

Underwriting Environmental Risk:
An Analysis of Current Practices Among Lending Institutions

by

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Bachelor of Architecture, 1993
Rhode Island School of Design

Submitted to the Department of Architecture

In Partial Fulfillment of the Requirements
for the Degree of

MASTER OF SCIENCE
In Real Estate Development

at the

Massachusetts Institute of Technology
September, 1998

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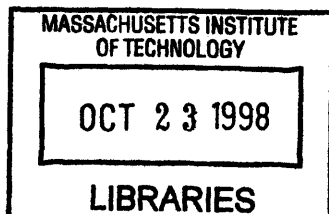
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1 ROTCH

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ABSTRACT

The purpose of this thesis is to investigate how banks and other lending institutions approach environmental risk management -- how they evaluate, screen and provide for environmental risks in loan structuring and documenting loans. The intent of this investigation is to identify and assess differences in lending policies, practices, and pricing techniques among various lending institutions. This thesis will also examine how, via their lending policies and practices, lenders can encourage sustainable development, brownfield redevelopment, and ecologically responsible technologies in property development.

This thesis proposes that there are three fundamental types of environmental risk. The first type is the actual or perceived contamination of the property that directly impairs the underlying asset value. This is the most easily understood type of environmental risk and can be assessed during the due diligence period before the transaction of the property.

After contamination, the second risk affecting collateral value may occur from subsequent restrictions on property use, or in the processes or materials employed by the business operating on the property. The Environmental Protection Agency (EPA) can impose deed or other restrictions on the use of a property because of potential environmental contamination or other environmental hazards. Such limitations against the "highest and best use" could substantially diminish the potential revenue of a property and consequentially commercial property values. In this scenario, the real asset is unaffected, but a company's credit worthiness may suffer.

The third type of environmental risk to a business is a possible change in consumer preferences or demands for eco-friendly products. In an extreme case, consumers could boycott environmentally damaging products, or possibly the firms that manufacture them. Again, losses in revenue may constrain a company's ability to satisfy loan payments.

This thesis seeks to investigate how the three forms of environmental risk are factored into loan pricing and how banks evaluate information regarding environmental policies and consumer demands when determining corporate revenues and property values. In addition, the paper will study some of the lending institutions' due diligence and loan evaluation procedures when assessing these environmental risks.

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ACKNOWLEDGEMENTS

To Ann and Dad, for coming to my aid not always when I ask for it, but always when I need it. Thank you for having the wisdom to know the difference, especially this last time. I love you.

Thank you to my family, friends, and classmates for your support and good humor.

Sincere gratitude goes to Larry Bacow. As both a professor and a supervisor, you have been more than generous with your knowledge and wisdom. Thank you.

Eternal gratitude is owed to Mollye Wolahan for her great ideas, hard work, and enthusiasm along every step of the way.

Thanks to Maria, for showing me that MIT is actually surrounded by a city.

And for Gianna, whose spirit and memory are with me always.

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Chapter 1: The Nature of Environmental Risks and Sustainable Development

Introduction

Public environmental awareness and ecological responsibility have become important considerations in today's real estate development and lending activity. Particularly from a lender's point of view, there are not only the conventional credit and legal aspects for banks to consider, but also environmental risks with adverse consequences to both borrowers and lenders. Therefore, the management of environmental risk is integral to the soundness and profitability of a lending institution's loan portfolio.

The inability to rent or operate a commercial facility deprives the owner of income and jeopardizes repayment of the loan. Furthermore, mitigating environmental risk is not just limited to site cleanup costs, but can also involve government penalties and awards to injured third parties. Given the current litigious climate, the conventional wisdom for companies threatened with environmental lawsuits is to settle matters quickly rather than to mount protracted legal battles¹.

The overarching authority defining the impact of environmental risk on real estate lending is Superfund—the Comprehensive Environmental Response, Compensation and Liability Act (see Chapter 2)². Beyond compliance with the law, one could also expect that lending institutions would pay particular attention to environmental risks,

¹ Hopkinson, Natalie. "Honda, Ford to Pay Nearly \$25 Million in Emissions Case," The Wall Street Journal, vol. CCXXXI, no.111, 9 June 1998, p. B13.

² The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) is more commonly referred to as Superfund.

which can affect a borrower's cash flow and underlying collateral value, the fundamental elements in loan underwriting and structuring.

The purpose of this thesis is to investigate how banks and other lending institutions approach environmental risk management -- how they screen, evaluate, and provide for environmental risks in structuring and documenting loans. The intent of this investigation is to identify and assess differences in lending policies and practices among various lending institutions in making and administering real estate loans. This thesis will also examine how, via their lending policies and practices, lenders can encourage sustainable development, brownfield redevelopment, and deployment of ecologically responsible technologies in property development and use.

Broadly defined, sustainable development can be characterized as a real estate development policy that incorporates ecological preservation and environmental enhancement along with the conventional components that measure economic growth. For example, the Gross Domestic Product measurement of national economic output does not consider social utility (or disutility) and ecological externalities in determining a country's wealth. Thus, irreplaceable natural resources consumed for economic production are considered only as a one-time positive payoff. Destructive externalities, such as deforestation, pollution, and soil contamination that produce latent, future liabilities, are largely ignored. The social cost of brownfields and pollution is enormous; they contribute to the esthetic and economic blight of urban and industrial areas, thereby diminishing employment opportunities, eroding the tax base, and reducing the value of adjacent properties. At the micro-economic level, clean technologies that produce less pollution and hazardous byproducts and consume fewer natural resources

are often judged to be more risky than conventional, high environmental-cost manufacturing techniques. Nevertheless, many companies have found it profitable to pursue a strategy of waste minimization and have experienced short payback periods on investments in waste management.³

There are many potential advantages for lenders, debtors, and society if lending institutions establish progressive environmental policies that promote sustainable development and mitigate financial risk exposure. Later in this chapter, this paper defines three basic forms of environmental risks and explains their importance in loan evaluation. Then the paper further examines several assumptions regarding how lending institutions address these categories of risk in their lending policies.

“Chapter 2, History of Superfund and the Rise Federal Agency Guidelines,” begins with the history of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) legislation and its impact on lender liability. Chapter 2 then examines the environmental guidelines proposed by the Federal Deposit Insurance Corporation (FDIC) and by the Federal Reserve Board for banks to incorporate in their own internal lending policies to protect themselves from environmental liability.

“Chapter 3, How Currently Banks Underwrite Environmental Risk,” describes how banks are actually underwriting environmental risks and compares these practices to the original assumptions. This investigation includes three different types of lending institutions:

- Small, local banks with assets less than \$1 billion which deal mostly with commercial loans to retail customers within a few surrounding communities;

³ Blowers, Andrew and Pieter Glasbergen. Environmental Policy in an International Context: Prospects for Environmental Change. (New York: John Wiley & Sons Inc., 1996), p. 59.

- Mid-sized, regional banks with assets over \$1 billion, which specialize in home mortgages and commercial lending and serve a wider regional area; and
- Large national financial institutions with more than \$10 billion in assets, in which commercial, corporate, and mortgage lending is only part of their broad lending and financing services.

“Green banks” -- lending institutions in which sustainable development lending is a substantial core competency -- are not considered in this study.

“Chapter 4, Looking Forward,” summarizes what was learned, formulates conclusions, and makes recommendations. This paper develops the position that lending organizations could better understand both the opportunity and risk inherent in environmental issues and could assume a greater role in promoting sustainable development as a profitable segment of their real estate portfolios.

