APPENDICES
December 12-13

Tools for Practitioners

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APPENDIX 1

Examples of Sources of Relevant Data for Assessing Conditions in the Credit Markets

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Economic Conditions

Average annual rates:	2009	2010	2011	2012	2013	2014	2015	Source:
Fed Funds	0.16%	0.18%	0.10%	0.14%	0.11%	0.09%	0.13%	Federal Reserve Board Selected Interest Rates H.15
30-day Non-Financial Commercial Pa	0.18%	0.18%	0.12%	0.13%	0.08%	0.07%	0.11%	Federal Reserve Board Selected Interest Rates H.15
30 day LIBOR	0.33%	0.27%	0.23%	0.24%	0.19%	0.16%	0.20%	ICE Benchmark Administration Limited
Prime Rate	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	Federal Reserve Board Selected Interest Rates H.15
10 Year Treasury (nominal)	3.26%	3.22%	2.78%	1.80%	2.35%	2.54%	2.14%	Federal Reserve Board Selected Interest Rates H.15
High Yield Bond	13.83%	8.34%	7.79%	7.05%	6.08%	5.79%	6.96%	Merrill Lynch
30 Year Prime Home Mortgage	5.04%	4.69%	4.46%	3.66%	3.98%	4.17%	3.85%	Federal Reserve Board Selected Interest Rates H.15
Consumer Price Index	214.537	218.056	224.939	229.594	232.957	236.736	237.017	Bureau of Labor Statistics
Commercial RE Cap Rate		9.70%	8.98%	8.78%	8.87%	8.13%	7.75%	National Association of Realtors

Key Macro Indicators:	2009	2010	2011	2012	2013	2014	2015	
GDP Growth (2009 dollars)	-2.80%	2.50%	1.60%	2.20%	1.50%	2.40%	2.40%	Bureau of Economic Analysis
% Increase over prior year		Positive	-36.00%	37.50%	-31.82%	60.00%	0.00%	
Unemployment	9.3%	9.6%	8.9%	8.1%	7.4%	6.2%	5.3%	Bureau of Labor Statistics
% Increase over prior year		3.50%	-7.03%	-9.61%	-8.67%	-16.38%	-14.32%	
Housing starts	554,000	586,900	608,800	780,600	924,900	1,003,300	1,111,800	Census Bureau
% Increase over prior year		5.94%	3.73%	28.22%	18.49%	8.48%	10.81%	
New car sales	5,400,890	5,635,432	6,089,403	7,243,654	7,780,710	7,918,601	7,740,912	Autodata Corporation
% Increase over prior year		4.34%	8.06%	18.96%	7.41%	1.77%	-2.24%	
Retail sales (in millions)	3,393,442	3,543,235	3,784,874	3,939,896	4,042,054	4,190,358		Census Bureau
% Increase over prior year		4.41%	6.82%	4.10%	2.59%	3.67%		
New business formation (Entry rate)	9.1%	9.3%	9.7%	10.3%	10.2%			Census Bureau
% Increase over prior year		2.20%	4.30%	6.19%	-0.97%			
Business bankruptcies	60,837	56,282	47,806	40,075	33,212	26,983	24,735	US Courts
% Increase over prior year		-7.49%	-15.06%	-16.17%	-17.13%	-18.76%	-8.33%	

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Drilldown by Census Tract

POLICYMAP: Examples of the range of data categories associated with policy-making decisions

Incomes and Spending	Housing	Lending	Economy	Education
Income	**Home Sales**	**Mortgage Loans**	**Jobs & Industries (Local)**	**Population**
Per Capita	Sales and Sale Price	Home Purchase Loans	All Jobs	School Enrollment
Family	Loan-to-Value Ratio	"Piggyback" Home Purchase Loans	By Sector	Educational Attainment By Race
Household	**Home Values**	Refinance Loans	By Subsector	**School District Statistics**
Poverty	Median Value	Prime Mortgages	**Jobs & Industries (Metro/County)**	Graduation Rate
People in Poverty	Homes by Value	High-Cost Mortgages	All Jobs and Wages	Student-Teacher Ratio
Persistent Poverty	Median Real Estate Tax	Government-Insured Loans	By Subsector	Student Populations
Federal Tax Returns	**Rents and Rental Units**	Loan to Income "Leverage" Ratio	**Small Business and Startups**	Revenues and Expenditures
Sources of Income	Median Rent	**Mortgage Loans By Race or**	Small Business and Startups	Federal Education Program
Deductions	Number of Units	By Race	Large and Established Businesses	
Credits and Payments	Fair Market Rents	By Ethnicity	**Employment**	
Taxes Filed, Taxes Paid	Housing Units	**Mortgage Loans By Income**	Unemployment	
	Group Quarters	By Borrower Income	Employment	
	Age of Home	By Tract Income	Labor Force	
	New Building Permits			

Key Data on the Banks that Define the Market (1)

