

## **Part A: First National Corporation Analysis**

**[35 marks]**

### **SPECIFIC REQUIREMENTS / QUESTIONS:**

1. Does asset-based lending fit First National's corporate image and tradition? Its lending philosophy? Explain.
2. Does asset-based lending improve the bank's return on net worth (RONW) and return on assets (ROA)?
3. Does First National's deposit composition make it necessary to find higher-yielding earning assets than are current booked? Explain.
4. Does First National venture in asset-based lending parallel banks lending practices prior to the recent global financial crisis? Justify your position.

**Quality** is the most appropriate determinant of the grade awarded but it is suggested that approximately **2,500 words** be a suitable length.

The group paper should have an executive summary.

## **Part B: Chandra and Williams – Unearthing performance gains to boost bank value**

**[10 marks]**

**Analyse** the article, Chandra and Williams (2015) "Unearthing performance gains to boost bank value" and **compare** and **contrast** the article with the material presented in your texts and the First National Corporation case.

**Quality** is the most appropriate determinant of the grade awarded but it is suggested that approximately **1,500 words** be a suitable length.

The group paper should have an abstract.

Dr Dominic Gasbarro  
26 January 2017

### *First National Corporation*

In 1986, Robert Huenephy, senior vice president in charge of the Special Lending Division at First National Corporation advocated establishing an asset-based lending department at the BHC's lead bank. He had periodically discussed the idea with other loan officers and with senior management. Loan officers were generally enthusiastic; senior management was generally cautious. Neither response surprised Bob. Loan officers wanted new loan products to offer their customers and more ways to meet loan goals. Senior management, while aware of the importance of meeting customer loan needs, as well as the competition in the marketplace, was concerned about the potential for higher loan losses.

First National, a conservative bank in a conservative Ohio city, was the anchor bank and the largest subsidiary by far of the parent First National Corporation. Founded in the mid-1800s, the bank had the distinction of holding one of the first 25 national charters. Acquisitions, mergers, or other changes had moved it to fifth-oldest on the national roster. Its favorite historical reflection came from 1933 when, during the Depression, the Clearing House authorized banks to limit withdrawals to 5 percent of the customer's account. First National was the only bank in town to honor deposits in full to all comers.

During its first century, First National concentrated on doing business with corporations and other banks rather than on services to individuals. This strategy was consistent with its long history of fiscal soundness, solid capitalization, customer service, and community involvement. While in recent decades the bank had moved extensively into all aspects of retail banking, it had not abandoned its heritage.

First National was fortunate to be located in a market with a strong and diverse economic base. That market had helped the bank to generate a quality loan portfolio. It had also provided a stable deposit base and assisted in maintaining the bank's strong capital position. In 1986, the city's economy, like that of so many other cities, was moving from manufacturing to service-related jobs, but both manufacturing and services were expected to be important to the city's future. The city's business profile ranged from some of the nation's largest corporations to successful start-up enter-

prises. While the city's economic diversity did not make it recession-proof, it certainly helped it withstand economic downturns.

At the same time, more rapid growth in southern and western states challenged the city's economic future. It was not a part of the Sun Belt. Further, regulatory changes and a constant stream of new competitors continued to threaten the bank's loan growth and overall market share. In 1980, the Depository Institutions Deregulation and Monetary Control Act permitted savings associations and credit unions to offer their customers additional services in direct competition with banks. In 1982, the Garn-St Germain Depository Institutions Act permitted banks to pay interest without rate limitations on certain types of deposit accounts. In Ohio, legislation permitting statewide banking by 1989 had been passed in the 1970s. By 1985, Ohio law also allowed interstate banking on a reciprocal basis with 14 adjacent or nearby states. By then, First National was already competing for loans with numerous other Ohio commercial banking organizations, savings and loan associations, credit unions, securities firms, insurance companies, retail firms, commercial finance companies, and loan production offices of many out-of-state banks.

The continually growing competition, along with the bank's desire for continued loan growth and improved margins, concerned senior management. Consequently, Fred Yehger, executive vice president of lending, and George Cassidy, president, requested an analysis and development of a business plan for an asset-based lending department.

#### **FIRST NATIONAL'S FINANCIAL POSITION**

Bob and a newly formed task force felt that their first job was to review the BHC's financial information to analyze ways asset-based lending might affect the balance sheet and profit position. This review would also provide a basis for comparison when they developed a projected balance sheet and income statement for the proposed product. From the information in Exhibits 2.1 and 2.2, plus other information, they developed

Text continues on page 866

**EXHIBIT 2.1****First National Corporation and Subsidiaries, Consolidated Statements of Condition as of December 31,  
1983-1985 (Thousands)**

	1985		1984		1983	
<b>Assets</b>						
Cash and due from banks		\$ 244,079		\$ 215,830		\$ 209,700
Investment securities:						
U.S. Treasury and agencies	\$ 437,225		\$ 334,429		\$ 378,095	
States and political subdivisions	121,191		122,759		134,128	
Other securities	4,069		3,903		3,907	
Total investment securities				461,091		516,130
Federal funds sold and reverse repos		562,485		545,305		521,530
		452,475				19.81
Loans:						
Commercial and agricultural	\$ 740,798		\$ 452,258		\$ 488,960	
Real estate—construction	68,583		39,408		27,924	
Real estate—mortgage	368,242		324,203		275,493	
Installment and credit card	622,935		453,502		325,455	
Other	214,358		181,910		149,763	
Total loans	\$2,014,916		\$1,451,281		\$1,267,595	
Less unearned interest	(47,001)		(37,841)		(39,776)	
Less allowance for possible loan losses	(23,325)		(16,734)		(13,440)	
Net loans		1,944,590		1,396,706		1,214,379
Premises and equipment		63,697		56,589		57,565
Acceptances, customers' liability		49,297		36,797		43,111
Other assets		102,232		67,813		70,332
Total assets		\$3,418,855		\$2,780,131		\$2,632,747
		100.00%		100.00%		100.00%

