Loan Portfolio Analysis

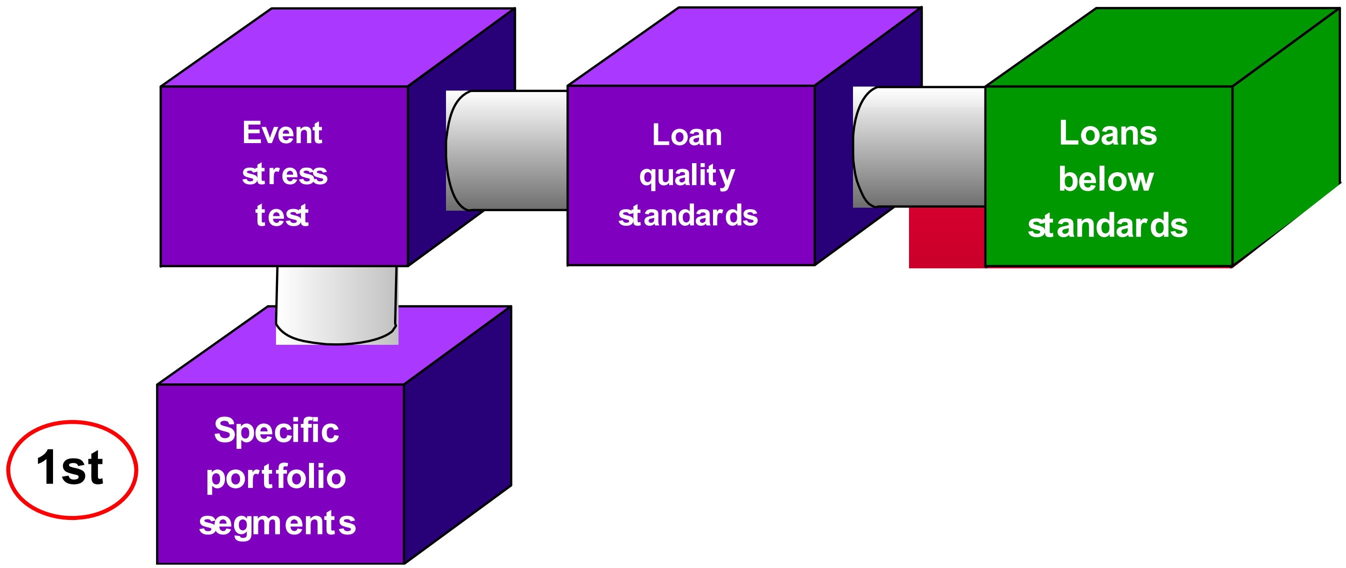
LESE 306
Fall 2010

Booklet pages: 115-120

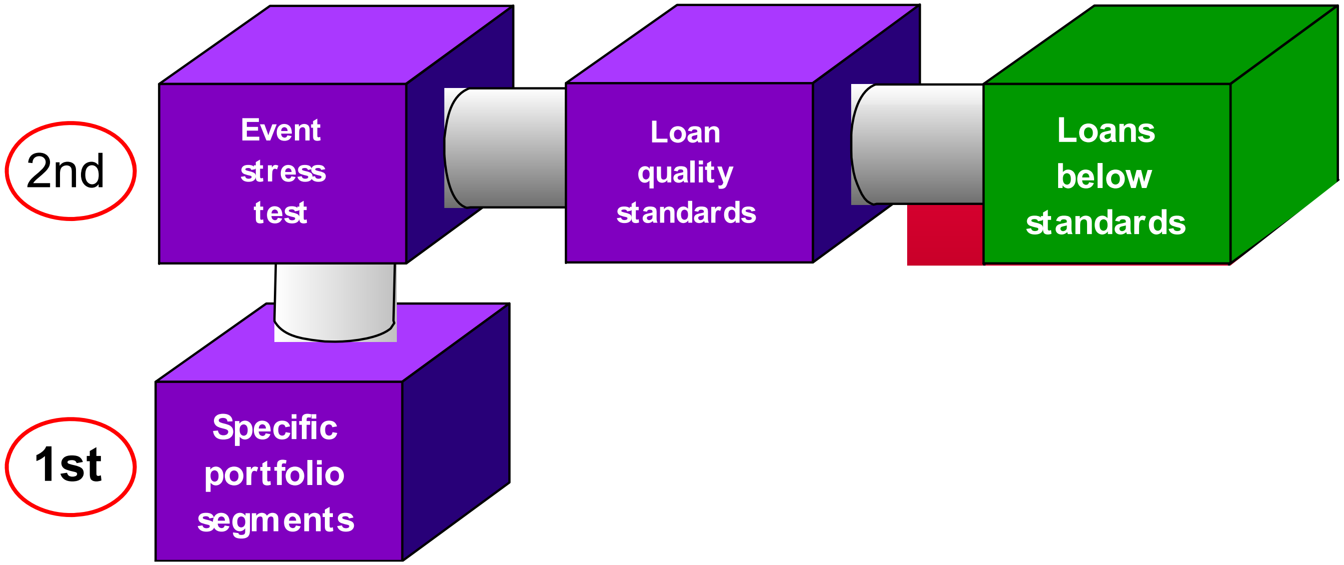
What is it?

- ✓ Focus is on the lender's ***existing*** loan portfolio.
- ✓ Looking for areas of strengths and weaknesses.
- ✓ Data mining at segment level (primary enterprise) to calculate benchmarks.
- ✓ Sort all loans with credit standards falling below benchmark performance.
- ✓ Stress testing portfolio in pro forma context.