Commercial Banks with Assets Greater than $3 Billion (EOY)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Earnings and Profitability											
Percent of Average Assets:											
Interest Income (TE)	5.15	5.95	6.17	5.25	4.36	4.14	4.03	3.81	3.61	3.52	3.44
- Interest Expense	1.87	2.7	2.95	2.05	1.29	0.85	0.63	0.46	0.36	0.3	0.29
Net Interest Income (TE)	3.27	3.24	3.19	3.12	3.02	3.25	3.37	3.33	3.22	3.19	3.12
+ Noninterest Income	1.52	1.29	1.25	1.16	1.38	1.25	1.13	1.13	1.05	1.01	1.02
- Noninterest Expense	2.74	2.57	2.67	2.94	2.84	2.81	2.8	2.75	2.73	2.65	2.55
- Provision: Loan & Lease Losses	0.14	0.13	0.3	1.17	1.72	1.03	0.47	0.32	0.14	0.11	0.12
Pretax Operating Income (TE)	1.98	1.92	1.54	0.24	-0.08	0.75	1.25	1.42	1.44	1.46	1.48
+ Realized Gains/Losses Sec	0	-0.01	-0.02	-0.11	0.02	0.04	0.05	0.04	0.02	0.01	0.01
Pretax Net Operating Income (TE	1.97	1.9	1.5	-0.06	-0.12	0.8	1.3	1.47	1.46	1.47	1.49
Net Operating Income	1.28	1.24	0.98	-0.16	-0.21	0.5	0.89	1.03	1.02	0.98	1
Adjusted Net Operating Income	1.29	1.25	1.09	0.37	0.21	0.43	0.73	0.96	0.97	0.98	1.04
Net Inc Attrib to Min Ints	0	0	0	0	0	0	0	0	0	0	0
Net Income Adjusted Sub $	1.29	1.24	0.97	-0.16	-0.24	0.49	0.87	1.02	1	0.97	0.98
Net Income	1.29	1.24	0.97	-0.16	-0.23	0.49	0.89	1.03	1.02	0.98	1
Margin Analysis:											
Avg Earning Assets to Avg Assets	91.71	91.8	91.56	91.87	92.29	91.54	91.56	91.93	92.12	92.37	92.82
Avg Int-Bearing Funds to Avg Assets	80.76	81.56	81.55	81.96	81.2	80.23	78.7	77.77	77.48	77.35	77.84
Int Inc (TE) to Avg Earn Assets	5.64	6.5	6.75	5.73	4.75	4.54	4.42	4.15	3.92	3.83	3.71
Int Expense to Avg Earn Assets	2.05	2.96	3.24	2.24	1.4	0.93	0.69	0.5	0.39	0.33	0.31
Net Int Inc-TE to Avg Earn Assets	3.58	3.54	3.5	3.42	3.29	3.57	3.69	3.63	3.5	3.47	3.37
Liquidity											
Net Non Core Fund Dep New $250M	34.76	36.22	35.89	38.85	30.19	17.19	15.13	11.68	12.88	12.87	13.95
Net Loans & Leases to Assets	62.21	63.97	65.44	65.86	62.88	60.5	60.44	60.84	63.51	65.02	66.74
Capitalization											
Tier One Leverage Capital	7.84	8.19	8.07	8.22	8.69	9.17	9.63	9.76	9.87	9.83	9.78
Cash Dividends to Net Income	46.63	47.54	62.22	35.46	20.41	21.49	29.61	46.39	42.16	41.19	41.12
Retained Earnings to Avg Total Equit	6.33	5.66	2.05	-6.09	-5.31	1.28	4.03	3.55	4.29	4.32	4.62

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Key Data on the Banks that Define the Market (2)

Commercial Banks with Assets Greater than $3 Billion (EOY)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Growth Rates											
Total Assets	13.04	12.56	12.25	11.35	4.24	2.89	7.99	7.71	6.13	11.72	10.86
Tier One Capital	12.74	14.04	9.15	12.3	9.53	9.64	11.21	7.3	7.87	11.51	11.29
Net Loans & Leases	16.04	13.52	14.03	9.12	-1.24	0.89	8.68	9.08	9.66	15.41	13.48
Short Term Investments	56.84	160.11	39.5	90.47	218.88	62.93	26.18	23.68	6.34	23.67	18.29
Short Term Non Core Funding	21.6	23.11	23.37	15.86	-14.16	-13.31	-23.67	-2.47	11.23	20.03	18.4
Average Total Assets	6,744,940,461	7,531,338,722	8,366,510,342	9,419,492,066	9,660,121,198	9,631,860,126	9,997,715,097	10,668,789,465	11,099,607,468	11,827,707,942	12,587,032,977
Total Equity Capital	666,625,345	753,827,513	856,014,892	870,050,258	1,007,684,322	1,059,703,186	1,142,197,861	1,224,089,373	1,265,631,474	1,365,176,213	1,429,366,369
Net Income	83,728,807	92,099,239	66,149,081	3,088,010	14,612,209	61,638,174	82,441,902	99,660,156	110,870,155	113,014,498	124,289,604
Number of banks in Peer Group	181	183	188	188	181	174	180	190	201	223	228
Percent of Average Assets											
Personnel Expense	1.35	1.28	1.28	1.22	1.18	1.23	1.3	1.32	1.32	1.3	1.29
Occupancy Expense	0.36	0.34	0.35	0.34	0.33	0.33	0.34	0.33	0.33	0.32	0.31
Other Oper Exp (Incl Intangibles)	1	0.91	1	1.3	1.24	1.18	1.13	1.07	1.02	0.99	0.89
Total Overhead Expense	2.74	2.57	2.67	2.94	2.84	2.81	2.8	2.75	2.73	2.65	2.55
Overhead Less Nonint Inc	1.15	1.2	1.36	1.63	1.35	1.43	1.62	1.57	1.61	1.59	1.49
Other Income & Expense Ratios:											
Efficiency Ratio	56.15	55.97	58.44	65.64	64.97	61.73	62.94	61.55	63.01	62.46	60.92
Avg Personnel Exp Per Empl ($000)	67.27	72.1	72.23	74.07	76.11	79.9	81.78	86.81	89.52	90.36	94.68
Assets Per Employee ($Million)	6.01	7.88	7.52	9.42	12.44	10.1	9.36	9.41	9.08	8.82	9.19

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APPENDIX 2

Standard Definitions, Terms, Calculations and Reporting for Evaluating Lender Portfolio Risk

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Standard Terms in the Management of Risk (1)

Quick Guide to Banking terms for evaluating loan quality, portfolio quality and risk management

Loss Reserve

The loss reserve is a deduction from the value of a loan's principal on the balance sheet. It reflects the uncertainty about loan repayment. The amount of the loss reserve is determined on a loan by loan basis and/or on a portfolio basis by management. Management uses a rating system based on prior experience to establish the appropriate amount to be set aside. Regulators routinely assess the adequacy of the reserves.