**EXHIBIT 2.1 CONTINUED**

### Liabilities and Net Worth

<b>Deposits</b>					
Noninterest-bearing deposits	\$ 692,392	\$ 557,159	\$ 540,736		
Interest-bearing deposits:					
Savings	804,788	585,056	555,157		
Time	<u>1,085,157</u>	<u>810,641</u>	<u>659,151</u>		
Total deposits	\$2,582,337	\$1,952,856	\$1,755,044	70.24%	66.66%
<b>Short-term borrowings (primarily fed funds purchased and repos)</b>					
Long-term debt	405,693	476,595	533,783	17.14	20.27
Acceptances executed	54,807	45,166	52,242	1.62	1.98
Other liabilities	49,297	36,797	43,111	1.32	1.64
	<u>66,836</u>	<u>47,962</u>	<u>44,924</u>	<u>1.73</u>	<u>1.71</u>
Total liabilities	\$3,158,970	\$2,559,376	\$2,429,104		
Preferred stock	\$ 0	\$ 0	\$ 0	0.00	0.00
Common stock	52,824	24,750	22,500	0.89	0.85
Surplus	54,349	66,625	52,000	2.40	1.98
Undivided profits	<u>152,712</u>	<u>129,380</u>	<u>129,143</u>	<u>4.65</u>	<u>4.91</u>
Total net worth	\$ 259,885	\$ 220,755	\$ 203,643		
Total liabilities and net worth	<u>\$3,418,855</u>	<u>\$2,780,131</u>	<u>\$2,632,747</u>	100.00%	100.00%
Market value of securities at year-end	\$ 568,208	\$ 458,777	\$ 508,723		

**EXHIBIT 2.2** First National Corporation and Subsidiaries, Consolidated Statements of Earnings for Years Ending December 31, 1983-1985 (Thousands)

	1985		1984		1983	
		% of Total Operating Income <sup>a</sup>		% of Total Operating Income		% of Total Operating Income
Interest income:						
Interest and fees on loans	\$187,405	60.05%	\$162,417	54.81%	\$128,255	50.57%
Interest on federal funds sold	33,307	10.67	51,032	17.22	46,142	18.19
Interest on investment securities:						
Taxable	43,614	13.98	39,511	13.33	37,462	14.77
Nontaxable	7,045	2.26	7,220	2.44	7,754	3.06
Other interest income	<u>629</u>	0.20	<u>1,033</u>	0.35	<u>2,897</u>	1.14
Total interest income	\$272,000		\$261,213		\$222,510	
Noninterest income:						
Trust income	\$13,064	4.19	\$11,460	3.87	\$9,855	3.89
Service charges and fees	22,390	7.17	17,802	6.01	16,173	6.38
Other operating income	<u>4,612</u>	1.48	<u>5,866</u>	1.98	<u>5,088</u>	2.01
Total noninterest income	40,066		35,128		31,116	
Interest expense:						
Interest on savings deposits	\$19,086	6.12	\$16,035	5.41	\$13,120	5.17
Interest on time deposits	113,524	36.38	100,476	33.91	82,213	32.42
Interest on short-term borrowings	28,740	9.21	50,420	17.01	43,632	17.20
Interest on long-term debt	<u>5,531</u>	1.77	<u>5,023</u>	1.70	<u>4,846</u>	1.91
Total interest expense	166,881		171,954		143,811	
Provision for possible loan losses	9,083	2.91	6,543	2.21	5,915	2.33

**EXHIBIT 2.2 CONTINUED**

	1985		1984		1983	
	% of Total Operating Income <sup>a</sup>		% of Total Operating Income		% of Total Operating Income	
Noninterest expense:						
Salaries	\$ 38,419	12.31	\$ 32,966	11.12	\$ 30,264	11.93
Pension and other employee benefits	6,612	2.12	5,951	2.01	5,142	2.03
Equipment expense	9,693	3.11	8,160	2.75	7,603	3.00
Occupancy expense	5,692	1.82	4,609	1.56	4,550	1.79
State taxes	4,102	1.31	3,887	1.31	3,719	1.47
Other operating expense	30,516	9.78	25,144	8.48	21,380	8.43
Total noninterest expense	<u>95,034</u>		<u>80,717</u>		<u>72,658</u>	
Net operating income before tax	\$ 41,068	13.16	\$ 37,127	12.53	\$ 31,242	12.32
Taxes	9,843	3.15	7,539	2.54	5,712	2.25
Income before securities gains or losses (IBSGL)	<u>\$ 31,225</u>	10.01	<u>\$ 29,588</u>	9.98	<u>\$ 25,530</u>	10.07
Other income (primarily security gains and losses)	2,906	0.93	101	0.03	102	0.04
Net income	<u>\$ 34,131</u>	10.94	<u>\$ 29,689</u>	10.02	<u>\$ 25,632</u>	10.11
Per share:						
Net income	\$3.31		\$3.00		\$2.59	
Dividends	\$1.40		\$1.27		\$1.18	

<sup>a</sup>Total Operating Income = Total Interest Income + Total Noninterest Income

**EXHIBIT 2.3** Selected Financial Information, First National Corporation  
(Thousands Except Per-Share Data)

	1985	1984	1983
<i>Results of Operations</i>			
Net interest income	\$ 105,119	\$ 89,259	\$ 78,699
Provision for possible loan losses	9,083	6,543	5,915
Net income	34,131	29,689	25,632
Net income per share <sup>a</sup>	\$3.31	\$3.00	\$2.59
Cash dividends per share <sup>a</sup>	\$1.40	\$1.27	\$1.18
<i>Selected Average Balances</i>			
Total assets	\$ 3,043,513	\$2,704,906	\$2,448,121
Investment securities	540,719	487,980	480,870
Loans—net of unearned interest	1,699,148	1,341,416	1,086,585
Total deposits	2,254,461	1,835,720	1,624,227
Long-term debt	49,627	45,976	46,880
Stockholders' equity	240,508	211,952	196,197
Average number of outstanding shares <sup>a</sup>	10,316,961	9,900,000	9,900,000
<i>Performance Ratios</i>			
Return on average total assets	1.12%	1.10%	1.05%
Return on average interest-earning assets	1.28	1.27	1.22
Return on average equity	14.19	14.01	13.06
Average equity to average total assets	7.90	7.84	8.01
Average equity to average total deposits	10.67	11.55	12.08
Average total loans—net of unearned interest			
to average total deposits	75.37	73.07	66.90
Dividend payout	42.31	42.36	45.65
Book value per share at year-end <sup>a</sup>	\$24.60	\$22.30	\$20.57

<sup>a</sup>Prior years' amounts are restated to reflect a 2-for-1 stock split in 1985 and a 10% stock dividend in 1984.