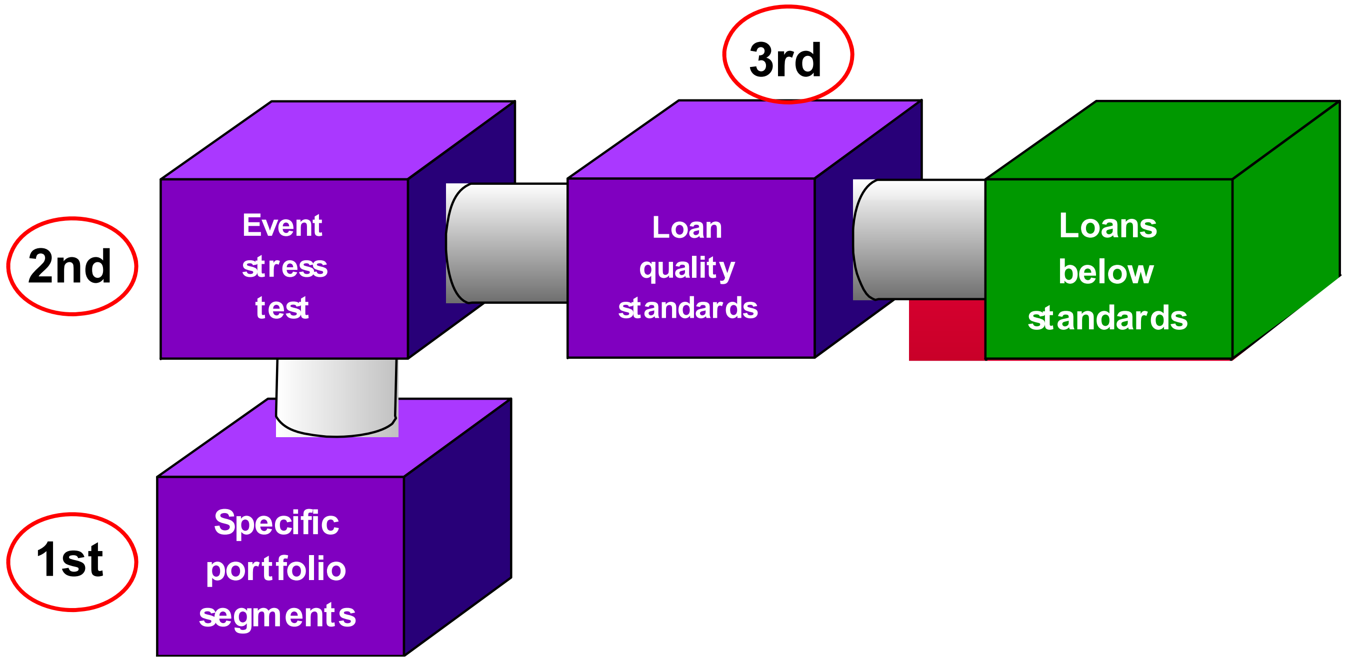
Portfolio Segment Analysis



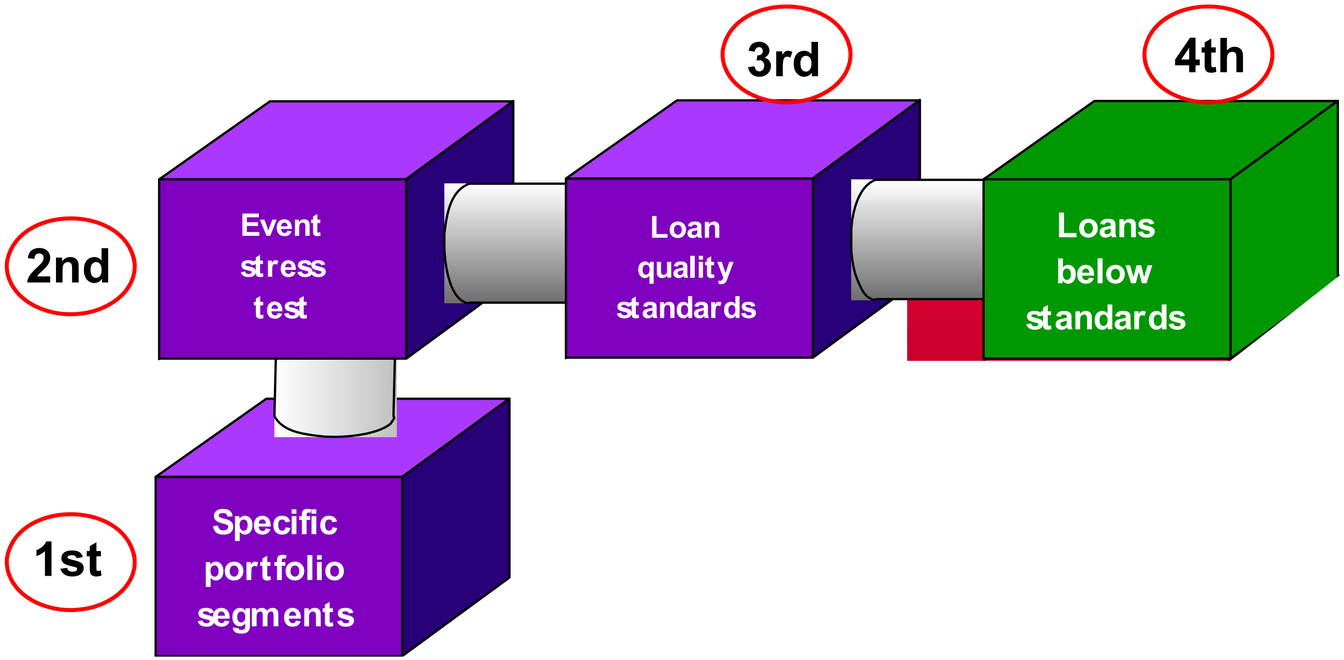