Delinquency

A loan is delinquent if it misses a scheduled payment. If a payment is delinquent then the whole loan is delinquent -- not just the payment. Lenders typically track delinquencies in 30-60 day, 61-90 day, 91-120 day and 120+ day increments. Tracking the movement of loans through these cohorts is a critical part of evaluating the quality of risk management.

Default

Federal agency programs that guarantee loans made by private sector lenders use the term "default" to indicate a loan has been purchased from the lending partner or on which a claim has been paid.

Modifications and Restructures

Modifications are made by the lender when it appears that the borrower cannot or will not pay principal and interest under the original terms of the transaction. This is very common in small business lending, less common in corporate lending and project finance, and much less common among home mortgages. It is necessary. But it is a slippery slope. Lenders -- private or public, non-profit or for-profit -- often use modifications and restructures as a way to conceal the actual condition of borrowers and the magnitude of the risk in their portfolios.

Non-Accrual

Most lenders stop accruing interest on a loan, that is, booking interest revenue when a loan is past due 90 days. Some lenders wait until 120 days.

Standard Terms in the Management of Risk (2)

Quick Guide to Banking terms for evaluating loan quality, portfolio quality and risk management

Classified Loans

The FDIC uses 5 classifications for evaluating loans when it reviews a regulated lender's portfolio: Pass, Other Loans Especially Mentioned (OLEM), Substandard (SS), Doubtful (D), and Loss (L). there is considerable discretion in making these ratings, but essentially they are: OLEM -- strong indications of weakness with likely delinquency and incapacity to pay; SS -- actual delinquencies and likely loss of interest and principal; D -- loss of interest and substantial principal; and L - loss of interest and most principal. Loans that are rated SS, D, or L are called adversely classified loans and generally require the lender to charge-off 25% (SS), 50%(D) or 100%(L) -- or proportional amounts - of principal on the loan.

Impaired Loans

Generally an internal designation by the lender's management, these are loans that would typically be classified as Doubtful or Loss.

Charge-offs

This is the amount that management loses each year on the loans that have gone bad. It is a non-cash item that rarely shows up on the financials. It represents the amount of principal that is lost on a loan -- which on unsecured small business loans can often be in the 90-100% range.

Provision for Losses

This is a non-cash expense that management uses to cover Charge-offs and build the Loss Reserve. It is deducted on the Operating Statement and reduces profits. It should be significantly greater than the Charge-offs: 1.5x is a good rule of thumb. Lenders in trouble often understate the Provision.

Recoveries

Recoveries represent the amount of cash the lender gets back after charging something off. Different loan types have different types of recovery -- home mortgages are higher, for example, and small business loans are lower. The % or recoveries to charge-offs is a critical indicator. A lender with a high ratio (for the asset class) is generally a prudent and disciplined manager of risk, and vice versa.

Example of Key Terms for Delinquency and the Establishment of Loss Reserves

Total Loans	$100,000,000				
Aging Schedule	**Delinquent 31-60 Days**	**Delinquent 61-90**	**Delinquent 91-120**	**Delinquent 120 +**	**Modifications**
Dollar Value	$5,000,000	$575,000	$325,000	$750,000	$1,250,000
Percentage to Total Loa	5.00%	0.58%	0.33%	0.75%	1.25%
Loss Progression	**Beginning Loss Reserve**	**Provision for Losses**	**Gross Charge-offs**	**Recoveries**	**Ending Loss Reserve**
	$2,000,000	$600,000	$500,000	$200,000	$2,300,000
	2.00%	0.60%	0.50%	0.20%	2.30%

Accounting Entries for Lender Loss Reserves

We fully charge-off a $1mm loan

We make a provision for losses of $1.5mm to cover the loan plus

We recover $200,000 on the bad loan by crediting the Loss

We put the recovery back in our cash account by crediting

Cash

$10,000,000	
$200,000	
$6,000,000	
$16,200,000	

Loans

$100,000,000	
$200,000	$1,000,000
	$200,000
$99,000,000	

Loss Reserve (Allowance for Losses)

	$5,000,000
$1,000,000	$1,500,000
	$200,000
	$5,700,000

Deposits

	$98,000,000
	$98,000,000

Equity

	$7,000,000
$1,500,000	$6,000,000
	$11,500,000

Beginning Assets	$105,000,000	Beginning Liabilities and Equity	$105,000,000
Ending Assets	$109,500,000	EndingLiabilities and Equity	$109,500,000

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A-129: Example of Good Portfolio Risk Reporting

QUARTERLY PORTFOLIO ANALYSIS	THIS MONTH		YEAR TO DATE		ANNUAL BUDGET		YTD PRIOR YEAR	
Loan Activity	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %
Loans Outstanding	$	#						
Loans Approved	$	#						
Loans Disbursed	$	#						
Loan Principal Repayments	$	% to $ volume						
Revenue								
Interest Revenue	$	% to Loans						
Fee Revenue (Origination, application, other)	$	% to Loans						
Other Loan Related Revenue	$	% to Loans						
Operating Expenses								
Administrative Staff	$	#						
Lending Staff	$	#						
Servicing Staff	$	#						
Program Staff	$	#						
Professional Services	$	#						
Other Expenses	$	#						
Production								
Number of Applications Processed per Lender	$	#						
Number of Renewals Processed per Servicer	$	#						
Number of Amendments Processed per Lender	$	#						
Number of Loans in Workout per Servicer	$	#						

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A-129: Example of Good Portfolio Risk Reporting

Asset Management	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %
Total Delinquencies outstanding	$	% to Loans						
Delinquencies this period	$	% to Loans						
Defaults this period	$	% to Loans						
30-59 days past due	$	% to Loans						
60-89 days past due	$	% to Loans						
90 days + past due	$	% to Loans						
120 days + past due	$	% to Loans						
Modified or Restructured Loans	$	% to Loans						
Loans in Workout	$	% to Loans						
Other Real Estate Owned	$	% to Loans						
Default within 180 days of origination	$	% to Volume						
Provision for Losses	$	% to Loss Res						
Charge-offs	$	% to Provision						
Recoveries	$	% to Charge-off						