Exhibit 2.3. Bob knew that the ways asset-based lending affected RONW or return on assets would be important to senior management and the board of directors.

Fiscal 1985 had been another successful year, with net income increasing by 15 percent to \$34.1 million. Return on assets of 1.12 percent and RONW of 14.19 percent were both improvements over 1984. Assets had grown 23 percent and were expected to be nearly \$4 billion by December 31, 1986. Deposits had risen 32 percent, and total loans by 39 percent. Bob wondered how much an asset-based lending department could add to that performance.

#### LOANS AND CREDIT RISK

Based on an existing loan-to-deposit ratio of under 80 percent and low reliance on volatile deposits, Bob felt

senior management would not be concerned about whether the bank could handle the potential loan growth that asset-based lending might produce. At the same time, he knew of the bank's traditional sensitivity to credit risk, and asset-based loans certainly carried a higher degree of risk. His analysis would need to demonstrate that the risk was reasonable and that it would provide commensurate return. Bob would need to convince senior management that years of experience by commercial finance companies and other banks had resulted in improved techniques of monitoring and auditing collateral, greatly reducing the traditional risks of asset-based lending. Besides, some loans already in the bank's portfolio could benefit from the closer control that an asset-based department could provide. Risk assumptions would be important in gaining a total commitment from senior management, and since First National had historically followed a more conven-

tional lending practice and structure, a new department could not succeed without that commitment.

### **EFFICIENCY, PRODUCTIVITY, AND PROFITABILITY**

Bob knew higher costs were involved in asset-based lending than in conventional short-term or long-term commercial lending. More people were needed to conduct field audits of collateral and to monitor the loans internally. At the same time, he thought that existing loan officers could provide a more than adequate sales force, as long as a department head with experience in asset-based lending was hired to monitor loan quality and servicing. Costs might also be lowered by engaging a nationally recognized accounting firm to handle the field audits. Perhaps the accounting firm's fees could be passed on to the borrower, if competition would allow it.

Bob and his committee talked with a number of other banks that already had asset-based lending departments. They were frequently discouraged by reports of the lower loan rates now charged because of increased competition. Formerly, a loan priced at 3 percent to 5 percent over prime, not including other fees, was common. Now 1 percent to 2.5 percent over prime was the norm, and sometimes rates were lower. Bob knew that senior management increasingly emphasized higher margins and larger fees. He would need to substantiate that asset-based lending could contribute to those goals.

### **THE MARKET**

A major reason asset-based lending had grown more popular in recent years was that financial institutions were emphasizing the middle market. Asset-based lending offers access to a wider range of companies, enabling increased market share and profitability. First National knew the growing importance of the middle-market companies to its profitability, and Bob was convinced that to effectively serve the middle market, the bank needed to offer asset-based lending.

He no longer viewed asset-based lending as a unique industry, but as a product that could fit comfortably into the larger product line of the bank. First National would also have marketing advantages over commercial finance companies or loan production offices from out-of-town financial institutions. These advantages included knowledge of local companies, a network of contacts, cost savings from market proximity, and cultural similarities with borrowers. First National would need all these advantages to effectively sell against the list of 23 asset-based lending competitors the committee had compiled.

On the other hand, Bob knew that some members of senior management would argue that a "bandwagon" effect was occurring, setting the stage for future problems in the asset-based lending industry. Major concerns included too many lenders chasing too few loans, a shortage of qualified people, and an erosion of margins due to increased competition. Bob had already begun preparing for that argument. Asset-based lending should be handled by experts in the field who know the industries and techniques and insist on spending the time and money to do the job right. The institution would have to offer more than a good job done by professionals skilled in more conventional bank lending. The keys were proper margin evaluation, collateral valuation, and ongoing monitoring. Bob needed to convince senior management that an experienced staff that knew how to appraise and monitor collateral and to conduct financial analysis would provide the assurances they sought, as well as the higher yields.

Bob's committee prepared a product description (Exhibit 2.4), an executive summary (Exhibit 2.5), and supporting documentation on the financial implications to the BHC of establishing an asset-based lending product (Exhibits 2.6–2.10). A member of the committee from the bank's investment department prepared Exhibits 2.11–2.13 to enable further competitive analysis of all the major banks in First National's region. Finally, committee members knew they should be prepared to defend their analysis and recommendations to senior management and, subsequently, to the board of directors.