Portfolio Segment Analysis



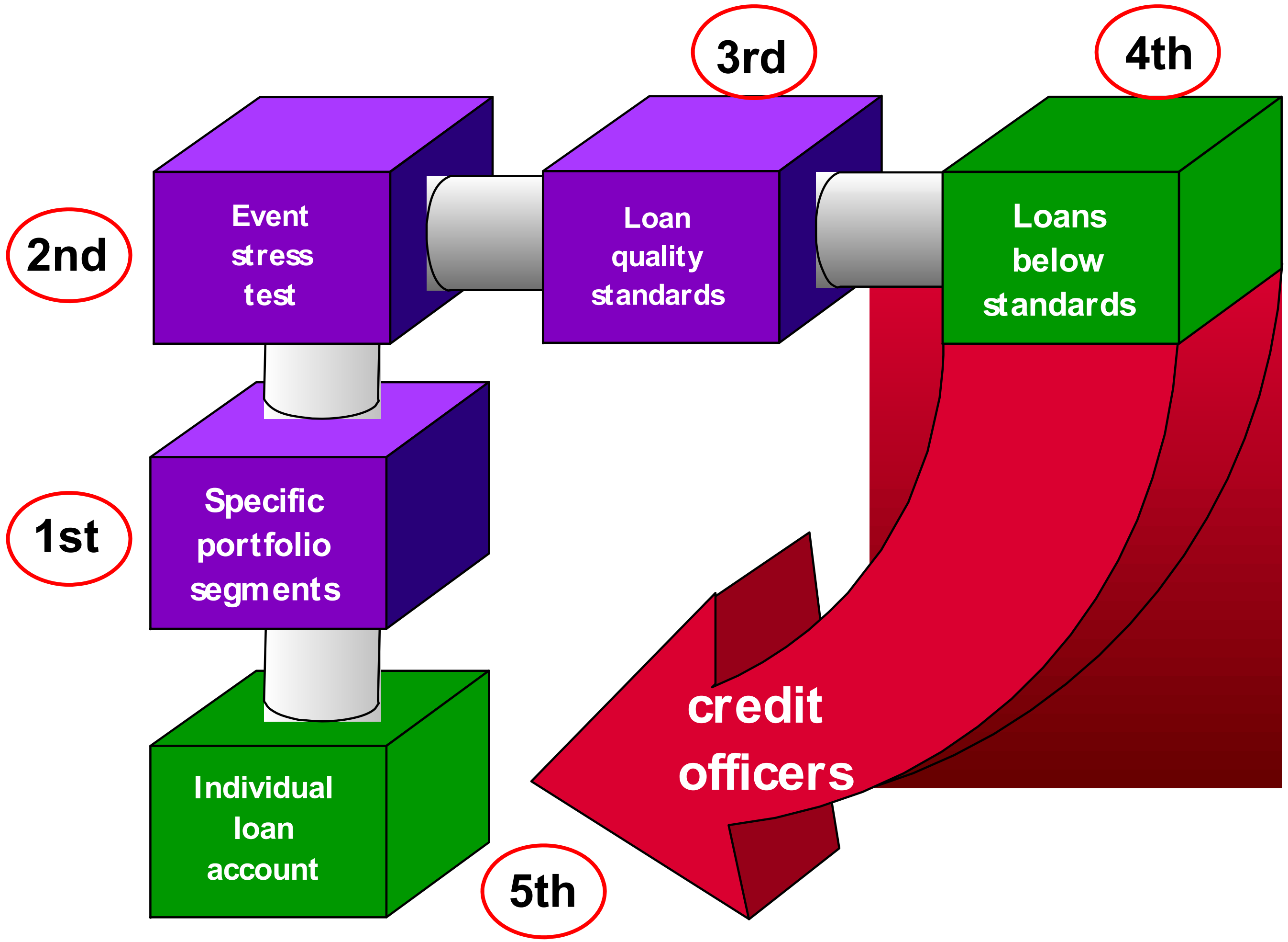
Portfolio Segment Analysis



Portfolio Segment Analysis



Portfolio Segment Analysis



Externalities Affecting Portfolio Performance….