APPENDIX 3

Strategies and Tools for Tracking and Managing Operating Costs

Analyzing the Five Staff Functions Involved in the Extension of Credit

1. Marketing		
·	Message	What it is. Why you need it. Why us?
·	Medium	The full range of communications: signage, billboards, media, personal networks, social networks
·	Location	International, national, state, local, community
2. Origination		
·	Advisory	Interface with the client that ends in a "go" or "no-go" decision
·	Application	The commitment of time in assisting the borrower and ensuring the information is complete
·	Due diligence	Vetting the data submitted by the applicant, obtaining data from relevant sources
·	Credit analysis	Evaluating the borrower data, assessing feasibility and the capacity to pay, structuring the transaction
·	Approval	Approving the transaction in line with the standards, authorities, and procedures of the institution
·	Documentation	Assembling complete and consistent documents of the agreement, obtaining signatures
·	Closing	Funding the loan or the grant; commiting the credit of the institution
3. Servicing		
·	Billing /collections	Calculating the proper amounts of principal and interest due, invoicing and collection payments
·	Customer service	Questions about the transaction, institutional policies and procedures, the client relationship
4. Monitoring		
·	Loan payments	Tracking how much of what is being paid and when, relative to the agreement is the first and most important indicator
·	Borrower	Performing routine due diligence, through contact and available data on the client is key to anticipating risk
·	Lender	Performing portfolio reviews, and where pertinent, field audits of lending partners, implementing remedial steps
·	Service provider	Performing work and contract reviews, implementing remedial steps
5. Default		
·	Maturity	Deferral, modification, rewrites: altering the credit to suit the borrower's needs
·	Termination	Payment and/or payment capacity is sufficiently impaired to warrant termination of the agreement
·	Liquidation/Sale	The loan and/or assets securing the loan are sold

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Calculating Operating Costs by Function

The information we get that is misleading

Operating Expenses	$29,081,000	$ Loan Volume this	$175,000,000	# Loan Volume this	500
Average Size of Loan	$350,000	Number of Loans In	3,000	Loans Outstanding	$1,050,000,000

PROBLEM:	Cost to	**$34,897**	**9.97%**	Cos	**$3,877**	**1.11%**

Bottom-up analysis of what the true cost is

	Total # of Staff	Number of Loans Handled	Total Direct FTE Cost	FTE Cost per Unit	**Unit Cost**	Indirect Staff and Resources	Administrative Allocation
Loans per Marketing FTE	2	2,000	$250,000	$125	**0.04%**	$750,000	$300,000
Loans per Originating FTE	60	1,000	$5,920,000	$5,920	**1.69%**	$2,250,000	$2,451,000
Loans per Servicing FTE	40	3,000	$3,600,000	$1,200	**0.34%**	$6,000,000	$2,880,000
Loans per Monitoring FTE	10	3,000	$750,000	$250	**0.07%**	$1,200,000	$585,000
Loans per Default Remediation FTE	8	300	$750,000	$2,500	**0.71%**	$900,000	$495,000
	120	**9,300**	**$11,270,000**	**WHAT???**	**2.86%**	**$11,100,000**	**$6,711,000**
		Check Benchmarks		Check Benchmarks			

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Forecasting Costs in Line with Loan Volume (1)

# FTEs	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Marketing	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Origination	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Underwriting	2.00	3.00	5.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Closing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Servicing	1.00	1.00	1.00	2.00	2.00	2.00	3.00	3.00	4.00	4.00
Monitoring	3.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Default Management	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Administration	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total FTEs	12.00	14.00	17.00	21.00	21.00	21.00	22.00	22.00	23.00	23.00

Annual inflation rate for operating costs	2.00%

STAFFING COSTS	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Marketing	70,000	71,400	72,828	74,285	75,770	77,286	78,831	80,408	82,016	83,656
Origination	-	-	-	-	-	-	-	-	-	-
Underwriting	170,000	173,400	176,868	180,405	184,013	187,694	191,448	195,277	199,182	203,166
Closing	-	-	-	-	-	-	-	-	-	-
Servicing	50,000	51,000	52,020	53,060	54,122	55,204	56,308	57,434	58,583	59,755
Monitoring	225,000	229,500	234,090	238,772	243,547	248,418	253,387	258,454	263,623	268,896
Remediation	160,000	163,200	166,464	169,793	173,189	176,653	180,186	183,790	187,466	191,215
Administration	225,000	229,500	234,090	238,772	243,547	248,418	253,387	258,454	263,623	268,896
Total staff costs	900,000	918,000	936,360	955,087	974,189	993,673	1,013,546	1,033,817	1,054,493	1,075,583

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Forecasting Costs in Line with Loan Volume (2)

NON-STAFF OPERATING COSTS

NONSTAFF OPERATING COSTS	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Marketing	100,000	102,000	104,040	106,121	108,243	110,408	112,616	114,869	117,166	119,509
Origination	-	-	-	-	-	-	-	-	-	-
Underwriting	160,000	163,200	166,464	169,793	173,189	176,653	180,186	183,790	187,466	191,215
Closing		-	-	-	-	-	-	-	-	-
Servicing	35,000	35,700	36,414	37,142	37,885	38,643	39,416	40,204	41,008	41,828
Monitoring	135,000	137,700	140,454	143,263	146,128	149,051	152,032	155,073	158,174	161,337
Default Management	45,000	45,900	46,818	47,754	48,709	49,684	50,677	51,691	52,725	53,779
Administration	100,000	102,000	104,040	106,121	108,243	110,408	112,616	114,869	117,166	119,509
Total nonstaff operating costs	575,000	586,500	598,230	610,195	622,398	634,846	647,543	660,494	673,704	687,178