---

**EXHIBIT 2.4    The Business Product Description**


---

*Loans from \$500,000 to \$10,000,000*

Primary collateral	Accounts receivable Inventory (raw materials and finished goods)
Secondary collateral	Plant and equipment Land and buildings

*Pricing*

Rates from prime + 1.0% to prime + 4.0% (average: prime + 1.75%)  
1-time fees to average 0.5% of committed lines

*Selling*

Department head  
Commercial lending staff and sales group  
Branch offices

*Staffing*

Department head at vice president level  
Assistant department head (credit and monitoring)  
National accounting firm for auditing (at least initially)  
Addition of clerical personnel as volume grows  
Secretarial assistance

*Processing*

Lockbox account required for processing accounts receivable  
Demand deposit cash collateral control account required for processing accounts receivable  
Loans located in commercial loan portfolio  
IBM PC-based asset-based lending system for monitoring the status of the account (sales, gross collections, aging, trends) and establishing the current credit availability

*Appraisals (Equipment, Land, Buildings)*

Situation will dictate the appraiser

*Participations*

Participate in loans that exceed our size guidelines or our willingness to accept the credit risk as the sole lender

*Liquidations*

Type of loan and location of business will dictate liquidator

---

**EXHIBIT 2.5 Executive Summary of Assumptions**

- Have identified the market for an asset-based lending product to:
  1. Fill a gap in our product line to the middle market
  2. Properly monitor the asset-based loans currently booked
- Asset-based lending has become a mainstream product for banks. Currently 70% of the members of the National Commercial Finance Association, a trade group of asset-based lenders, are banks, versus only 27% in 1982.
- Currently have 50% participation in credit lines of \$23.8 million with commercial finance companies.
- Currently have 374 loans for \$85 million secured by accounts receivable and/or inventory. Of these loans, 14 totaling \$45 million would benefit from the discipline of asset-based lending.
- Pro forma financial statements for the asset-based lending function indicate the following (from Exhibits 2.9 and 2.10):
  1. Marginal earnings per share (EPS) of \$0.055 at the end of 1990, averaging \$0.025 over the next 5 years
  2. Marginal RONW of 16.0% by 1990, averaging 12.9% over the next 5 years
  3. Operating expenses/net revenue to average 32% over the next 5 years
  4. Net interest margin on asset-based loans to average 4.1% over the next 5 years
  5. Accumulated cash flow to reach \$1.3 million by the end of 1990
- Product launch date to be June 1, 1986.

**EXHIBIT 2.6 Financial Analysis: Cost/Benefit Assumptions**

Startup	June 1, 1986
Average loan size	\$1,250,000
Interest income, interest expense, and loan losses	
Average loan rate	1.75% over prime
Average cost of funds	8.12% 90-day CD rate adjusted for reserves and FDIC insurance premium
Average deposit yield	8.12% 90-day CD rate
Net chargeoffs	1.25%
Commitment fees	0.50% of committed line (one-time)
All lockbox processing fees charged to operating account	
Startup expense	
Product development	\$ 5,000
Computerized information system development	5,000
Operations	3,000
Marketing	16,000
Recruiting	19,500
Legal	5,000
Initial setup	5,000
Ongoing operating expense	
Salaries	
Department head	65,000
Assistant department head	30,000
Verification clerk	22,000 (as required by growth)
Secretary (1/3)	6,500
Performance bonus	
Department head	0% (up to 30%)
Assistant department head	0% (up to 20%)
Monitoring expense	
Cost bundled into loan rate and fee structure	
Loans per individual monitor	25
Average field audits	4
Average field audit cost	\$ 1,390

**EXHIBIT 2.7** Financial Analysis: Capital  
Expenditure Schedule  
(May 1986)

IBM PC/AT	\$10,000
Asset-based software	20,000
Department workstation	7,500
Assistant workstation	6,000
	<u>\$43,500</u>

**EXHIBIT 2.8** Asset-Based Lending, Product Balance Sheet (December 31) (Thousands)

	1986	1987	1988	1989	1990
<i>Assets</i>					
Cash and due from banks					
Float	\$ 41	\$ 229	\$ 351	\$ 445	\$ 565
Reserve requirements	10	55	84	106	134
Net loans	4,711	24,083	36,346	46,095	58,460
Premises and equipment	39	31	23	15	7
Total Assets	<u>\$4,801</u>	<u>\$24,398</u>	<u>\$36,803</u>	<u>\$46,661</u>	<u>\$59,166</u>
<i>Liabilities and Net Worth</i>					
<i>Liabilities</i>					
Demand deposits	\$ 62	\$ 342	\$ 524	\$ 664	\$ 843
Funding requirement	4,408	22,373	33,741	42,779	54,243
Total Liabilities	<u>\$4,470</u>	<u>\$22,715</u>	<u>\$34,265</u>	<u>\$43,443</u>	<u>\$55,086</u>
<i>Net Worth Accounts</i>					
Undivided profits					
Beginning balance	\$ 0	\$ (124)	\$ (53)	\$ 114	\$ 363
Plus net income	(124)	123	288	430	585
Less cash dividends (@ 42%)	0	52	121	181	246
Ending balance	(124)	(53)	114	363	703
Capital requirement	456	1,736	2,424	2,855	3,377
Total Net Worth	<u>\$ 331</u>	<u>\$ 1,683</u>	<u>\$ 2,538</u>	<u>\$ 3,218</u>	<u>\$ 4,080</u>
Total Liabilities and Net Worth	<u>\$4,801</u>	<u>\$24,398</u>	<u>\$36,803</u>	<u>\$46,661</u>	<u>\$59,166</u>

**EXHIBIT 2.9** Asset-Based Lending Product Income Statement and Cash Flow<sup>b</sup>  
(Thousands)

	1986	1987	1988	1989	1990
<i>Projections</i>					
Average number of accounts	2	13	26	34	43
Average outstandings	\$2,691	\$16,418	\$32,023	\$41,938	\$53,188
Average lines	\$4,486	\$27,363	\$53,371	\$69,897	\$88,647
Average funding requirement	\$2,488	\$15,082	\$29,377	\$38,459	\$48,764
Average investable demand deposits	\$ 40	\$ 263	\$ 530	\$ 699	\$ 887
Ending number of accounts	4	20	29	37	47
Capital expenditures	\$ 43.5	0	0	0	0