- ✓ Macroeconomic policy
- ✓ Farm program policy
- ✓ Trade policy
- ✓ Weather and disease
- ✓ Ability to pay by client nations
- ✓ Competitor nation actions

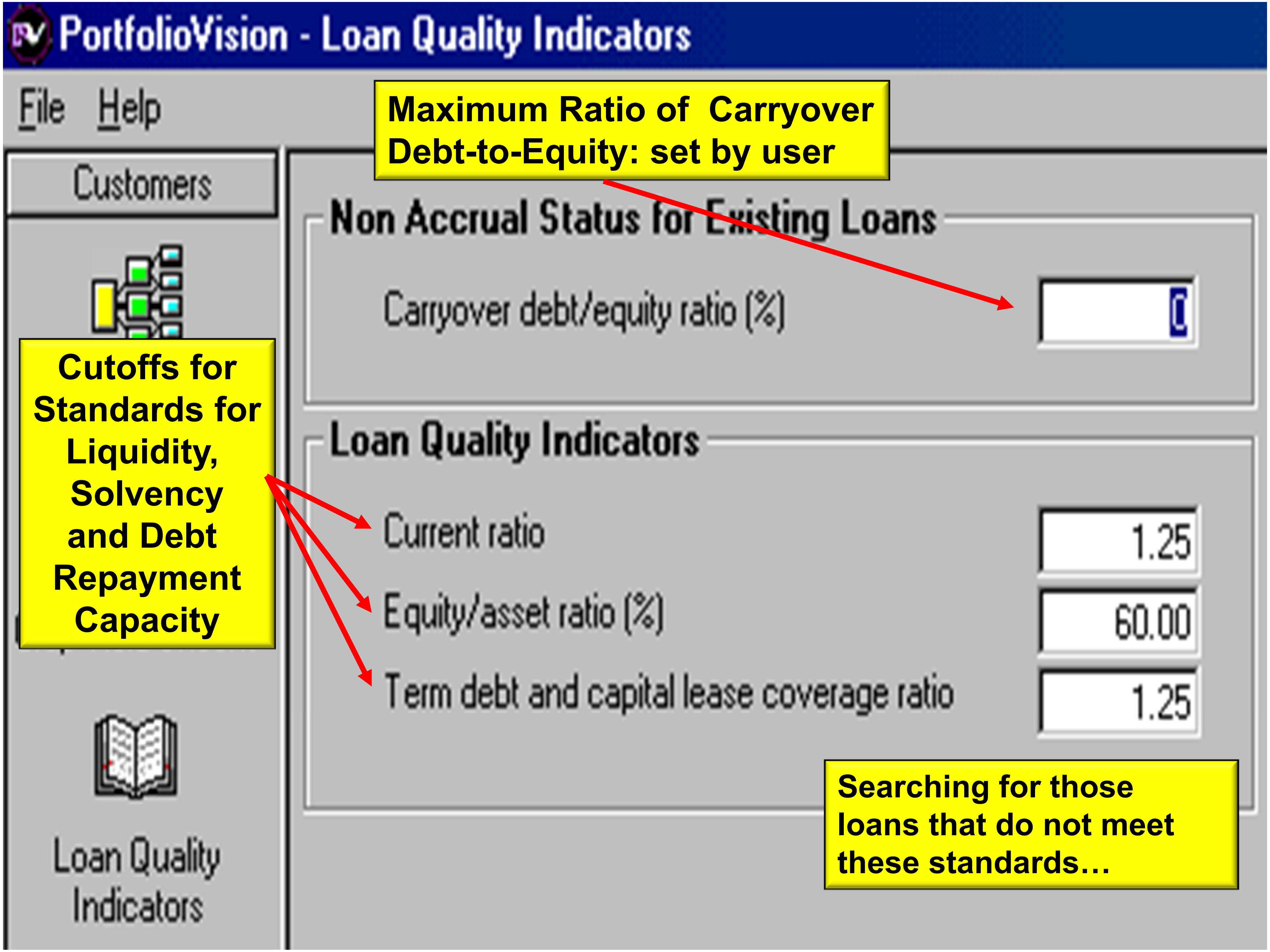
Macroeconomic Conditions

- ✓ Gains in productivity (great for Ag!)
- ✓ Rising crude oil prices (bad for Ag!)
- ✓ Rising inflation (bad for Ag!)
- ✓ Low interest rates (great for Ag!)
- ✓ Rising unemployment (bad for Ag!)
- ✓ Federal budget deficits (bad for Ag!)