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Operating Costs per year	1,475,000	1,504,500	1,534,590	1,565,282	1,596,587	1,628,519	1,661,090	1,694,311	1,728,198	1,762,762

STAFF PRODUCTIVITY AND STAFF STRESS BENCHMARKS

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Opex as % of Principal O/S	No agency loa	No agency loa	No agency loa	No agency loa	No agency loa	No agency loa	No agency loan	No agency loa	No agency loa	No agency loans
Originations per FTE	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs
Applications per underwriting FTE	250	500	1,000	938	1,250	1,250	1,313	1,000	938	1,188
Originations per closing FTE	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs	No FTEs
Active loans per servicing FTE	496	1,977	6,907	7,113	11,926	16,596	14,229	16,446	13,802	15,696
Annual servicing cost per active loan	$171.33	$43.86	$12.80	$6.34	$3.86	$2.83	$2.24	$1.98	$1.80	$1.62

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Expanding on A-129: Key Operating Data Points (1)

	This Month		Year to Date		YTD Prior Year		Annual Budget		Annual Prior Year		Annual 2nd Prior Year	
Volume	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %
Loans Originated												
New Customers												
Percentage Increase (Decrease) vs prior period												
Existing Customers												
Percentage Increase (Decrease) vs prior period												
Total Approvals												
Percentage Increase (Decrease) vs prior period												
New Applications Declined												
Renewals Declined												
Processing												
New Customer Applications Submitted												
Approvals of New Applications												
Percentage to Total New Applications												
Closings												
Percentage to total Applications												
New Applications in process												
Percentage to total New Applications												
Renewals												
Percentage to total Loan Approvals												
Renewals Scheduled for Next Period												
Loan Approvals outstanding												
Percentage Increase (Decrease)												
Disbursements outstanding												
Percentage Increase (Decrease)												
Amendment/Waiver												
Amended Loans Outstanding												
Percentage to total loans outstanding												

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Expanding on A-129: Key Operating Data Points (2)

	THIS MONTH		YEAR TO DATE		YTD PRIOR YEAR		ANNUAL BUDGET		ANNUAL PRIOR YEAR		ANNUAL 2ND PRIOR YEAR	
Staff	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %	Dollar	# or %
Total Op Expenses / Number of Operating Staff												
Credit Providing FTE (Origination, etc.)												
Credit Managing FTE (Servicing, monitoring, etc.)												
Number of Applications Processed per Providing FTE												
Number of Renewals Processed per Providing FTE												
Number of Amendments Processed per Managing FTE												
Number of Loans in Workout per Managing FTE												
Operating Services provided by 3rd Parties												
3rd Party cost per loan originated												
3rd Party cost per loan underwritten												
3rd Party cost per loan serviced												
Other 3rd Party costs to total loans												
Backlog												
Beginning Applications on Hand												
Applications Submitted												
Applications Approved												
Applications Declined												
Commitments Made												
Ending Applications on Hand												
Percentage Increase (Decrease) over prior period												

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APPENDIX 4

Comprehending and Managing Lending Partners

Lender Selection and Negotiation (1): Key Lender Indicators – Profitability Ratios

Key Financial Indicators for the Major Lenders in the Conventional Market	Large Bank	Small Bank	Credit Union	Finance Company	Online Lender	Credit Card Company	CDFI Non-profit Lender	State HFA
Gross Income (Revenues) to Assets	5.00%	4.47%	3.40%	7.57%	19.95%	22.56%	31.90%	6.01%
Interest Expense to Assets	0.24%	0.28%	0.68%	2.27%	2.17%	1.07%	0.98%	2.85%
Operating Expense to Assets	2.91%	2.33%	2.08%	3.67%	10.16%	14.55%	23.52%	2.00%
Loss Expense to Assets	0.08%	0.27%	0.09%	0.21%	8.51%	1.28%	2.85%	0.05%
Total Expenses	3.23%	2.88%	2.85%	6.15%	20.84%	16.91%	27.35%	4.89%
Net Profit After Tax to Assets	1.37%	1.85%	0.58%	1.42%	-2.36%	3.70%	7.50%	1.00%
Ratio of Capital to Assets	10.98%	14.00%	8.41%	18.93%	39.20%	12.99%	41.03%	20.96^%
Return on Equity/Subsidy	12.45%	13.22%	6.89%	7.51%	-6.02%	28.47%	18.28%	4.77%
Delinquency Rate	3.84%	1.14%	1.20%	0.16%	13.18%	1.87%	1.79%	0.34%

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Lender Selection and Negotiation (2): Key Lender Indicators – Trend Line Analysis

Commercial Banks with Assets Greater than $3 Billion (EOY)	2006	2007	2008	2009	2010	2011	2012	2013
Number of banks in Peer Group	183	188	188	181	174	180	190	201
Average Total Assets of Peer Group (000's)	7,531,338,722	8,366,510,342	9,419,492,066	9,660,121,198	9,631,860,126	9,997,715,097	10,668,789,465	11,099,607,468
Growth Rates (End of Year)								
Total Assets	12.56	12.25	11.35	4.24	2.89	7.99	7.71	6.13
Percent of Average Assets:								
Interest Revenue	5.95	6.17	5.25	4.36	4.14	4.03	3.81	3.61
Total Overhead Expense	2.57	2.67	2.94	2.84	2.81	2.8	2.75	2.73
Provision: Loan & Lease Losses	0.13	0.3	1.17	1.72	1.03	0.47	0.32	0.14
Net Income	1.24	0.97	-0.16	-0.23	0.49	0.89	1.03	1.02
Net Loans & Leases to Assets	63.97	65.44	65.86	62.88	60.5	60.44	60.84	63.51

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Lender Selection and Negotiation (3): Profit, Liquidity, Flexibility

The ROE Equation

A top priority in most businesses is the Return on Equity. It is a particular focus in the lending business where the competition is intense, regulation is high and the margins are thin. Minor policy or product changes can have a major impact on the bottom line and the returns to shareholders. One of the most important indicators is the Asset Turnover Ratio