There are many advantages for lending institutions to take a pro-active approach to evaluating environmental factors as a positive contribution to the value and credit worthiness of a property. Clean technologies frequently pay for themselves in the long run through savings on factory inputs and waste management costs. For example, waste disposal expenses can be burdensome on an operating basis even without the potential treble damages liability associated with improper disposal of hazardous substances. Clean technology capital investments may not only stabilize future cash flows by lowering operational costs, but may also add to a firm’s competitive advantage.⁴

Lenders should also appreciate the relationship between effective environmental management and low borrower default risk. There is a strong correlation between a

⁴Schmidheiny, Stephan, *et. al.* Financing Change. (Massachusetts: The MIT Press, 1997), p. 42.

firm's environmental management practices and its overall financial performance⁵. As an element of value enhancement, effective environmental risk management is indicative of a company's overall ability to sustain profits. This is not surprising, considering that today's best and brightest young managers tend to gravitate toward clean companies. Beyond career enhancement, employees want to minimize their own exposure to health hazards as well as contribute to a healthy environment.⁶ More comprehensive environmental risk assessments by lenders combined with a borrower who is an effective environmental risk manager adds to the profitability and stability of a bank's real estate loan portfolio.

Brownfield developments – the reuse of previously contaminated properties – are inevitably rising as both the scarcity of clean sites and the need for proximity increase their desirability and value. As of 1997, over 500,000 acres of brownfield properties were lying dormant.⁷ For manufacturing, distribution, and retailing companies for which location is especially important, brownfields are a potential source of competitive advantage.

Properly managed, brownfield and clean technology lending can add both to the size and to the degree of certainty of a bank's loan portfolio. Besides, there are many ancillary benefits to society if lending institutions were to make loans on previously developed brownfields and on eco-friendly projects. More brownfield investment translates into less greenfield consumption. Every time a lender turns down a loan for

⁵ Weber, Olaf. "Credit Management and Sustainable Development", article written for the workshop entitled "Sustainable Industrial Development", October 1997, p. 10.

⁶ Bennett, Steven J., ET. Al. Corporate Realities and Environmental Truths: Strategies for Leading Your Business in the Environmental Era. (New York: John Wiley & Sons, Inc., 1993), p. 12.

⁷ Telego, Dean Jeffery. Opening Remarks for the conference on Risk-Based Decision-Making in Successful Transactions and Brownfield Redevelopment." April 8-9, 1998, p. 3.

brownfield development or clean technology improvement, the public loses the opportunity for contamination remediation, cleaner air, and better public health. Furthermore, as more contaminated sites are reclaimed, the public benefits from a larger property tax base and more open space. Through more progressive environmental assessment strategies, a lender can promote a more efficient flow of private capital to fund environmentally important projects and technologies. This would reduce the necessity for intervention by federal government, whose efforts to regulate and redirect economic activity are often in conflict with the free market.⁸

Three Types of Environmental Risk Defined

Contamination Threats to Collateral Value

This thesis proposes that the first and most fundamental of relevant types of environmental risk for lenders is the actual or perceived contamination of a property. Contamination is the most basic and easily understood aspect of environmental risk because the land and the rights and responsibilities of land ownership and use are defined and controlled by the law⁹. Early in the loan application process, before major transaction costs are incurred, such risks can be dimensioned as to the likelihood and potential cost of remediation, using transaction screens, questionnaires, and Phase I and Phase II assessments and audits. Uncertainty in assessing contamination stems from the limited availability and reliability of information, self-serving disclosure

⁸ Blowers, p. 65.

⁹ Schmidheiny, p. 95.

statements, the uneven ability of Licensed Site Professionals (LSP's)¹⁰, and the capabilities of the loan officers performing the transaction screen and loan assessment.

Beyond the impact of clean up of the collateral itself, collateral value can also be adversely affected by the owner's liability for consequential damages to others. The most significant environmental legislation defining such liability is the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLA not only establishes broad legal accountability for handling hazardous waste contamination from past activities, it also defines responsibility for subsequent releases of hazardous substances into the air, soil, and ground and surface water.

Superfund stipulates that the Potentially Responsible Parties (PRP's), as defined by the Act, are liable for clean up costs plus any government fines and legal penalties associated with the contamination. A lending institution can be designated as a PRP if it participates in the operation or management of the borrower (or property), assumes excessive control over the borrower (or property), or forecloses on the secured property knowing that the site is contaminated. In such circumstances, foreclosure places a lender between the rock of Superfund liability and the hard place of breach of fiduciary responsibility. This lenders' dilemma seems not to have unduly bothered the drafters of Superfund legislation.

Superfund imposes liability on past and present owners of the property as well as lenders, regardless of fault. The federal government's rationale behind the law is to shift clean up costs to private industry without regard to fairness.¹¹ Not only do the past and

¹⁰ LSP's are qualified environmental engineers who can perform structured analysis, testing, assessments, and audits for environmental compliance for both borrowers and properties

¹¹ Robb, Kathy E.B. and Renee R. Falzone. The Impact of Environmental Laws on Real Estate Transactions. (New York: Hunton & Williams, 1990) pp. 94-95.

current responsible parties have to pay for damages, but faultless parties are also held liable for clean up costs if they capture the economic benefits of remediation. In this chain of successive joint-and-several liability, the government has a propensity for going after the “deep pocket” entity, leaving that party to sue the others for their contribution. Larger banks, unfortunately, are usually deemed to be the “deep pocket” entity. Although CERCLA contains a “security interest exemption” that may exclude the lender from the definition of an “owner or operator”, the lender should take care in not assuming too much control over its debtors, and it should take extra precaution on foreclosing on blighted properties.

At the extreme, federal and state Superfund laws can decimate collateral value by attaching a lien with priority status over all existing recorded liens on the property. Such “Superliens” preempt all other subordinate security interests. With the secured property so encumbered, the borrower can not transfer or sell the collateral. Furthermore, Superfund can even attach the borrower’s other uncontaminated real properties and unrelated business assets, with devastating effects on the entire enterprise. Even in bankruptcy proceedings, federal and state agencies have priority status for environmental compliance.

Use Restrictions and Regulatory Risks to Borrower’s Business Functions

After contamination, the second risk affecting collateral value can occur from subsequent restrictions on property use or on the processes or materials employed by the business operating on the property. The Environmental Protection Agency (EPA) can impose deed or other restrictions on the use of a property because of potential

environmental contamination or other environmental hazards. Such limitations against the “highest and best use” can substantially diminish the potential revenue of a property and consequentially commercial property values. The market value of a commercial property is determined by Net Operating Income (NOI) divided by a Capitalization Rate (cap rate) derived from current local real estate activity or industry multiplier. In addition, the market value of a site cleaned up to pristine conditions can still be endangered if nearby sites still contain hazardous substances. An intangible, though real, concern is the lingering stigma of contamination that prevents landowners from charging market rents on the property.

Another impediment to “highest and best use” can result from the enactment of new environmental regulations and compliance requirements that adversely affect the material input costs or operating costs of certain manufacturing processes. Such restrictions include limitations on the use of certain materials or inputs that are potentially toxic to people or the environment, reductions in the amount of effluent or other emissions, and higher required levels of further remedial action. Subsequent revisions to CERCLA regulations can require additional cleanup action even after previous remediation standards have been satisfied. Extended remediation causes operating disruptions and can stretch a borrower’s financial resources and severely constrain its ability to keep the loan current. Environmental compliance and restrictive waste management permits can become so onerous that the borrower can not generate enough revenue to both service the loan and continue operations. Credit instability is exacerbated when operating and process compliance requires large capital outlays that

often necessitates additional loans. The resulting decreases in NOI can jeopardize the collateral value even though the real asset has not been physically damaged.

