strategy and meet its objectives.
- Increases the probability of success, and reduces the probability of failure and uncertainty of achieving the company's overall objectives.
- Translates strategy into tactical and operational objectives, assigning responsibility and accountability throughout the lending function with each manager and employee.
- Therefore, it is central to a company's strategic management, and therefore cannot be a compliance or governance activity, but a valuable management tool.

The Enterprise-wide Way

- Thus, CRM aims to:
  - Reduce Financial Losses
  - Improve Executive Visibility to Risk Exposure
  - Improve Business Performance
  - Improve Monitoring and Governance
- CRM is a *strategic asset to the business* rather than a governance and compliance activity
- CRM is a process effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the scope of the lending activities.

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Inherent Risk Factors

- Likelihood factors (that a weakness exists)
  - Transaction volume
  - Previous incidents
  - Systems maturity
  - Process complexity
  - Third-party involvement
  - Audit scrutiny
- Impact factors (from the exploitation of a weakness)
  - Financial impact
  - Reputation impact
- External factors (industry experience)

Risk Response Process

- Conduct "threat analysis" of
  - Riskiest business processes per credit risk assessment
  - New business processes being considered
- Identify plausible threats that increase the probability and severity of losses.

Key Risk Indicators

- There is a lot of confusion to what a *key risk indicator* is.
- Simply a unit of measure tied to an objective.
- Example:
  - Goal: "Decrease Underwriting Errors to 3%"
  - The Functional Area is <u>Lending</u>
  - Process is <u>Underwriting</u>
  - The Risk is "Loans are not underwritten in accordance with XYZ Credit Union underwriting standards"
  - Control may be "Daily review of all underwritten loans by Sr. Underwriter/supervisor"
  - Key Risk Metric is 3%
  - Quality Control assesses performance against the Risk Metric, inputs the result into overall ERM Risk Report for Senior Management's information.

Functional Area	Process	Risk	Inherent Risk Score	Control	Adequacy Of Control	Risk Response	KRM	Status	Owner	QC Comment
RE Lending	UW	Loans not underwritten to guidelines	144	Daily review and sign off for all underwritten loans by Supervisor		Mitigate	3%	6%	Len Duhr	**Mgt Action Plan Needed. Monitor.**

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Common Key Risk Indicators

- The common credit analytics (Key Risk Indicators) include:
  - Delinquency – total portfolio and by segment
  - Charge-offs – total portfolio and by segment
  - Early stage delinquency – 1 to 2 months
  - FICO
  - Debt to Income
  - LTV
  - House price devaluation or appreciation
    - Depending on location
  - Documentation and product type
    - Concentration of products
    - New product data and performance
    - Documentation standards and performance

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Controls Assessment

- Once risk responses have been determined
- Evaluate the adequacy and design effectiveness of controls throughout the credit union
  - Document controls
  - Assess adequacy, completeness, validity and design of controls and processes
  - Test controls
- Re-engineer controls and processes as needed

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Monitoring and Managing

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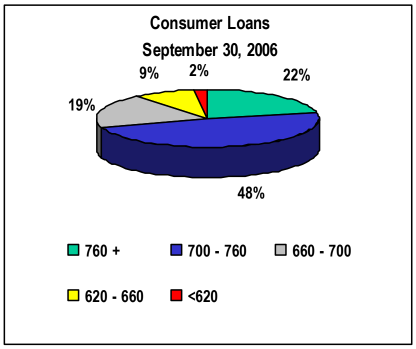
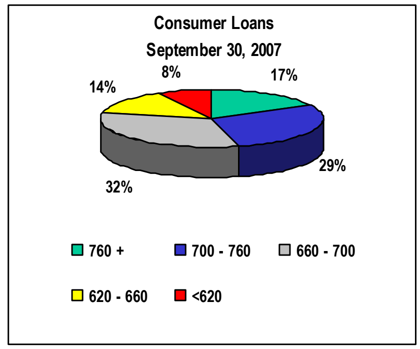
Understanding the Loan Portfolio

- Credit score migration
- Property value migration
- Use of predictive scores
- Pricing validation
- Risk based collections

Credit Score Migration

FICO Composition





Understanding the Loan Portfolio

- **Credit Score Migration** –
  - Scores likely change over time
  - Migration may hint at the existence of “life changes” such as unemployment or decline in income levels, medical/health issues, change in marital status.
  - Mindset of “Loyalty to the Credit Union” is dangerous, despite loans remaining current. Conversely, in positive times, an analysis can help the credit union identify opportunities to loosen credit in order to avoid losing business to its competitors.
  - Suggestion is to perform this quarterly.
- **Portfolio Data Migration –** Similar to above but uses credit bureau to track specific changes in other attributes such as utilization levels of credit lines (unsecured and HELOC), presence of tax liens, number of derogatory accounts.
- **Allowance for Loan Losses** – An improved ability to identify and quantify pockets of risk within the portfolio should go hand in hand with the allowance for loan losses valuation process, especially the economic quantification component.