A Portfolio Analysis Model

Portfolio Modeling

- ✓ Assess portfolio's performance at the segment level using mining techniques.
- ✓ Identify problem loans within that segment.
- ✓ Develop benchmarks for use in evaluating new loan requests and performance of existing borrowers against the benchmark.


PortfolioVision - Loan Quality Indicators
File Help
Maximum Ratio of Carryover Debt-to-Equity: set by user
Customers
Non Accrual Status for Existing Loans
Carryover debt/equity ratio (%)
0
Cutoffs for Standards for Liquidity, Solvency and Debt Repayment Capacity
Loan Quality Indicators
Current ratio
1.25
Equity/asset ratio (%)
60.00
Term debt and capital lease coverage ratio
1.25
Searching for those loans that do not meet these standards…
Loan Quality Indicators

PortfolioVision™

Segment Report

Accounts Falling Below Loan Quality Indicators

Current Ratio:	1.25
Equity / Asset Ratio:	60
Term Debt and Capital Lease Coverage Ratio:	1.25
Carryover Debt/Equity Ratio	0

Loan quality indicators settings

A benchmark falling below lender set indicator levels

Benchmark #15

	2000	2001	2002	2003	2004	2005	2006	2007
Current ratio	0.50	0.68	0.84	1.11	1.32	1.50	1.64	1.90
Equity / asset ratio	57.92	65.21	69.11	72.49	75.37	78.16	80.80	83.26
Term debt and capital lease coverage ratio	-0.35	0.62	1.31	2.20	2.01	1.91	1.83	1.65
Carryover debt/equity ratio	10.87	1.46	0.00	0.00	0.00	0.00	0.00	0.00

Note existence of short run stress but long run recovery. This suggests borrowers in this segment require in-depth analysis by credit officers.

Farm Credit System Loan Classification Used in Portfolio Examination by FCA

Accept-able	Special Mention	Sub-standard	Doubtful	Loss

The goal of the portfolio manager and credit officers is to make loans that grade out as "acceptable", or exceed credit standards. All other classes require additional attention by the credit officer making the loan to determine reasons for weak performance and assess prospects for improvement.

FCS Loan Class Rating

A. Acceptable loans:

1. **Borrowers of excellent quality** – Leverage very low relative to industry standards. Very strong liquidity with quality earnings. Strong debt capacity.
2. **Borrowers of strong quality** – Leverage low relative to industry standards with strong liquidity. Operations consistently profitable in recent years with excess cash flows.

FCS Loan Class Rating

A. Acceptable loans:

3. **Borrowers of good quality** – Leverage favorable to peers in the industry and typically good liquidity. Financial indicators at or above average to peers.
4. **Borrowers of average quality** – average leverage, adequate earnings, cash flow and debt service.

FCS Loan Class Rating

A. Acceptable loans:

5. <u>**Borrowers of adequate quality**</u> – slightly higher leverage with adequate but inconsistent earnings, cash flow and debt service. Trends erratic.
6. <u>**Borrowers of minimally acceptable quality**</u> – more leveraged than peers in industry; adequate but inconsistent debt service; operations typically profitable but losses may occur due to difficult economic environment; vulnerable to adverse industry conditions. Able to refinance debt with other financial institutions.

FCS Loan Class Rating

B. **Special mention:** – assets currently protected but potentially weak; constitute an undue and unwarranted credit risk.