Adding to the complexity of regulatory restrictions on property use risk is the number of state and federal environmental agencies that have the authority to impose different constraints on a company or property. These diverse agencies have their individual mandates that reflect their own statutory environmental responsibilities, without regard to consistency or to the fiduciary responsibilities of the lender. Through the manipulation of the taxation and monetary systems and its legislative power, the federal government has an overarching ability –though not always direct -- to divert economic activity away from highly polluting industries.¹²

Consumer Preferences as Environmental Risk

The third form of environmental risk arises from the adverse consequences of “green consumerism” and environmental activism on the reputation and market strength of businesses. Consumer and investor preferences have shifted toward environmental friendliness and ecological balance. Companies, products, and projects (including development and land use projects) that are considered to be environmentally harmful or insensitive are exposed to public opposition and retaliation. As more consumers become environmentally concerned, businesses with poor environmental records can face diminishing revenues. In an extreme case, boycotts and the ensuing bad press could create a hostile business climate, severely curtailing the borrower’s ability to perform business activity on an ongoing basis. To an active environmentalist, such

¹² Blowers, p. 65.

boycotts are not an attack on a business; rather, it is the firm's ecological destructiveness that is an attack on itself.¹³

Hypotheses of Current Bank Practices

Before conducting formal research, this paper formed several hypotheses regarding how banks evaluate and assess environmental risk. The first premise is that banks focus on possible contamination, the most basic environmental risk to the collateral value, and largely ignore impaired use and negative consumer preferences as environmental risks that could adversely impact a borrower's cash flows. Banking organizations are more focused on investigating the presence of hazardous substances and on the assessment of adverse effect on collateral value. This focus reflects both a concern for the viability of the loan and the lender's looking to the property as the first form of collateral in case of default. Therefore, banks would want to determine to the highest degree of certainty the presence and extent of contamination.

The second assumption regarding bank lending practices is that institutions, in an effort to limit their liability, would be extremely averse to providing loans on properties with any sort of environmental stigma. This assumption is partially substantiated by a 1991 survey by the American Banker's Association. This study of small banks and Savings and Loan lenders discovered that 62.5% of the respondent banks had rejected loan applications because of the potential for environmental liability. The survey also found that 45.8% of these banks were discontinuing doing business

¹³ Jenner, Paul. The Environmental Business Handbook, First edition. (Trowbridge, England: EUROMONITOR, 1989), p. 165.

altogether in high environmental risk industries such as petro-chemical companies and dry cleaners.¹⁴

Further support of this avoidance assumption is provided by a later survey conducted in 1996. Of 159 banks surveyed, 145 stated that they had refused, at least once, to grant a loan because of the fear of Superfund liability. Fifteen respondents had received letters from the EPA notifying them that they were Potentially Responsible Parties (PRP's) under CERCLA. Of this group, twelve were forced to pay remediative action costs and penalties. In addition, seven others were sued in private, third party lawsuits.¹⁵ It seems reasonable, therefore, to assume that "environmental redlining" is a characterizing practice of commercial real estate lenders.

The final assumption on bank lending practices is that, when underwriting loans, banks use traditional asset-based, loan structuring methodologies and do not have a pricing strategy that specifically reflects the environmental credit risk. Bank risk management decisions are dominated by their perceived fiduciary duty to minimize risk and preserve capital.¹⁶ Prudence rather than pricing prevails when environmental and other social risk factors affect lending decisions. This notion of prudence originated from a Massachusetts court ruling in 1830 and later became known as the "Prudent Man Rule":

All that can be required of a trustee to invest is that he shall conduct himself faithfully and exercise sound decision. He is to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to permanent disposition of their funds, considering probable income, as well as probable safety of capital to be invested.¹⁷

¹⁴ Schmidheiny, p. 104.

¹⁵ Dennison, Mark. "Environmental Due Diligence Means Risk-Based Lending Vigilance," The Bankers Magazine. July/August 1996, p. 3.

¹⁶ Schmidheiny, p. 82.

¹⁷ Ibid., pp. 82-83.

This prudent lending approach, which enshrines precedent and generally accepted practices, remains prevalent in today's banking organizations. Therefore, this paper assumes that lenders treat environmental risk as a form of credit risk to be avoided rather than to be mitigated through higher rates or other loan fees.

Description of Research

The purpose of this research is to better understand how lending institutions evaluate environmental risks and to the role of bank lending decisions in advancing the cause of sustainable development. This paper structures the analysis of environmental risks by dividing the lending process into three stages: *Loan Origination*, *Loan Structuring and Pricing*, and *Loan Administration*.

Loan Origination is the first stage, involves the initial process of making the loan and includes transaction screens, disclosure statements, due diligence, and credit review (the "five C's"- Cash flow, Collateral, Character, Capacity, and Compliance Conditions)¹⁸. Inter alia, due diligence addresses the environmental considerations affecting both the economics of the loan as well as the underlying collateral.

Once the loan origination reviews have been compiled, the second phase of the loan process is *Loan Structuring and Pricing*. Once all relevant risks, including environmental risks, are evaluated to a reasonable degree and the bank is comfortable making the loan, it then structures and prices the loan commensurate with the credit, default, and interest rate risks involved. Financial parameters--rates, terms, Loan-to-Value ratios, and Debt Service Coverage ratios--are established. Appropriate protection

language covering indemnities, insurance, holdbacks, representations and warranties, covenants, and protection of collateral is incorporated in the loan documentation.

The final phase of the loan process is the continuing *Loan Administration* during the life of the loan. Beyond the routine collection and application of payments and collateral administration, the need may arise for interest rate resets, term renegotiations, refinancing, extensions, workouts, and foreclosure. Throughout the life of the loan, periodic assessments and monitoring of the borrower and the property help ensure compliance with loan covenants and other agreements. In addition, appropriate review of the property's use and condition regarding risk and compliance should be performed.

Our research included interviews with senior lending officers and environmental risk managers from several types of banks and with outside environmental attorneys. These interviews provided information about the lending policies of banking organizations during each of the three stages of the loan process as well as insight into how banks consider and assess environmental risks.¹⁹

Secondary research included both published material and lenders' internal documents. Published materials included environmental articles and presentations prepared for conventions on environmental issues and lending practices, as well as books and papers regarding sustainable development. Annual reports from banking organizations provided information regarding the size of their loan portfolios and the types of services provided by these institutions to their targeted borrowers. Bank and

¹⁸ Telego, Dean Jeffery. "Banking on Brownfields: Financing the Reuse of Contaminated Commercial and Industrial Sites", Presented to the conference on Risk-Based Decision-Making in Successful Transactions and Brownfield Redevelopment." April 8-9, 1988, page 5.

¹⁹ The bibliography contains a list of companies interviewed for this paper. The interviewees are treated with confidentiality. The composite results of these interviews are reported throughout this thesis without specific attribution.

Chapter 2: History of Superfund and the Rise of Federal Agency Guidelines

Origins of Superfund and the Federal Agency Guidelines

The Comprehensive Environmental Response, Compensation Liability Act was enacted in December of 1980 in response to the growing problem of improper handling and disposal of hazardous substances. Superfund was enacted in the aftermath of the Love Canal in the late 70's. The original \$1.6 billion fund is in part replenished from federal funds and tax revenues, but also from litigation settlements and recovery of fines from responsible parties. Currently General Accounting Office estimates that there are 450,000 brownfields in the United States.¹ As amended, the Superfund legislation empowers the EPA to identify and clean up hazardous waste sites and contaminated properties and then look to the potentially responsible parties for reimbursement.²

The Superfund has revolutionized the evaluation and management of environmental risks associated with real estate transactions and has brought such matters to the forefront of established lending practice. Although enacted in 1980, the consequences of CERCLA took several years to be fully appreciated by lenders. It was only after a series of Superfund rulings against lending institutions that lenders began to pay attention to environmental factors. The federal government pursues a policy of shifting the burden of cleanup costs to private parties, regardless of fault. The potential

¹ Kimball, David. "Opportunities Abound, But Don't Expect to Bottom-Fish Your Way to Profitability," Development, vol. XXIX, no. 1, spring 1998, p. 9.

² Olexa, Michael T. "Contaminated Collateral and Lender Liability, CERCLA, and the New Age Banker," American Journal of Agricultural Economics, vol. 73, no. 5, December 1991, p. 1388.

exposure to liability on the part of relatively innocent lenders is the perhaps the most astonishing aspect of CERCLA.³

Superfund defines which entities are subject to liability for the clean up costs of hazardous substance contamination. These include "the owner and operator of a vessel or facility", or any person who at the time of disposal of any hazardous substance "owned or operated any facility at which such hazardous substances were disposed of".