ROE	=	LEVERAGE	X	PROFITABILITY	X	ASSET TURNOVER
Net Profit / Net Worth	=	**Total Assets / Net Worth**	X	**Net Profit / Revenues**	X	**Revenues / Total Assets**

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Net Worth}} = \frac{\text{Total Assets}}{\text{Net Worth}} \times \frac{\text{Net Profit}}{\text{Revenues}} \times \frac{\text{Revenues}}{\text{Total Assets}}$$

THE ROE	All for-profits must focus first and foremost on the Return On Equity equation. Their investors require it.
THE THREE RATIOS	There are three main ways to increase the Return on Equity: (i) increase leverage; (ii) increase profit margins; and (iii) increase the speed of asset turnover.
LEVERAGE	Because regulated depositories are constrained by capital requirements, they can only go so far in increasing leverage.
PROFITABILITY	Because lending is a highly competitive -- as well as largely regulated -- market, banks also have difficulty boosting profitability: when one bank innovates, cuts costs, or takes higher credit risk to boost near term ROE, the others tend to follow suit quickly.
ASSET TURNOVER	Increasing the speed of asset turnover is the easiest option, and tends to have the highest impact. It was one of the drivers of the 2008 debt crisis. A good way to use this ratio is to turn it into a true Asset Turnover ratio: divide Total Assets by Revenues. The result can be used to estimate the number of years that the assets must stay on the balance sheet in order to generate an equal amount of revenue. The longer the stay, the lower the ROE; and the shorter the stay, the higher the ROE (all things being equal).

	ROE	LEVERAGE	PROFITABILITY	ASSET TURNOVER
Large Bank	12.45%	9.11	27.34%	2.57%
Small Bank	13.22%	7.15	41.40%	4.47%
Credit Union	6.89%	11.90	17.05%	3.40%
Finance Company	7.51%	5.28	18.78%	7.57%
Online Lender	-6.02%	2.55	-11.84%	19.95%
Credit Card Company	28.47%	7.70	16.40%	22.56%
Non-Profit	18.28%	2.44	23.50%	31.90%
State Housing Finance Agency	4.77%	4.77	16.61%	6.01%

Lender Selection and Negotiation (4): Key Performance and Cash Flow Indicators

Rudimentary Assessment of the Viability of the Product/Program

Forecast Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	10-year totals
New loan volume $	125,000,000	375,000,000	1,250,000,000	1,875,000,000	2,500,000,000	2,500,000,000	2,625,000,000	2,000,000,000	1,875,000,000	2,375,000,000	17,500,000,000
New loan volume #	500	1,500	5,000	7,500	10,000	10,000	10,500	8,000	7,500	9,500	70,000
Gross Loans Outstanding $	117,634,463	458,396,819	1,585,969,888	3,177,350,101	5,163,620,352	6,884,293,103	8,452,193,111	9,152,993,148	9,530,501,486	10,206,186,386	
Loans Oustanding #	496	1,977	6,907	14,226	23,852	33,191	42,686	49,338	55,208	62,784	
Principal repayments	6,793,390	31,500,882	112,333,577	259,071,596	466,777,697	703,767,827	951,683,329	1,170,682,769	1,356,641,792	1,552,531,147	6,611,784,006
Interest income	3,020,588	14,099,948	52,211,893	120,231,738	213,682,011	311,866,981	406,365,686	472,861,475	514,274,376	565,340,601	2,673,955,297
Fee Income:											
Origination	2,500,000	7,500,000	25,000,000	37,500,000	50,000,000	50,000,000	52,500,000	40,000,000	37,500,000	47,500,000	350,000,000
Servicing	-	-	-	-	-	-	-	-	-	-	-
Other Up Front	1,250,000	3,750,000	12,500,000	18,750,000	25,000,000	25,000,000	26,250,000	20,000,000	18,750,000	23,750,000	175,000,000
Other Ongoing	-	-	-	-	-	-	-	-	-	-	-
Charge-offs	572,147	2,736,762	10,093,354	24,548,191	46,952,052	75,559,422	105,416,664	128,517,193	140,849,870	146,783,953	682,029,608
Recoveries	14,255	87,401	334,862	914,838	1,864,655	3,168,949	4,632,315	5,924,030	6,728,151	5,307,540	28,976,995
Guarantee payments from lenders	-	544,071	2,602,468	9,598,070	23,343,604	44,648,101	71,851,700	100,243,838	122,210,818	133,938,327	508,980,996
Net credit losses	557,892	2,105,289	7,156,024	14,035,283	21,743,793	27,742,372	28,932,649	22,349,325	11,910,902	7,538,087	144,071,616
Interest Expense	2,058,603	9,167,936	35,684,322	79,433,753	141,999,560	206,528,793	274,696,276	320,354,760	357,393,806	408,247,455	1,835,565,265
Lender operating expenses as a % of assets		0%	0%	0%	0%	0%	0%	0%	0%	0%	
Operating costs	-	-	-	-	-	-	-	-	-	-	-
Total Profitability	4,154,093	14,076,723	46,871,546	83,012,702	124,938,659	152,595,816	181,486,761	190,157,389	201,219,668	220,805,059	1,219,318,416

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Lender Negotiation: Loan Pricing

The cost of the loan on a per loan basis (unit cost) is one of the key tools that banks use to determine whether or not to lend to a borrower segment. Agencies can use it in the same way the bank uses it: to determine the true cost and what a sustainable interest rate would be. We show how, using a small business loan of $500,000 to a 5 year old battery recycling business in the Bronx, "BRB", the Agency can iterate the level of support the finance company will need to lend in this market. While not conclusive, this "back of the napkin" kind of analysis can help the agency perform two critical functions: (i) identify the financial metrics that indicate the credit gap and provide indicators of how to structure the federal product solution; and (ii) identify what financial goals must be achieved before the target constituency is ready to be guided back to a private sector solution.