C. **Substandard loans:**

   1. **Viable substandard** – have well defined weaknesses that jeopardize liquidation of debts; not performing as agreed but currently adequately collateralized; collateral marginally supports credit but collateral values declining.
   2. **Nonviable substandard** – probable that ultimate payment in full accomplished only through liquidation, forced or otherwise; usually treated as non-accrual loans.

FCS Loan Class Rating

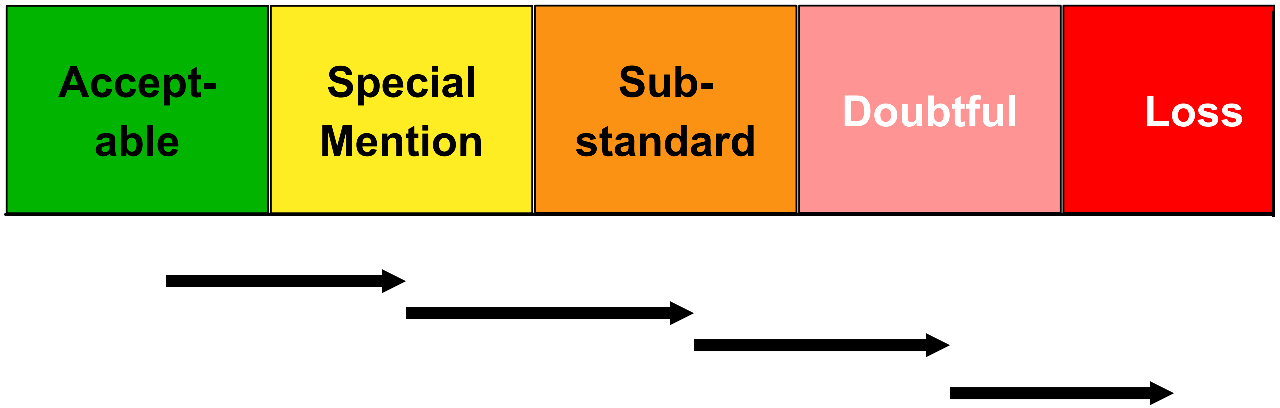
D. **Doubtful loans** – weaknesses make collection in full highly questionable and improbable given conditions.

E. **Loss loans** – not considered collectable and of such little value that continuance as asset not warranted.

Migration of Loans

- ✓ Portfolios are examined periodically to monitor outstanding loans ***falling into lower loan classifications***.
- ✓ This can be done in a stress testing context by examining the effects of lower net incomes and land values on benchmark loans in each category for specific pools or loan segments.
- ✓ This helps the portfolio manager to stay on top of changing economic conditions in each of these segments.
- ✓ Weak portfolio requires ***more loan loss reserves*** be set aside in a capital account.

Farm Credit System Loan Classification



Macro Stress Testing

The Big 5 Macro Variables

There are 5 key variables linking farmers and ranchers with the general economy. They are:

1. Rate of inflation
2. Rate of interest
3. Rate of unemployment
4. Rate of growth in GDP
5. Rate of foreign exchange

The Big 5 Macro Variables

1. **Rate of inflation** – affects prices for farm inputs in the short run and interest rates in the longer run.
2. **Rate of interest** – affects farm interest expenses and farm land values.
3. **Rate of unemployment** – affects off-farm income of farm operator families, an important source of internal equity capital for many farmers and ranchers.
4. **Rate of growth in GDP** – affects domestic demand for agricultural products, although the impact is small relative to non-agricultural goods and services.
5. **Rate of foreign exchange** – reflects the value of the dollar relative to client nation currencies and hence the export demand for agricultural products.

The Big 5 in 2010

1. **Rate of inflation** – low – good for agriculture.
2. **Rate of interest** – low – good for agriculture.
3. **Rate of unemployment** – weak – relatively bad for off-farm income of farm operator families.
4. **Rate of growth in GDP** – weak – a relatively small effect on agriculture.
5. **Rate of foreign exchange** – weak – good for agriculture.