There are four liability standards that the banking organization should be concerned with under CERCLA:

1. **Strict Liability:** This standard applies regardless of whether intent or prior knowledge of the situation was present and is subject only to very narrow legal defenses. The statute of strict liability means that the Government does not have to prove the owners or operators had knowledge of, or caused the contamination.
2. **Joint-and-Several Liability:** Each party involved with the property may be responsible for the total cleanup costs or damages, even when other parties are known to have contributed to the problem. This allows the Government to seek recovery of the entire cost of the clean up from any individual party that is deemed liable and has "deep pockets."
3. **Retroactive Liability:** A property owner can be responsible for actions occurring many years prior to the passage of the law, regardless of whether their previous actions were the standard practice of the time or had received regulatory agency approval.
4. **Unending Liability:** Liability for a problem occurring during ownership on a site does not end with the transfer of property, but extends as long as the problem remains.⁴

As the result of several lawsuits beginning in the middle 1980's against lenders, some lenders initiated their own environmental risk management policies. Perhaps the most influential case for lending activity to emerge out of Superfund litigation is the

³ Nanney, Donald C. Environmental Risks in Real Estate Transactions: A Practical Guide, Second edition. (New York: Executive Enterprises Publications Co., Inc., McGraw-Hill, 1993), p. 4.

United States vs. Fleet Factors filed in 1990, which argued that a lender's mere capacity to influence a borrower's decisions could trigger the "participation in management" clause under CERCLA.⁵ If interpreted strictly, this clause could have had a devastating effect on lending activity. For example, a lender extending credit to a borrower could expose itself to unlimited liability due to the acts of the borrower. In response, the EPA in April of 1992 promulgated the "security interest exemption" and the "involuntary acquisition" element of the innocent landowner defense. This ruling became known as the EPA Lender Liability Rule⁶ and clarified that *actual* [emphasis added] control by a lender is necessary to constitute "participation in management".

However, the ruling sets forth two conditions in which the lender could be still held liable for environmental liability under CERCLA. First, a bank remains liable if it directs the borrower's environmental compliance decisions. Such direction would include the bank's recommending the use of an LSP who was negligent in performing a Phase I or II site assessment or audit. It would also include the lender making decisions regarding remedial action and waste disposal. The second exposure to loss of the security interest exemption occurs if the lender controls the overall management of the buyer with respect to environmental compliance, or takes part in a significant portion of the business' daily operations. The lender can also lose the security interest exemption if it assumes an active role in forming a Phase III remediation program. A Phase III

⁴ FDIC, Division of Depositor and Asset Services. Environmental Guidelines Manual. October 1997, appendix B2-3.

⁵ Ibid., p. 2

⁶ Ibid.

plan is defined as a remediation or clean up of an environmental contamination problem and requires agency approval before it can be implemented.⁷

The Fleet Factors case raised the possibility that a banking organization could incur environmental liability just by granting a loan to a borrower regardless of prior knowledge of contamination. According to many of the interviewees, this case caused much anxiety through out the lending community. Prior to the 1992 clarification, the Federal Reserve Board issued its environmental policy guidelines entitled "Environmental Liability" (SR 19-20), which will be discussed later in the next section of this chapter. The guidelines were partially motivated by the Fleet Factors case and partially by the fact that both the federal government and FDIC-insured banks were holding many foreclosed properties with environmental problems. These foreclosures where caused by the Savings and Loan crisis of the late 1980's combined with the economic recession of the early 1990's.

From the mid-1980's and up to the Fleet Factors case in 1990, court decisions were severely interpreting how banking organizations were participating as operators in contaminated properties and therefore liable under CERCLA. This prompted the Federal Reserve Board to help nationally chartered banks in forming safeguards against environmental liability. The Federal Reserve guidelines primarily focus on the responsibilities and risks associated with contamination pursuant to the Superfund statue. The intent of these guidelines is to "identify and minimize potential

⁷ Parks, David C. Environmental Management for Real Estate Professionals. (Institute of Real Estate Management of the National Association of Realtors, 1992), p. 66.

environmental liability” for the banking organizations.⁸ The Federal Reserve Board is the controlling body of the nation’s monetary system, and part of its responsibilities is to “contribute to financial stability and better economic performance by limiting the scope of financial disruptions and preventing their spread outside the financial sector.”⁹ Therefore it has the authority to maintain the integrity and solvency of the banking system, specifically nationally chartered banks.

The Federal Reserve is partially concerned with situations in which lending institutions could be held directly and solely responsible for remediation costs as well as the legal liability of a PRP. These penalties can be severe. In addition to remedial action costs (including interest) incurred by the Government or state , a PRP may be required to pay up to \$50,000,000 for natural resource damages, plus civil penalties of \$25,000 per violation. The civil penalties can be assessed for every day of on-going non-compliance.¹⁰ The other issue that the guidelines address is the more common situation where lenders abandon their claims to the security because remediation costs and/or potential environmental liability costs exceed the balances owed by the debtor.

In February of 1993, the Federal Deposit Insurance Corporation issued “Guidelines for an Environmental Risk Program” (FIL-14-93) directed at the chief executive officers of FDIC-supervised commercial and savings banks. The guidelines were intended to provide an overview of environmental risks and offer some recommendations about establishing an environmental risk program tailored to the

⁸ Board of Governors of the Federal Reserve System, “Environmental Liability” (SR 91-20), 11 October 1991, p. 4.

⁹ Federal Reserve Board Internet site, “Goals of the Monetary Policy.”

¹⁰ Nanney, p. 5.

lending activities of the lending institution and its various branches. The FDIC guidelines will be discussed later on in this chapter. The motivation behind the guidelines overlaps the concerns of the Federal Reserve Board and the guidelines address similar issues. However, as the insurer of depositors' accounts, the FDIC has fundamental responsibility for a member banking organization's solvency:

Institutions need to implement an environmental risk program in order to evaluate the potential adverse effect of environmental contamination on the value of real property and potential environmental liability associated with the real property. The failure of an institution to evaluate potential environmental risks associated with real property may contribute to an institution's inability to collect on its loans and affect the institution's financial condition.¹¹

Both the Federal Reserve guidelines and the FDIC guidelines address environmental risk as a form of credit risk affecting the borrower, and not necessarily limited to the secured property itself. For example, a borrower may be forced to pay remediation costs for a property unrelated to a loan with a particular institution. Even though the bank's collateral is intact, onerous clean up costs on another site may threaten the debtor's capacity to satisfy debt payments. In addition, first priority Superliens can be attached to all the borrower's property and assets. An example would be an instance where a loan is made to a borrower to fund operations or manufacturing equipment. If the borrower is later held responsible for cleaning up hazardous materials, the burden of remediation could threaten its solvency and jeopardize the bank's collection on an outstanding loan. The Federal Reserve guidelines also point out the environmental risks which can be borne or caused by

¹¹ Federal Deposit Insurance Corporation, "Guidelines for an Environmental Risk Program " (FIL-14-93), 25 February 1993, p. 2.

parent corporations and subsidiaries or by successor companies of irresponsible businesses. Furthermore, courts have ruled that the corporate veil does not necessarily protect companies as it pertains to environmental liability.¹²

Federal Reserve Board Environmental Liability Guidelines

Summary of the Environmental Policies and Procedures

According to the Federal Reserve Board, loan policies and procedures should address methods for identifying potential environmental problems relating to new loans as well as to existing loans in the bank's portfolio. Throughout the loan cycle, the bank's loan policy should require due diligence in proportion to the degree of credit risk. In other words, borrowers in high-risk industries or localities require a more stringent investigation than relatively low risk entities. Banks should also develop standard operating procedures for portfolio analysis, credit monitoring, workouts, and foreclosures. Whatever established management program they implement, banks should take extra precautions that their environmental risk management activity does not constitute "participation in management" according to Superfund interpretations.¹³

The guidelines went on to describe six basic steps to avoid, or at least mitigate, environmental liability. It should be noted that these guidelines were intended to be general. Their abstraction is meant to provide flexibility for banking organizations when banks customized their own institutional policies and procedures to accommodate their individual lending activities and risk tolerances. The guidelines provided an overview of

¹² Robb, Kathy E.B. and Renee R. Falzone. The Impact of Environmental Laws on Real Estate Transactions. (New York: Hunton & Williams, 1990) p. 66

¹³ Board of Governors of the Federal Reserve System, p. 2.

environmental hazards as they relate to credit risks, but primarily focused on the screening and testing of the site and adjacent properties. The Federal Reserve guidelines failed to offer substantive advice on how to determine a comprehensive risk tolerance nor did they proscribe specific training for bank personnel. This paper organizes and explains the six recommendations according to the *Loan Origination*, *Loan Structure and Pricing*, and *Loan Administration* model set forth in Chapter 1.