	FINCO	UNIT COST	
Business Loan Assets	**$47,880,000**	**$500,000**	
Loan Revenues to Assets	**7.57%**	**10.50%**	**In order to cover the additional risk, the interest rate must be increased**
Interest Expense to Assets	**2.22%**	**2.22%**	**This cost is the same for all products at the bank**
Operating Expense to Assets	**3.67%**	**4.00%**	**The $500k loan is smaller than the Finco's avg loan, so the op cost is higher**
Loss Expense to Assets	**0.21%**	**1.72%**	**This is the loss rate for loans with a 200 SBA credit score**
Total Expenses	**6.10%**	**7.94%**	
Net Profit After Tax to Assets	**2.36%**	**2.56%**	
Total FINCO Equity	**$9,063,000**	**$9,063,000**	
Capital to Assets	**18.93%**	**$94,643**	
Return on Equity	**12.47%**	**13.55%**	**The ROE on this loan type is higher than the existing ROE so the lender has a motivation to participate.**

In this example, the BRB small business loan segment might be attractive to the bank if the interest rate is raised at least to 10.0%. That is to allow for the uncertainties associated with going into a new credit segment, plus an underlying goal of generating a higher ROE than that which the lender is currently generating. But the lender will want to be sure that this higher rate is low enough to be: (a) affordable for the borrower; and (b) competitive with other lenders. The issue of competitiveness is critical: banks do not generally gravitate to "one-off" deals because of the higher cost to do them.

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Lender Negotiation: Example of Allocation of Financial Benefits for Ex-Im Global Express

Comparative Agency Revenues and Expenses (First Year)				Loan Size	$ 500,000
AGENCY	**Existing Program**			**Global Credit Express**	
Interest	0.00%	$0		4.00%	$20,000
Fees	0.75%	$3,750		2.50%	$12,500
Total Revenues		$3,750			$32,500
Interest Expense		$0			$0
Operating Expense	0.90%	$4,500		0.75%	$3,750
Loss Expense	1.25%	$0		2.50%	$12,500
Total Costs		$4,500			$16,250
Agency Net Revenues 1st Year		**($750)**			**$16,250**

Comparative Lender Revenues and Expenses (First Year)				Loan Size	$ 500,000
LENDING PARTNER	**Existing Program**			**Global Credit Express**	
Interest	4.25%	$21,250		0.00%	$ -
Fees	0.75%	$3,750		flat	$2,500
Total Revenues		$25,000			$2,500
Interest Expense	0.28%	$1,400		0.00%	$0
Operating Expense	3.00%	$15,000		0.05%	$250
Loss Expense (10% unguaranteed)	1.25%	$0		0.00%	$0
Total Costs		$16,400			$250
Lender Net Revenues 1st Year		**$8,600**			**$2,250**
ROA	1.72%			Infinite	
ROE	12.29%			Infinite	

Comparative Borrower Costs (First Year)				Loan Size	$ 500,000
BORROWER	**Existing Program**			**Global Credit Express**	
Actual Interest Expense		$21,250			$20,000
Actual Fee Expense		$7,500			$15,000
Total Costs		$28,750			$35,000
Borrower Net Cost		**$28,750**			**$35,000**
Borrower's Alternative	**Credit Card**				
Alternative Interest	16%	$80,000			
Alternative Fees	$75	$75			
Total Alternative Borrower Cost		**$80,075**		**BENEFIT**	**$45,075**

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Lender Negotiation: Example of the Allocation of Financial Benefits for SBA 7a

Agency					Loan Size	$ 500,000
		Regular Bank Loan			SBA Guaranteed Loan	
Interest						$0
Fees	75%				3.00%	$11,250
Total Revenues			$0			$11,250
Interest Expense					0.00%	$0
Operating Expense						$4,500
Loss Expense (75% guarantee)	75%				3.00%	$11,250
Total Costs			$0			$15,750
Agency net revenues			**$0**			**($4,500)**
Intermediary						
Interest		6.00%	$30,000		6.00%	$30,000
Fees		2.00%	$10,000		3.00%	$11,250
Total Revenues			$40,000			$41,250
Interest Expense		0.28%	$1,400		0.28%	$1,400
Operating Expense		0.75%	$3,750		1.25%	$6,250
Loss Expense (25% unguaranteed)	25%	2.00%	$10,000		2.00%	$2,500
Other (Fee to SBA)						$11,250
Total Costs			$15,150			$21,400
Intermediary net operating revenues			**$24,850**			**$19,850**
ROA			4.97%			3.97%
ROE			35.50%			28.36%

This doesn't look so good - at least in the first year -- due to the one time fees to the SBA which exceed the expected loss rate. In subsequent years, however, the SBA deal looks better: ROE of 28.37% for the SBA options versus 21.22% for the regular bank option. And that is before the sale of the guarantee below.

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SBA 7a Calculation (Continued)

Intermediary Sells the 75% SBA Guaranteed Portion of the Loan				
Gain/(Loss) on Sale of Gty	110.0%		$0	$37,500
Intermediary net revenues			**$24,850**	**$57,350**
ROA			**4.97%**	**11.47%**
ROE			**35.50%**	**81.93%**

Borrower			Regular Bank Loan	SBA 7a
Actual Interest Expense			$30,000	$30,000
Actual Fee Expense			$10,000	$11,250
Total Costs			$40,000	$41,250
Borrower Net Cost			**$40,000**	**$41,250**
		Credit Card		
Alternative Interest		16%	$80,000	
Alternative Fees		$75	$75	
Total Alternative Cost			**$80,075**	

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System of Graduated Remedies for a Small Non-depository Program Participant in Export Finance (1)