**EXHIBIT 2.9 CONTINUED**

	1986	1987	1988	1989	1990
<i>Income and Expenses</i>					
Interest income:					
Interest on loans	\$ 177	\$ 1,847	\$ 3,603	\$ 4,718	\$ 5,984
Commitment fees	40	163	103	82	104
Interest on deposits	4	28	57	76	96
Field audit income	0	0	0	0	0
Total interest income	\$ 221	\$ 2,038	\$ 3,763	\$ 4,876	\$ 6,184
Interest expense:					
Funding cost	\$ 205	\$ 1,243	\$ 2,422	\$ 3,170	\$ 4,020
Total Interest Expense	205	1,243	2,422	3,170	4,020
Net interest income	\$ 16	\$ 795	\$ 1,341	\$ 1,706	\$ 2,164
Loan loss expense	52	286	422	448	534
Net interest income after Loan Loss Expense	\$ (37)	\$ 509	\$ 919	\$ 1,258	\$ 1,630
Other Income:					
Lockbox fees	\$ 1	\$ 9	\$ 17	\$ 23	\$ 29
Total Other Income	\$ 1	\$ 9	\$ 17	\$ 23	\$ 29
Operating expense:					
1-time startup expense					
Product development	\$ 5				
Computerized information system development	5				
Operations	3				
Marketing	16				
Recruiting/legal/setup	30				
Ongoing expense					
Product management	\$ 3	\$ 3	\$ 3	\$ 3	\$ 3
Computer systems	0	1	1	1	1
Lockbox cost	1	6	11	14	18
Marketing	1	1	1	1	1
User department					
Salaries and benefits	70	121	122	130	139
Other	3	20	35	45	56
Field audit expense	12	74	144	189	240
Depreciation/amortization	5	8	8	8	8
Occupancy	6	6	6	6	6
Overhead allocation (@ 22%)	35	52	73	87	104
Total Operating Expense	\$ 195	\$ 291	\$ 404	\$ 483	\$ 575
<i>Marginal Analysis</i>					
Net income before tax	\$( 231)	\$ 228	\$ 553	\$ 797	\$ 1,084
Tax (@ 46%) <sup>a</sup>	(107)	105	245	367	498
Net income after tax	\$( 124)	\$ 123	\$ 288	\$ 430	\$ 585

<sup>a</sup>Negative tax figure in 1986 reflects the bank's ability to save taxes on profits from other operations because of the loss on asset-based lending.

<sup>b</sup>Cash flow = Net Income after Tax + Depreciation.

**EXHIBIT 2.10** Asset-Based Lending, Product Profitability Analysis

Product-to-Date Analysis		1986	1987	1988	1989	1990
<i>Earnings per Share (EPS)</i>						
Net income	Marginal	\$ (124)	\$ 123	\$ 288	\$ 430	\$ 585
	Average	(124)	(1)	95	179	260
Number of shares		10,565	10,565	10,565	10,565	10,565
EPS	Marginal	\$ (0.012)	\$ 0.012	\$ 0.027	\$ 0.041	\$ 0.055
	Average	(0.012)	(.000)	0.009	0.017	0.025
<i>Return on Equity (ROE)</i>						
Net income	Marginal	\$ (124)	\$ 123	\$ 288	\$ 430	\$ 585
	Average	(124)	(1)	95	179	260
Equity	Marginal	187	1,134	2,210	2,893	3,668
	Average	187	661	1,177	1,606	2,018
ROE	Marginal	-66.5%	10.8%	13.0%	14.9%	16.0%
	Average	-66.5%	-0.1%	8.1%	11.2%	12.9%
<i>Operating Expense/Net Revenue (OE/NR)</i>						
Operating expense	Marginal	\$ 195	\$ 291	\$ 404	\$ 483	\$ 575
	Average	195	243	297	343	390
Net revenue	Marginal	17	804	1,359	1,728	2,193
	Average	17	411	727	977	1,220
OE/NR	Marginal	1,148%	36%	30%	28%	26%
	Average	1,148%	59%	41%	35%	32%
<i>Net Interest Margin (NIM)</i>						
Interest income	Marginal	\$ 221	\$ 2,039	\$ 3,763	\$ 4,876	\$ 6,184
	Average	221	1,130	2,008	2,725	3,416
Interest expense	Marginal	205	1,243	2,422	3,170	4,020
	Average	205	724	1,290	1,760	2,212
Average investment in earning assets	Marginal	2,691	16,418	32,023	41,938	53,188
	Average	2,691	9,555	17,044	23,268	29,252
NIM	Marginal	0.6%	4.8%	4.2%	4.1%	4.1%
	Average	0.6%	4.2%	4.2%	4.1%	4.1%

# EXHIBIT 2.11

## Loan Analysis (December 1985 Data)

Name of Bank	Loans to Deposits		Loan Percentage Change		Allowance for Loan Losses to Total Loans		Net Chargeoffs to Average Loans		Nonperforming <sup>a</sup> Loans to Primary Capital	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
City A:										
Bank One	17	91.4%	17	18.9%	5	1.43%	15	0.34%	9	15.9%
Bank Two	13	90.2	13	28.9	2	1.61	20	0.46	12	3.3
First National Bank	7	83.6	7	24.4	3	1.25	7	0.28	5	3.8
Bank Three	3	80.5	3	20.2	4	0.86	1	0.47	14	16.1
Average for City A		86.4		23.1		1.29		0.39		9.8
City B:										
Bank One	11	87.5	11	7.3	16	1.18	6	0.74	19	24.2
Bank Two	9	85.4	9	(3.9)	21	1.33	12	0.29	7	18.4
Bank Three	1	73.2	1	33.2	1	1.06	2	0.18	2	8.9
Average for City B		82.0		12.2		1.19		0.40		17.2
City C:										
Bank One	4	81.4	4	4.6	19	1.90	21	1.22	20	38.3
Bank Two	18	93.0	18	7.6	15	1.52	17	2.28	21	21.9
Bank Three	15	90.5	15	14.5	11	1.14	5	0.43	11	21.0
Average for City C		88.3		8.9		1.52		1.31		27.1
City D:										
Bank One	21	99.6	21	17.8	6	1.29	9	0.24	3	23.3
Bank Two	6	83.4	6	15.2	9	1.30	10	0.72	18	11.1
Bank Three	14	90.4	14	2.9	20	1.60	19	0.39	10	15.3
Bank Four	20	97.4	20	10.8	13	1.09	3	0.01	1	7.4
Bank Five	2	74.9	2	6.3	18	1.43	14	0.27	4	7.9
Average for City D		89.1		10.6		1.34		0.33		13.0
City E:										
Bank One	19	94.1	19	16.0	8	1.50	16	0.47	13	18.4
Bank Two	10	87.4	10	14.6	10	1.33	13	0.29	6	13.8
Bank Three	8	84.6	8	11.7	12	1.58	18	0.33	8	13.3
Average for City E		88.7		14.1		1.47		0.36		15.2
City F:										
Bank One	5	83.0	5	16.5	7	1.12	4	0.60	17	13.7
Bank Two	16	91.2	16	7.3	17	1.26	8	0.52	15	15.6
Bank Three	12	89.6	12	8.7	14	1.31	11	0.56	16	19.9
Average for City F		87.9		10.8		1.23		0.56		16.4
Average for all banks		87.3		13.5		1.34		0.53		15.8