Loan Origination

First, the Federal Reserve guidelines suggested that lending institutions should adopt documented practices to conduct an appropriate analysis of the property offered as collateral. The guidelines recommended that as the level of environmental risk rises, the more rigorous the investigation should be.¹⁴ The following are three prescribed types of analyses and procedures that the guidelines proposed should be incrementally undertaken as the level of environmental liability increases:

1. **Environmental review:** The screening of the borrower's activities should be performed by the bank's own personnel or by real estate appraisers using questionnaires, interviews, and walk-throughs. The site's prior uses as well as the adjacent properties should be reviewed.
2. **Phase I Environmental Assessment:** A structured analysis by qualified individual should be done to identify a borrower's past practices, regulatory compliance, and potential future problems. EPA records should also be checked.
3. **Phase II Environmental Audit:** A professional engineer or licensed site professional performs more comprehensive testing of soil and air samples if the Phase I assessment suggest further testing is warranted.¹⁵

¹⁴ *ibid.*

¹⁵ *ibid.*, pp. 2-3

Secondly, the guidelines encouraged banks to develop record-keeping procedures and checklists to document the due diligence efforts taken at the time of origination, or prior to acquiring foreclosed collateral. Most banks cite using slightly modified ASTM transaction screens for their initial environmental review. The ASTM transaction screens will be discussed in more detail in Chapter 3, *How Banks Currently Manage Environmental Risks*. As a standard operating procedure, all of the banks interviewed have the borrower perform the Phase I site assessment. Additional testing is done only if environmental conditions warrant it.

Loan Structuring and Pricing

This third stage of the loan process is the least defined. The guidelines advised that banking organizations should include warranties, representations and indemnifications in loan agreements. These should be designed to protect the lender from losses stemming from hazardous substance contamination. Virtually all of the banks that make loans with environmental issues go beyond this suggestion and also include covenants that require borrowers to comply with all applicable environmental laws. How banks underwrite environmental risk will be discussed further in Chapter 3.

Loan Administration

The fourth step a banking organization should undertake is to prepare an environmental policy statement and to provide training programs for lending staff in order to protect itself from financial losses due to environmental causes. Towards this end, most lending institutions provide their staff with seminars on environmental risks

and legislation. Banks also encourage personnel to participate in forums on current environmental issues. Many banks' General Policy Manuals contain an Environmental Risk Management section that contains environmental terms, regulations, and liabilities as they pertain to borrower credit risk or collateral value. The Environmental Risk Management policy usually states the environmental program's objectives and frequently has an admonishment against participating in borrower activities.

After an environmental policy has been approved, the bank is encouraged to create a position or department responsible for environmental risk management policy. The functions of this unit should include setting risk policy, establishing loan evaluation and monitoring procedures, reviewing individual loans and recommending suitable structures, and overseeing compliance with risk policies for new and existing loans.

The sixth and final recommendation involves setting up an oversight procedure for reviewing existing loans in order to detect potential environmental problems early. The quality of diligence varies widely among banks. This paper will discuss the differences in loan review practices in more detail in the FDIC section in this chapter.

FDIC Guidelines for an Environmental Risk Program

Summary of the Environmental Risk Program

The FDIC proposed that, as part of the institution's overall decision making process, the environmental risk program should establish procedures for identifying and evaluation potential environmental concerns associated with lending practices and other

actions relating to real property.¹⁶ The board of directors should review and approve the program and designate a senior officer knowledgeable in environmental matters responsible for program implementation. The environmental risk program should be tailored to the needs of the lending institution. Institutions that have a heavier concentration of loans to higher risk industries or localities of known contamination may require a more elaborate and sophisticated environmental risk program than institutions that lend more to lower risk industries or localities.

The FDIC guidelines also prescribed staff training, environmental policy guidelines and procedures, environmental reviews or analyses during the application process, loan documentation standards, and appropriate environmental risk assessment safeguards in the event of loan workout situations or foreclosures. The following section outlines and summarizes the components of the FDIC guidelines along the lines of the 3-stage loan process model.

Loan Origination

Environmental Risk Analysis: Initial environmental risk analysis needs to be conducted during the application process. This review allows the lending institution to prevent or minimize the environmental risk exposure that may result in potential losses. The loan officer should gather as much information as possible concerning the loan applicant's business activities. Interviews and inquiries about the site's past and present uses should be conducted. A physical inspection of the property should be done to verify that there is no obvious visual evidence of environmental damage.

¹⁶ Federal Deposit Insurance Corporation, p. 3.

Based on the interviews, banks use either ASTM transaction screens or a customized version of them when performing the initial stages of due diligence. The ASTM model, described in Chapter 3, addresses most of the environmental issues associated with real property.¹⁷

Structured Environmental Risk Assessment: Whenever an environmental issue becomes evident, a qualified consultant should perform a more extensive analysis. Also, a review of public records should include contact with federal and state environmental protection agencies to determine whether the site or loan applicant has been censured for environmental contamination or for violations concerning environmental laws.

This investigation learned that Phase I site assessments are performed as a matter of course during due diligence. Even small banks that do not have an environmental policy or knowledge of the FDIC's guidelines require them as part of the loan application. If a Phase II audit determines that the complexity of the problem is beyond the staff's level of experience, the bank will hire outside consultants and legal experts.

The larger banks perform compliance audits and emission permits to ascertain a level of risk for borrowers in high-risk industries. If pollution permits are restrictive and the borrower's environmental history is poor, the lending institution will most likely redline the loan.

¹⁷ ibid.

Loan Structuring and Pricing

Loan Documentation: Loan documents should include language to safeguard the institution against potential environmental liability and losses. Such language might require that the borrower complies with environmental laws, disclose information about the environmental status of the real property collateral, and grant the institution the right to acquire additional information about potential hazardous contamination by inspecting the property for environmental concerns. The loan documents might also provide that the bank has a right to call the loan, refuse to extend funds under a line of credit, or foreclose if hazardous contamination is discovered in the real property collateral. The loan documents might also call for an indemnity of the institution by the borrower or guarantors for environmental liability.

Most of the larger banks employ rigorous loan underwriting techniques. Almost all of them in our survey incorporate holdbacks and escrows as protection against excessive remediation costs. In addition, they include covenants that address the obligations of the borrower for remediative action or environmental compliance issues. All borrowers, regardless of the presence of contamination or environmental issues, are required to indemnify the lender for any and all environmental liabilities that stem from the property.

Loan Administration

Policies: Loan policies, manuals and procedures should include environmental issues and liabilities that reflect the banking organization's lending activities. In addition,

procedures for the resolution of environmental concerns, credit risk monitoring, workouts, and foreclosures should also be established.

In practice various banking organizations and branches do customize their policies and procedures to reflect their risk tolerances and lending activities. Furthermore, different lending departments can have slight variations in their lending policies. For example, corporate lending departments do not address remediation issues as diligently as commercial lending departments. Regardless of lending activity or bank size, all of the banks' program objectives pledge to avoid engaging in borrower activities which may result in environmental liability and to comply with all environmental laws.

Monitoring: The environmental risk assessment should continue during the life of the loan by monitoring the borrower and the real property collateral for potential environmental problems. The institution should also be aware of changes in the business activities of the borrower that result in a significant increased risk to the collateral. If there is a potential for the environmental contamination to adversely affect the value of the property, the institution might exercise its rights under the loan to require the borrower to resolve the condition and to take actions that are reasonably necessary to protect the value of the real property.