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Property Value Migration

- Loan-to-Value Analysis – The use of Automated Valuation Models (AVMs) will help provide current property valuations on homes used to secure real estate loans. Uses public record data such as tax assessments, comparable sales, and property characteristics, along with price trend models. LTVs may approach or exceed 100% and/or policy limits.

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Predictive Scores

- Examples of predictive credit scoring models include FairIsaac Bankruptcy Score, Bankruptcy Navigator, Vantage Score.
- Some of the factors considered:
  - Credit utilization (i.e. debt-to-credit ratios and how much credit is available)
  - Available credit (i.e. how much credit can be accessed, for example, could you spend $50,000 of credit tonight or within the next week).
  - Recent Credit (i.e. how recent and many new hard inquiries and new accounts there are)
  - Standard deviation in current and past due balances
- Predictive scores can be used to model economic scenarios similar to ALM models.

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Pricing Validation

- Pricing validation is often overlooked - Pricing decisions often driven by competitive pressures. Initial margins may not have changed since inception of risk-based pricing program. Variable overhead costs should reflect additional collection and other servicing costs.
- Anticipated charge-offs vs actual charge-offs - Many credit unions are already tracking loan charge-offs and delinquencies by tier and loan charge-offs and delinquencies by dealer (indirect loans) - anticipated charge-offs, rising delinquency trends may be more relevant and should be considered in the pricing analysis.
- Pricing results – If margin increases is insufficient to capture additional expected losses, consideration should be given to pulling back on certain products in certain tiers. Examples include pulling back from indirect loans, or limiting indirect loans to existing members.

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Collections - Queue Management

- Queue management – Productivity expectations

Agent Name	Accts	Total Calls	Penetration Rate	RPC	RPC %	Promises Taken	Promises Taken %	Promises Kept	Dollars at Risk	Dollars Collected	Daily Rank
Agent 1	111	210	189%	45	21%	29	64%	75%	$1,665,000	$16,650	1
Agent 2	95	166	175%	34	20%	22	65%	66%	$1,425,000	$14,250	2
Agent 3	159	210	132%	36	17%	23	64%	65%	$2,385,000	$23,850	3
Agent 4	114	200	175%	36	18%	22	61%	66%	$1,710,000	$17,100	4
Agent 5	108	150	139%	25	17%	16	64%	65%	$1,620,000	$16,200	5
Agent 6	111	211	190%	37	18%	25	68%	64%	$1,665,000	$16,650	6
Agent 7	115	210	183%	35	17%	21	60%	65%	$1,725,000	$17,250	7
Agent 8	138	210	152%	38	18%	23	61%	64%	$2,070,000	$20,700	8
Agent 9	141	201	143%	36	18%	22	61%	64%	$2,115,000	$21,150	9
Agent 10	129	199	154%	33	17%	19	58%	63%	$1,935,000	$19,350	10

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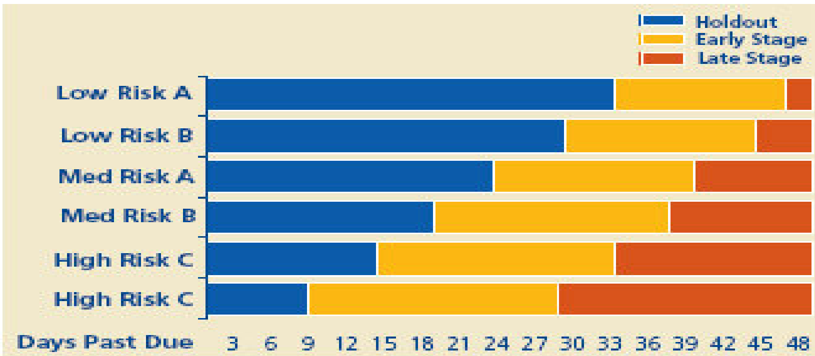
Risk Based Collections

- Risk Based Collections – Prioritization



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Other Collection Considerations

- Expanding hours, expanding staff – use of temps – hard time filling positions in the current economic environment. Some using 3rd parties to work part of the queue.
- Analyze the 30-60 day category closely for adverse trends – This section is not included in reportable delinquencies (pig in a python)
- Third party collection efforts
- Greater communication with loan underwriting personnel

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Management Reporting

- Keep It Simple

- Risk Committees
- Risk Assessments
- Risk Responses
- Controls Assessment Result
- Monthly Performance to Key Risk Metric and CU Strategies

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In Summary

- CRM allows credit unions to be proactive in addition to reactive
- Develop tools to identify issues before they adversely affect your loan portfolio
- Monitor and manage the inherent risk of the loan portfolio in addition to the known delinquencies and charge-offs
- CRM is everyone’s responsibility

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Questions and Answers

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