<sup>a</sup>Nonperforming loans are those on which interest payments, principal payments, or both are not being received but which have not yet been written off.

**EXHIBIT 2.12** Margin Analysis (December 1985 Data)

Name of Bank	% of Average Earning Assets					
	Interest Revenues	Rank	Interest Cost	Rank	Net Interest	Rank
City A						
Bank One	10.62%	19	6.46%	10	4.16%	16
Bank Two	11.88	4	5.94	2	5.94	2
First National Bank	10.75	17	5.93	1	4.82	8
Bank Three	11.05	13	6.74	15	4.31	15
Average for City A	11.08		6.27		4.81	
City B						
Bank One	12.77	2	6.57	13	6.20	1
Bank Two	12.20	3	6.43	9	5.77	3
Bank Three	11.49	7	6.08	3	5.41	5
Average for City B	12.15		6.36		5.79	
City C						
Bank One	11.12	12	6.42	7	4.70	11
Bank Two	13.59	1	7.93	21	5.66	4
Bank Three	11.39	10	6.61	14	4.78	9
Average for City C	12.03		6.99		5.05	
City D						
Bank One	10.12	21	6.28	4	3.84	21
Bank Two	11.72	5	6.40	5	5.32	6
Bank Three	10.95	14	6.41	6	4.54	13
Bank Four	10.61	20	6.50	12	4.11	18
Bank Five	11.50	6	6.79	18	4.71	10
Average for City D	10.98		6.48		4.50	
City E						
Bank One	10.89	15	6.91	19	3.98	19
Bank Two	10.79	16	6.46	11	4.33	14
Bank Three	11.43	9	6.75	16	4.68	12
Average for City E	11.04		6.71		4.33	
City F						
Bank One	10.68	18	6.78	17	3.90	20
Bank Two	11.43	8	6.43	8	5.00	7
Bank Three	11.30	11	7.16	20	4.14	17
Average for City F	11.14		6.79		4.35	
Average for all banks	11.35		6.57		4.78	

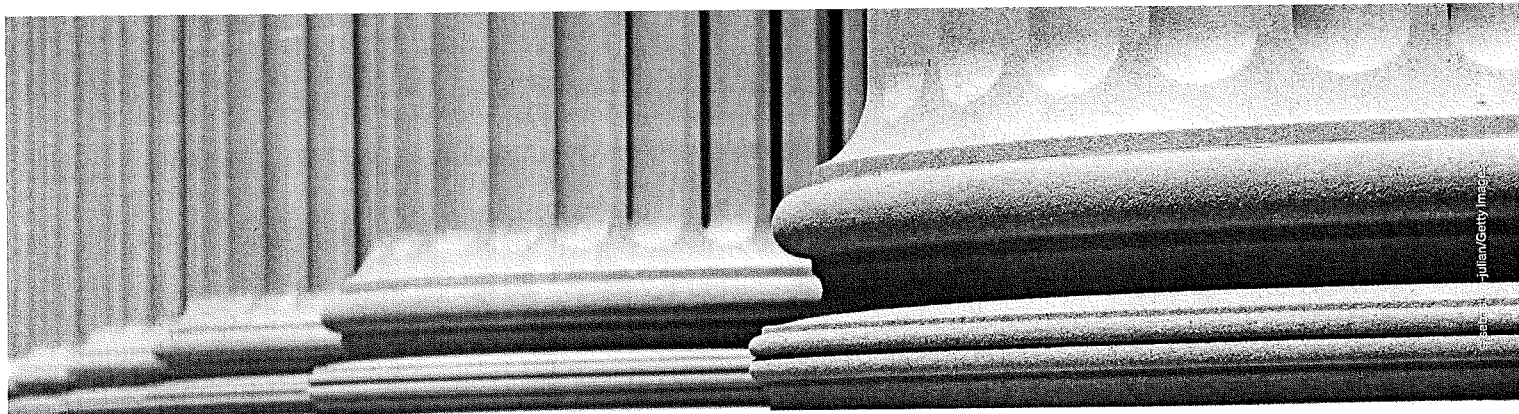
**EXHIBIT 2.13** Deposit Analysis (December 1985 Data)