This paper discovered that there is no uniform practice among banks in monitoring loans. Different lending institutions have very distinct levels of attentiveness for following loans. These different monitoring strategies have nothing to do with the size of the bank. Some banks periodically check on the collateral or borrower's

practices only if is in a high-risk category. Other banks have no policy for regularly supervising loans. One bank in this study employs a tiered strategy for monitoring loans. High-risk loans are monitored at least once a year while medium-risk loans are checked every two or three years. Low-risk loans are monitored on three-year cycles.

Involvement in the Borrower's Operations: Under Superfund, the institution may have an exemption from environmental liability as the holder of a security interest in the real property collateral. In monitoring a loan for potential environmental concerns, and resolving those environmental situations as necessary, the institution should evaluate whether its actions may constitute the "participation in management" of the business located on the property within the meaning and intention of CERCLA.

Foreclosure: A lender's exposure to environmental liability may increase significantly if it takes title to real property held as collateral. The institution should evaluate the potential environmental costs and liability in conjunction with an assessment of the value of the collateral in reaching a decision to take title to the property by foreclosure or other means.

All of the banks in the study perform due diligence whenever the security of the collateral may potentially be threatened.

Training: The environmental risk program should incorporate sufficient training in order to effectively implement and follow the environmental risk program within the organization. Personnel should have adequate knowledge and experience to determine

and evaluate environmental concerns. If the complexity of the environmental issue is beyond the expertise of the institution's staff, the institution should seek outside consultation with the appropriate qualifications.

Investigation discovered that lending institutions have capable upper level environmental staff. Many of the senior Environmental Risk Managers that were interviewed had some sort of legal training or experience. Other ERM's had been consultants working for environmental engineers or licensed site professionals. In addition to creating and revising the bank's environmental policies, the ERM's are also responsible for training lending staff about environmental issues. Environmental managers instruct loan officers to have general knowledge and awareness of the issues and liabilities associated with real estate and manufacturing.

Supervisory Policy: Examiners will review an institution's environmental risk program as part of the examination of its lending and investment activities. When analyzing individual credits, examiners will review the institution's compliance with its own environmental risk program. Failure to establish or comply with an appropriate environmental program will be criticized and corrective action required.

Although the FDIC guidelines are somewhat clearer than the Federal Reserve Board's, there are still not very specific. The intent was to outline some of the issues in general so that banking institutions can customize the guidelines to suit their lending activity. Despite their vagueness, most of the lending institutions in this study cite their influence in establishing their organizations' environmental risk management policies.

In October of 1993, the FDIC's Division of Depositor and Asset Services (DAS) developed a more specific set of guidelines based on the FDIC Guidelines for an Environmental Risk Program. The manual was designed for Account Officers and Environmental Coordinators to create effective, consistent, and cost efficient environmental risk management which will reduce the possibility of diminished loan recovery and environmental liability. It sets forth the minimum procedural requirements to be followed when handling assets with environmental issues. It provides matrices and checklists on how to perform inspections, interviews and disclosure statements, monitoring, and foreclosure proceedings. It also provides information about important federal and state environmental regulations, including CERCLA, as well as defining some of the more important court rulings as they affect lending institutions.

Chapter 3: How Banks Currently Underwrite Environmental Risk

Overview

This chapter describes how banks deal with environmental risks in the making of real estate loans. With minor variations, banks employ similar organizational structures and processes for originating, structuring, and administering their real estate loan portfolios. Within these broad functions different sized banks are more or less specialized in their treatment of the environmental risk aspects of loan making. Differences in scale, geographic and borrower diversity and proximity-to-the-borrower account for most of the differences in approaches among different lending institutions. Of lesser importance, though still significant, are the lending histories and cultures of individual institutions and the branches within them.

This discussion of lending practices is organized around the specific aspects of risk management associated with each environmental threat to collateral value: contamination, use and operational restrictions, and adverse consumer preferences. Practices employed during each loan phase—*Loan Origination*, *Loan Structuring and Pricing*, and *Loan Administration*—are described and characterized as to prevalence, effectiveness, and potential impact on sustainable development.

The principal sources of research reported in this chapter include:

- general reading on the policies, operations, and practices of lending institutions for underwriting loans; see especially *Bank Lending Policies* by Douglas A. Hayes referenced in the bibliography. Other sources include sample Environmental Risk Management Policies from environmental data consultants and the FDIC's Division of Depositor and Asset Services (DAS) Environmental Guidelines Manual;

- structured interviews with senior lending officers, environmental risk managers, accountants, and attorneys;¹ and
- unstructured discussions with borrowers, bankers, real estate lawyers, real estate finance consultants, Licensed Site Professionals, bankers, and bank industry consultants.

In general, opportunities for banks to make commercial and real estate loans originate from the interactions between the bank's account officers and their customers. In a corporate or commercial banking relationship, the need for a real estate loan will usually arise in the context of the bank's overall credit relationship and history with the borrower, who might also have a short-term credit line and other outstanding asset-based loans. Although it could vary with the size and scope of the developer, a real estate loan typically originates with a bank's branch-based loan gathering operation.²

The loan origination process for real estate loans is commonly handled by a central headquarters department serving the entire bank, or in a national bank, a geographic region. This department drives the origination process through the bank's established procedures for qualifying the borrower, valuing the property and its projected cash flows, and performing due diligence, including environmental risk assessments. As described in more detail later in this chapter, larger banks will have dedicated Environmental Risk Management (ERM) departments that participate in the environmental assessment process. Depending on loan size, loan approval is required

¹ Due to the sensitive and proprietary nature of this subject, several of the representatives of the lending institutions requested anonymity. Because the sample of interviewees is limited, many of the statements are generalized in order to prevent statements from being attributed to a certain individual, lending institution, or entity.

² This general description on the organization of banks is based upon Bank Lending Policies by Douglas A Hayes and Commercial Loan Analysis by Kenneth R. Pirok, as well as primary research on environmental risk.

by one or more credit committees separate from both the account management and loan processing departments. A credit committee has final decision-making authority, and can recommend approval subject to revision of terms or other forms of credit enhancement.

Working with the bank's internal or outside real estate counsel, the origination department will structure the loan (i.e. set its basic financial provisions), sometimes interacting with the credit committee. The various documents required to close the loan are prepared by this group in negotiations with the borrower, the borrower's counsel, and other consultants. Once the loan is closed and "booked", the bank's loan administration department, usually one dedicated to real estate, takes over routine processing and oversight functions.

Within this general framework, banks to a greater or lesser degree have processes and personnel dedicated to the environmental component of loan making and loan administration. The remainder of this chapter specifically addresses these practices.

General Discussion

Within a broad overall framework, lenders employ their own individual approaches for underwriting environmental risk. Each bank has its own risk tolerance, depending on a variety of factors. Based upon the experiences of some real estate finance consultants, larger banks are more comfortable in making loans with environmental risks than smaller lenders. In general banks that have a longer history of successful underwriting when environmental issues present are more likely to extend

credit. Conversely, if a bank had a bad experience with a borrower in a high-risk industry or area, the bank would be less inclined to make a loan in similar circumstances.

Large banks, defined here as those who have a national or international network of branches, have multiple core businesses, and have assets over \$10 billion, are more structured in their lending procedures as they relate to environmental considerations. They usually have large, well-trained environmental risk management departments, organizations dedicated to managing environmental credit risk policies and for training the bank's lending staff, credit officers, and loan administrators. These environmental departments are, by design, organizationally separate from the departments that are originating and underwriting individual loans

Although lending decisions may be distributed among corporate, commercial, and mortgage lending departments and branch locations, there is usually one main Environmental Services (ES) or Environmental Risk Management (ERM) Department. Its primary purpose is to limit risk to the bank of losses due to the environmental liabilities of its borrowers or arising from the bank's own activities in managing its real estate loan portfolio. According to the loan officers of both national and regional lending institutions, environmental risk and liability are treated as credit risk, and while loans with environmental concerns are reported to and screened by the ERM department, which acts in an advisory capacity with respect to environmental considerations.