I. SEGMENTATION OF A SMALL NON-DEPOSITORY LENDER							
Current Status							
Years	Years undewriting product line	< 3	-1	4 to 10	2	> 10	3
Revenues	Total revenues	< $1 mm	0	$1-5mm	1	> 5mm	2
Net Worth	Net Assets	< $200m	-1	$200m-2mm	2	> 2mm	3
Leverage	Total Liabilities to Net Assets	> 8	0	8 to 4	1	< 4	2
Efficiency	Operating Expenses to total Assets	> 10%	-1	10% to 6%	2	< 6%	3
Cost of Funds	Interest Expense to total Assets	> LIBOR + 3	-1	LIBOR +1-3	2	< LIBOR +1	3
Delinquencies	Defaulted loans to total loans	> 8%	-1	8%-4%	2	< 4%	3
Credit Losses	Credit losses to total loans	> 5%	0	5%-3%	1	< 3%	2
Recoveries	Recovery to defaulted principal	< 10%	0	10% to 20%	1	> 20%	2
Liquidity	Loan Repayments to New Loans Made	< 25%	-1	25%-66%	2	< 66%	3
	Total Loans o/s to Loan Repayments	> 4	0	4 To 2	1	< 2	2
Early Warnings							
Growth	Number of deals this year vs previous year	> 150%	-1	150-120%	2	< 120%	3
Deal Size	Largest deal to last year's average deal size	> 150%	0	150-120%	1	< 120%	2
Deal Flow	Number of deals Per Year	< 3	0	3 to 10	1	> 10	2
Staffing	Number of total deals to total staff	> 100	-1	100 to 50	2	< 50	3
Policy Changes	Urgent and/or repeated requests for changes in policy term	> 10%	-1	10 to 5%	2	< 5%	3
		of volume		of volume		of volume	
Claims Experience							
	Claims due to poor underwriting	>120% ofAverage	-2	80-120% of Avg	2	< 80% of Avg	8
	Claims due to fraud, carelessness	3	-5	2	5	0	15
Totals for Categorizing Non-Depository Small Lenders			**-16**		**32**		**64**
3 -5 Yr Trend (Comparative) ROE							
Asset Leverage	Total Assets over Net Assets						
Return on Sales	Net Income to Total Revenues						
Asset Turnover	Total Revenues divided by Total Assets						
ROE	Asset Leverage X ROS X Asset Turnover						

System of Graduated Remedies for a Small Non-Depository Program Participant in Export Finance (2)

II. LEVEL OF AGENCY MONITORING BASED ON LENDER RISK ASSESSMENT				
Protocols				
		< 16	**16 to 32**	**> 32**
Standard Review	Review of lending activity: volume	Qrtr	Annual	Annual
	Quality of lending performance	Qrtr	Annual	Annual
	Review Audit/Taxes of Lender	Annual	Two Years	Three Years
	Borrower credit scores and data	100%	100%	100%
	Credit Portfolio Management Review	100%	100%	100%
Credit Audit	Performed by Agency	Annual	Three Years	0
	Borrower Samples	10%	2%	0%
	Years for lender trend line analysis	5	3	3
Field Audit	Performed by Agency:	Annual	Three Years	Adverse Event
	Analysis of Transaction Documents	10%	5%	5%
	Due diligence on buyers, shipments, UCC filings	10%	5%	5%
Procedures				
Credit PF Mgmt	Segment lender's exposure by type and concentration of risk: type of borrowers, size, location, credit history, NAICs, country of destination, etc.			
	Capture trends in lending by portfolio segment			
	Forecast activity and level of risk to the portfolio by segment			
	Compare with activity of other lenders			
Field Audit	Review files, documents (Purchase Order, Invoice, Bill of Lading, Payment Instructions) for accuracy and completeness on designated sample			
	Perform due diligence on vendors, buyers, rshipments, receivables, UCC filings			
	Evaluate Lender's processes for origination, underwriting, billing, collections, maintaining records, litigation, management depth, finance experience, staff, turnover, governance, IT, reporting			
	Reconcile lending activity reports with audit and GL			
Credit Audit	Review lender's credit files on designated sample of borrowers: financial data, financial status, credit bureau, credit score, liabilities, pledged collateral, receivables aging, inventory levels, major cash flow items and changes in product line, destinations and/or patterns of shipping			
	Analyze lender's performance over the most recent 3-5 year period to include: product summary, evaluation of changes in product line, ROE analysis, cash flow analysis, evaluation of credit lines, collateral, capital, liquidity, asset quality and role and nature of equity holders.			

Graduated System of Remedies for Small Non-depository Program Participant in Export Finance(3)

III. EVALUATION TRIGGERS AND REMEDIES				
Adverse Events		**Agency Response**		
	Lender Rating			
20% Change	**In Lender financial status:**			
	Net Assets (line 3)			
	Efficiency (line 5)	Accelerate Credit Audit	Accelerate Standard Review	Accelerate Standard Review
	Cost of Funds (line 6)			
	Delinquency (line 7)			
	Liquidity (line 10)			
	Rate of Growth (line 11)			
	Staffing (line 14)			
	Policy Changes (line 15)			
Fail Credit Audit or Review	Negatives in Section 1 (above) or other items found during Review	Accelerate Field Audit	Accelerate Credit Audit	Accelerate Credit Audit
20% Change	Number of Lender Claims due to excessive Credit Risk (line 16)	Accelerate Field Audit	Accelerate Credit Audit	Accelerate Credit Audit
20% Change	Number of Lender Claims due to Fraud (line 17)	Cease New Lending Pending Field Audit	Cease New Lending Pending Field Audit	Cease New Lending Pending Field Audit

IV. GRADUATED REMEDIES IN THE EVENT OF UNSATISFACTORY REVIEWS/AUDITS	
Credit Limits	Reduce the size of the credit limits for the errant borrowers of the lender
	Restrict the credit scores of participating exporters
	Reduce the size of the credit limits for the lender
	Limit the countries of destination
Volume	Limit number of deals
	Limit deal size
Delegated Authority	Cease delegated authority
Pricing	Charge lender higher fees for use of the program
Terminate participation	For the earlier of 6 months or cure of problems with the program

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