## % of Total Domestic Deposits

Name of Bank	Demand IPC	Rank	Bearing a Regulated Rate	Rank	Bearing a Market Rate	Rank	Deposit Percentage Change from Last Year	Rank
City A								
Bank One	20.5%	12	12.0%	12	64.4%	4	9.6%	11
Bank Two	22.3	9	11.3	15	61.5	8	12.8	6
First National Bank	29.2	2	11.6	14	52.5	21	19.9	2
Bank Three	24.9	4	16.9	4	56.6	16	19.0	3
Average for City A	24.2		13.0		58.8		15.3	
City B								
Bank One	19.8	13	18.5	2	59.5	13	4.3	18
Bank Two	21.7	10	15.3	11	60.1	11	10.7	9
Bank Three	24.7	6	16.1	6	56.8	15	23.7	1
Average for City B	22.1		16.6		58.8		12.9	
City C								
Bank One	22.5	8	17.2	3	56.4	17	(3.6)	20
Bank Two	16.2	21	8.5	17	68.0	1	5.6	15
Bank Three	17.7	20	16.0	8	63.1	5	15.4	5
Average for City C	18.8		13.9		62.5		5.8	
City D								
Bank One	19.0	16	15.4	10	61.8	7	4.5	17
Bank Two	18.3	17	19.3	1	60.1	10	6.0	14
Bank Three	24.8	5	16.4	5	54.1	19	(14.2)	21
Bank Four	25.2	3	15.8	9	53.3	20	6.4	13
Bank Five	19.5	15	16.1	7	60.3	9	4.9	16
Average for City D	21.4		16.6		57.9		1.5	
City E								
Bank One	17.7	19	5.8	20	66.4	2	9.3	12
Bank Two	29.9	1	8.5	18	54.6	18	3.3	19
Bank Three	17.9	18	11.7	13	58.3	14	10.2	10
Average for City E	21.8		8.7		59.8		7.6	
City F								
Bank One	21.0	11	6.6	19	65.9	3	12.6	7
Bank Two	19.7	14	4.2	21	59.6	12	16.5	4
Bank Three	22.8	7	9.5	16	62.5	6	12.0	8
Average for City F	21.2		6.8		62.7		13.7	
Average for all banks	21.7		13.0		59.8		9.0	



MAY 2015



CORPORATE FINANCE PRACTICE

## Unearthing performance gains to boost bank value

Many performance improvements can raise bank valuations. The most powerful may not be the ones you'd expect.

Kapil Chandra and Zane Williams

At a time of fitful economic growth, banks around the world have lacked one of the most powerful engines for performance and valuation: robust GDP growth in their home economies. That leaves managers scrambling for other ways to improve, largely via cost cutting, growth initiatives, risk-weighted-asset reductions, and portfolio rebalancing. Each of these can have a significant impact on a bank's health, but they don't all add value equally. How should a savvy bank executive set priorities?

One way is to gauge the impact of different metrics on bank valuation. We tested more than 60 metrics that banks might use to measure their performance, specifically examining the impact of different levels of performance on the market-to-book

ratios of more than 80 European and North American banks. At the highest level, we found that many things bank executives might expect to affect their valuation, such as market capitalization, asset size, loan quality, and business mix, actually had only marginal impact once you control for return on equity.

In general, home-country GDP growth and forecast revenue growth can have a real impact on the price-to-book ratio. But they pale in comparison to many measures that contribute to returns on equity (ROE). By measuring the impact of improving ROE by one percentage point through a single measure, while holding all others constant,<sup>1</sup> we found that changes in some components of ROE can drive bigger increases in valuation than

others (Exhibit 1)—though it should be noted that the difficulty of doing so may vary substantially.

When considering which performance improvements to pursue, we found that the relationships between a bank's performance relative to peers and valuation varied substantially. Some improvements had consistent impact on market-to-book ratios, while others did so only if a bank was at the top of the industry or getting out of the bottom.

#### Improvements to some metrics boost valuation for all banks

Performance in two areas improved ROE regardless of a bank's ranking relative to peers. First, we found improving the size of the deposit base relative to assets to be a uniformly powerful metric; a bigger deposit base routinely results in a higher valuation. The data show that this is a very reliable driver of an improved market-to-book ratio.

A second powerful factor that drives bank valuations is the ratio of risk-weighted assets to total assets. A reduction in this ratio generates large and consistent benefits. What banks achieve here will have a much bigger impact on their valuation than any other action.

The clear implication is that banks should work continually to improve these ratios and periodically relaunch programs that deliver ongoing incremental improvements.

#### Improvements to other metrics boost valuation for the best and worst performers

Several performance improvements can have a substantial effect depending on current levels of performance.<sup>2</sup> The scale of the valuation gain they offer is minimal unless a bank is either very strong or very weak at them. Banks that fall at either end of the performance ranking can improve

**Exhibit 1 Improvements to some measures of ROE affect valuation more than others.**

Improvement needed to increase ROE by 1 percentage point <sup>1</sup>	Improvement in valuation (market-to-book ratio)	Difficulty
Increase deposits by 27% <sup>2</sup>	0.36	High
Reduce risk-weighted assets by 11%	0.12	Low
Grow fee income by 28%	0.10	High
Reduce operating expenses by 4%	0.06	Moderate
Reduce equity capital by 11%	0.04	Low <sup>3</sup>
Reduce loan-loss provisions by 24%	0.03	Moderate

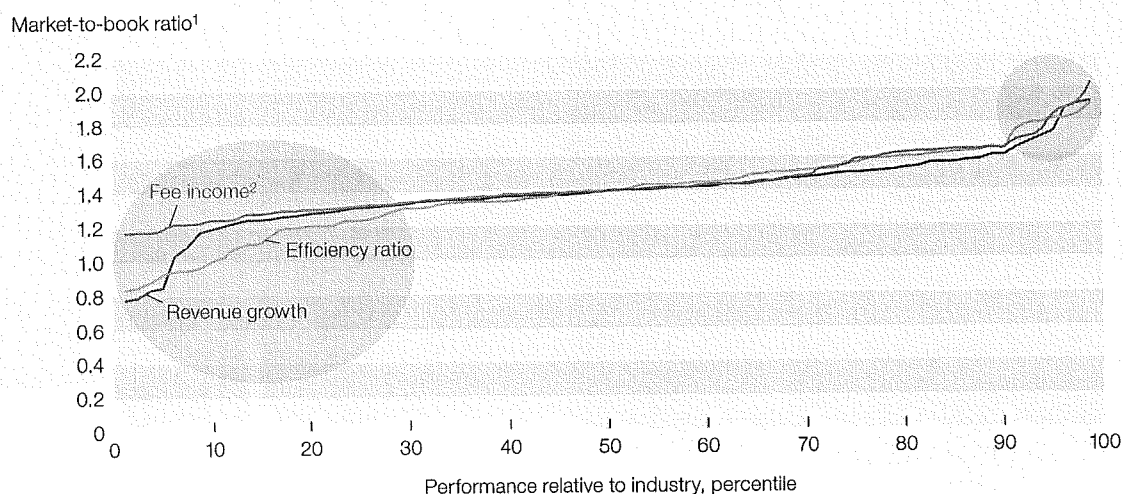
<sup>1</sup>While holding all other metrics constant, calculated for the average bank in the sample.