Even though the ERM departments determine an institution's environmental lending policy, there can be slight variations for individual departments and branches. These differences may reflect a particular marketing objective, risk tolerance, a unique

location or industry served, or atypical loan patterns vis-à-vis the rest of the banking organization. Therefore, a large lending institution requires an environmental policy that is comprehensive enough to protect the institution and flexible enough to be differentiated for the needs of various departments and branches. The ERM of a large banking organization stated that if an individual department or branch wants to create its own policy, it has to make a written request to the ERM department and the Board of Directors. Both the ERM department and the board must agree that the request is appropriate. It is seldom the case, however, for branches or departments petition for individual policies.

Mid-sized lending institutions—those banking organizations, which serve a diverse market and manage over \$1 billion in assets—are often as well positioned as the largest banks when it comes to underwriting environmental risks. Because they are frequently more focused on certain industries in their geographies, they may be more aggressive than large banks in providing loans on properties with environmental issues.

Besides competitive pressures and a more enterprising business style, there are two good reasons for regional banks are willing to extend credit on contaminated or potentially contaminated collateral. Regional banks usually have local branches close to their corporate headquarters, which have fewer layers of management than the largest banks. Thus, a local branch can originate a loan and have it reviewed by its ERM department, and underwritten and documented relatively quickly. Another key advantage is that middle sized banks have “local knowledge”. They can be more familiar with the local borrowers, conditions and histories and had prior experience with certain environmental issues, or even properties in a given area. Familiarity provides a

form of “security” that has value to lenders. A local lender, who is both familiar with potential problems and aware of the upside potential in a particular property, may be quicker to grant a loan than a distant bank. According to environmental and financial consultants, borrowers with tainted properties will most likely obtain financing from a large, local bank for these reasons.

Proximity is also a benefit when monitoring a loan for environmental compliance. Loan officers, administrators, and environmental risk managers are members of the local community and its information network. They have ready access to their properties for inspection, monitoring, and auditing remediative action. Having local knowledge, combined with efficient corporate practices, allows regional banks to respond quickly to unforeseen environmental problems or non-compliant borrowers.

As with the national banking institutions, the regional lender’s ERM department establishes the organization’s general environmental lending policy. In theory, there could be slight variations among the individual departments and branches that reflect differences in risk tolerance, markets, or local lending needs. In practice, however, there will be few differences among the branches within a single region.

Small banks have only a few branches in a relatively small area with a limited range of commercial and/or home mortgage borrowers. In interviews and discussions with bankers of small institutions, most admit to employing a binary decision process. If the property is “clean”, they will most likely extend credit, if other considerations are satisfied. As a very general rule, if the loan application has any sort of environmental issue associated with the borrower or collateral, the bank will decline granting the loan.³

³ There are, of course, exceptions to this rule. If a borrower is a valued customer with a solid credit history, and has assets above the costs of environmental liability, the bank will consider extending credit.

Small local banks do not have an Environmental Risk Manager or even an ERM policy. Typically these banks will rely on outside consultants and legal counsel to review environmental issues.

Despite the differences among banks in different categories, they share many similarities. Most commonly, all senior personnel proclaim their commitment to prudent lending practices. While they want to fund projects that promote the borrower's growth, few banks have a sustainable development focus. Nor do many have a predilection to promote social benefits in their lending policies. Driven by a disposition toward prudence as defined by federal guidelines, environmental risk managers of both the nationally chartered and regional banking organizations have adapted the FDIC environmental guidelines to reflect their markets, profit goals, and risk tolerances.

Environmental risk management policies, framed by the FDIC guidelines, have been established by Environmental Services or Environmental Risk Management departments and approved by the banking organizations' Board of Directors. In addition to creating, documenting, reviewing, and periodically updating the environmental risk policy, the ERM departments are also typically responsible for training loan officers and administrators in identifying and reporting environmental issues. Lending personnel are trained through seminars and workshops and are provided with the lending institution's loan policy manual, which includes materials specific to environmental risk. This training is limited to general awareness of the applicable regulations, liabilities and responsibilities of the lending institution, as outlined by the federal guideline, and not on specific physical, business, or geographic factors that define the risk characteristics of a

property. The narrow focus of the training neither serves to sharpen risk assessment skills nor to broaden officers' awareness of sustainable development opportunities.

Another similarity among banking organizations is how loans are reviewed, structured, and monitored. Loans are evaluated on a case-by-case basis using the "five C's" of credit risk management (Cash flow, Collateral, Character, Capacity, and Compliance Conditions). Loans with associated environmental issues are priced the same as "clean" loans that have no environmental stigma. However, loans with potential environmental liability are structured more conservatively in regards to debt service coverage ratios (DSCR's) and loan-to-value (LTV) ratios, and have more stringent underwriting standards. How loans are priced and underwritten will be described in more detail later in this chapter.

Environmental due diligence practices are also uniform among these types of banking organizations. Transaction screens, disclosure statements, questionnaires, and inquiries are based on the ASTM (American Society of Testing and Materials) site transaction screen checklist, to be described in further detail later in this chapter. All banks require a Phase I site assessment to determine if a problem exists on the property. If a hazardous substance is discovered, a Phase II audit is performed to identify the type of contamination and the extent of remediation to clean up the site.

Approaches for Evaluating Contamination Threats to Collateral Value

Loan Origination

As a critical part of the initial Origination Process, the first stage in evaluating environmental risk is to determine if there is, in fact, contamination on the property and

the potential consequences of such contamination. This initial stage is termed due diligence and consists of site inspections, and Phase I and II assessments and audits.

These inspections are performed using ASTM transaction screens developed in 1993. The ASTM screen is designed for a non-expert loan officer to identify quickly and inexpensively any environmental problems and to determine if further investigation is required. The ASTM checklist has become the standard for most lending institutions, although some have modified it to suit the organization's lending activities, risk sensitivities, and property types.

The ASTM transaction screen consists of four components:

- An environmental questionnaire and disclosure statement for the current property owner. These are considered to have limited value by most loan officers and environmental risk managers who perceive that the current owners may not always be forthright when disclosing environmental problems.
- A walk-through and visual site inspection by a bank officer and Licensed Site Professional. A physical inspection seeks to verify owner representations and to conduct a checklist of potential problems to look for, such as the presence of asbestos, dark spots in the soil, or other visual irregularities.
- A review of local and state environmental records for prior contamination of the site or environmental mismanagement on the part of the prior owner and current loan applicant; and,
- An historical review on the prior uses of the property. This may include inspecting old fire insurance maps or checking with municipal fire department records.

Simultaneously with the above, the Phase I site assessment is performed by the LSP who use both on-site and laboratory assessments to determine the nature of any contamination. If contamination is found and identified, a Phase II site audit is executed to determine the extent and source of contamination as well as the magnitude and cost of the required clean up. When a property is contaminated, the loan officer generally

passes the loan application along to the environmental risk manager. The environmental risk manager reviews the loan documents and, if not recommending that it be declined, makes suggestions on how to structure the loan and what stipulations should be included in the agreements to address the environmental issues.

This research discovered that loan officers do not increase the interest rates for an environmentally risky loan, nor do they require more points up front. There are, however, differences in how loans on contaminated properties are structured; these differences will be discussed in the next section.

Loan Structuring and Pricing

All loans are typically priced on a loan to value ratio of 75% of the real estate asset value.⁴ In the case of a brownfield loan, the asset value is based on the estimate of the property value under pristine conditions minus the cost of remediation. Virtually all of the ERM's and loan officers agree that the cost of remediation in relation to property value is the most important factor banks consider when structuring a loan. As a rule of thumb, the remediation-cost-to-value should never exceed 40%, and should ideally be less than 25%. In addition, a 15-20% contingency allowance is made and should be included in the holdback to compensate for any unforeseen cost overruns.⁵ The added cushion in the LTV ensures that the borrower has adequate equity in the property. The additional equity also provides greater incentive for the borrower to take further remediative action in order to hold on to the property.