<sup>2</sup>Assumes deposits replace nondeposit liabilities at sample average deposit costs.

<sup>3</sup>Assuming capital remains at regulatory minimums.

Source: S&P Capital IQ; McKinsey analysis

**Exhibit 2 Improvements to some measures benefit the best and worst performers.**



<sup>1</sup>Curves show the market-to-book ratios our analysis predicted from changing 1 variable but keeping all other drivers at industry median.

<sup>2</sup>Non-net interest income.

Source: S&P Capital IQ; McKinsey analysis

their position relative to peers by focusing on three areas: fee income, revenue growth, and efficiency ratio (Exhibit 2).

The biggest gain to market-to-book valuation, even for banks in the top decile of performance, comes from finding ways to improve the ratio of fee income to total assets. Those that perform in the bottom third of rankings on this measure can also take advantage of an opportunity of similar scale. However, banks that fall in the area in between the top and bottom find little added valuation benefit from boosting relative performance incrementally. Although a bank CEO might aspire to top-decile status, it is likely that this would require a major shift in strategy and take substantial time to achieve.

Relative improvement to peers in revenue growth can also boost the valuation of a top performer. But

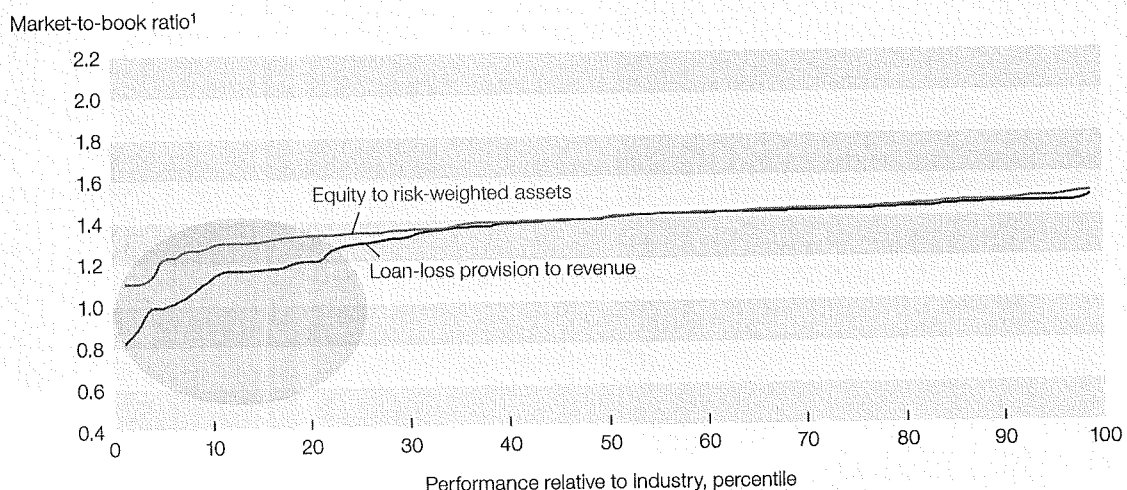
for most banks, as long as the growth forecast isn't negative, there isn't much benefit to be found here—unless revenue growth can be pushed above 8 percent.

Finally, top performers that improve the cost-to-income ratio, also known as the efficiency ratio, also see a boost to valuation. Here the data show a pronounced benefit from not being in the worst-performing 30 percent of banks. However, for those above that level, there isn't much of an impact until banks reach the top decile, where the efficiency ratio is below 50 percent.

**Some improvements boost valuation only for laggards**

Two other factors—the ratios of loan-loss provisions to revenue and equity to risk-weighted assets—only confer valuation advantages for banks if they currently lag well behind their peers

**Exhibit 3 Improvements to other measures primarily help only the worst performers.**



<sup>1</sup>Curves show the market-to-book ratios our analysis predicted from changing 1 variable but keeping all other drivers at industry median.

Source: S&P Capital IQ; McKinsey analysis

(Exhibit 3). Above-average or outstanding performance provides a marginal uplift to a bank's rating.

Banks only benefit from improving their loan-loss-provisions-to-revenue ratio when they're among the worst performers, that is, in the lowest decile. Once the loan-loss provision is less than 10 percent of revenue, further improvements may well be healthy for the bank's profit-and-loss statement, but the benefit with respect to the price-to-book valuation is minimal. The value from improving the ratio of equity to risk-weighted assets is similarly minimal once banks reach the average level of performance (with the ratio below about 12 percent). Further gains don't offer much potential to improve the market-to-book ratio.



Our findings apply to any bank, although some have more opportunity to take advantage—or more work to do in order to chalk up valuation gains. Market-based analysis can help them determine where to put their best efforts. ■

<sup>1</sup> The changes required to improve return on equity by this amount through a single measure are very large and could be difficult to do.

<sup>2</sup> The most powerful measure depends on the specific circumstances of individual banks.

The authors wish to thank Sapna Sharma for her contribution to this article.

**Kapil Chandra** is a principal in McKinsey's London office, and **Zane Williams** is a senior expert in the New York office.

Copyright © 2015 McKinsey & Company.  
All rights reserved.