⁴ Henry, Evan C. and Randy A Muller. "Private Sector Financing Considerations for Brownfields," Bank of America Internet site, © 1996.

The cash flow of a borrower is the primary source of repayment for a loan. For this reason, cash flow analysis is one of the most important factors in determining whether to make a loan as well as in ascertaining a loan's risk.⁶ As a strategy for greater security against default and credit risk, many of the loan officers in this investigation will offer lower debt service coverage ratios in loans with environmental risk.

Indemnifications are standard components in all forms of collateralized loans. Depending on circumstances, indemnities may be issued by the current property owner, the borrower, a third party or affiliated guarantor, or the party responsible for the property's contamination. The language of the indemnity sets forth the responsibility to compensate the lender if it has to pay for any clean up activity. The value of an indemnity is primarily measured by the financial resources of the indemnifying party. Because of joint-and-several responsibilities and the unending liability under CERCLA, indemnities must bind all relevant parties on an open-ended basis.

If a guarantor is sought, it has to be an entity separate from and unconnected to the borrower to protect the bank in the event of borrower bankruptcy. If a third party can not provide an indemnity, or if a guarantor is unwilling to expose itself to long-term environmental risks, two forms of insurance are commonly used. "Post remediation" coverage insures that, once remediative action has been completed, any further action that may be required in the future will be paid by the insuring party. The other form of

⁵ Ward, Elizabeth H. "Practical Experience in Financing the Redevelopment of Contaminated Properties," Article prepared for forthcoming book Risk-Based Decision-Making Influencing Financial Transactions and Brownfields Developments. (Alexandria, Virginia: RTM Communications, Inc.).

⁶ Pirok, Kenneth R. Commercial Loan Analysis: Principles and Techniques for Credit Analysts and Lenders. (Chicago, Illinois: Probus Publishing Co., 1994), p. 44.

coverage is called "stop-loss" or "cost cap" insurance. This type of policy pays for any remediation cost overruns above the value of collateral.

The value of insurance is that it protects the credit worthiness of the borrower and provides greater certainty for the lending institution.⁷ It also secures the value of the collateral. The disadvantage of insurance is that the lack of good actuarial data tends to increase premiums and provide for inadequate coverage.⁸ In addition, insurance companies require more environmental investigation before issuing a policy which adds to the cost of the project in terms of both money and time.

The final major structuring components to these loans are escrows and holdbacks. Escrows are financial instruments that the lender uses to cover the costs of remediation. The borrower essentially deposits into an account cash, securities or a letter of credit equal in value to the estimated cost of remediation. For an escrow to be effective, remediation estimates have to be reasonably accurate and should also be sufficient to cover interest payments until discharged. Escrow releases are triggered by regulatory agency action and review of documentation for the remediation of the contamination. Government agencies are notorious for slow moving approvals and releases. Thus, escrows can be held up for years after the clean up has been completed. Because of all the legal issues involved in remediation and related government involvement, the use of escrow accounts involves expert counsel.

⁷ Moylan, Janet D. and Charles L Perry, Jr. "Environmental Insurance: A Critical Business Tool," The Bankers Magazine, vol. 179, no. 4, July/August 1996, p. 38.

⁸ Lawrence, Robert F. "Insuring Environmental Risk: New Options, Opportunities," Envires EPA Shadow Law Internet site.

Loan Administration

Over the life of the loan there is a rather wide difference of loan administration practices after the loan is disbursed. If the payments are made timely and there are no "red flags", the attentiveness in monitoring tends to drop off considerably after the first few years. Recognizing that their CERCLA liabilities remain constant, the best of the large banking organizations apply rigorous, on-going monitoring systems during the entire life of the loan using a tiered system based on the loan size and level of risk. Those properties or borrowers in the high-risk tier are reviewed annually for compliance. Those in the medium-risk level are inspected every two or three years while low-risk loans are reviewed on a three-or-more year rotation. All lending institutions perform environmental due diligence assessments upon loan renewals, renegotiations or refinancing, and for workouts or foreclosure.

Approaches for Evaluating Risks That Impair Use or Function

Loan Origination

Lenders seek to anticipate the risk of future restrictions on the use of a property during the loan origination process by looking at the exposure inherent in the borrower's business and his past operating history.

Due diligence on a borrower includes examination of a borrower's history of compliance with regulations governing the use of property and compliance with environmental regulations concerning the handling of hazardous substances and waste disposal. Compliance audits of an environmentally harmful business document its history of exposure to and compliance with all applicable environmental laws. They also

reveal where past mismanagement of chemicals and/or chemical-processing operations could lead to future contamination or environmental liability.

Related to compliance audits is a review of past emissions and hazardous waste permits. The maximum volume of waste allowable and the legal consequences for non-compliance have a lot to do with environmental risk. Past activities can be a leading indication of the extent to which regulatory trends in environmental use and restrictions might impose limitations on a borrower's operations in the future. These limitations might impair the use of the property and therefore its collateral value.

As a matter of practice, most lending institutions review environmental management history. When making loans on large public works, or especially large projects, the nationally chartered banking organizations use World Bank Criteria or ISO 14000 standards to assess the borrower's management capacity. The ISO 14000 system certifies that companies have established effective environmental management procedures.

Loan Structuring and Pricing

If a borrower engages in an industry that utilizes or produces potentially hazardous substances as part of its operations, a lender may employ similar conservative underwriting strategies as it does with contaminated collateral. That is, lenders would use lower loan-to-value and debt service coverage ratios as well as more stringent underwriting conditions.

The large and middle-sized banks sometimes employ creative underwriting techniques which separate asset value from the environmental liability. Ground leases

and sale-leaseback ownership structures transfer the ownership of the contaminated property to a third party so that the cash flows from operations or manufacturing are independent of the liability. Another strategy is to include in the collateral non-real estate assets (e.g. inventories or manufacturing equipment) or unrelated, unattached properties. Lenders should be aware, however, that under CERCLA, the federal government can attach all of the borrower's assets and properties with a Superlien.

Loan Administration

Under current regulations, lenders can require borrowers to comply with environmental laws.⁹ Many banking organizations hold their debtors to these laws and will initiate foreclosure on non-compliant borrowers as a violation of loan covenants. Because banking organizations can conduct their own inspections and police borrower activity, compliance issues can be detected early. Immediate response to potential problems can prevent or limit the damage to the collateral value and the lender's exposure to environmental liability.

In addition to monitoring the borrower during the life of the loan, environmental risk managers and loan officers keep track of legislative developments and regulatory activity as they pertain to environmental liability. Most of the ERM's have observed that the current climate for environmental liability is increasingly favorable to lenders. In some regions of the country, including New England, many state environmental agencies have demonstrated support of brownfield remediation. These agencies have initiated development programs to facilitate the financing of environmentally responsible

⁹ Brown, Johnine J. "Progress in Reducing Lender Liability Under Environmental Law," The Bankers Magazine, vol. 179, no. 4, July/August 1996, p. 31.

projects. These ERM's have also noticed that the West Coast and Mid-West regions still enforce relatively strict lender liability laws and remediation requirements.

In addition to several state and local redevelopment initiatives, there have been some changes in how the national Superfund laws are interpreted in relation to lender activity. Since 1992, when the Lender Liability Rule was first promulgated, more recent court decisions have relaxed former interpretations of lender liability. Today, banking organizations are allowed to remediate, hold, and prepare foreclosed properties for sale without environmental liability provided that the banks divest the contaminated properties at the earliest possible time and on commercially favorable terms.¹⁰ A few of the banking organizations in this study have re-written their environmental risk management policies to incorporate these developments.

Approaches to Evaluating Consumer Preference Risk

All of the banks interviewed for this thesis stated that their banking organization does not have formal policies or specific methods that address consumers' environmental concerns on the demand for the borrower's products or services and consequently, on his or her credit worthiness. In fact, loan officers and environmental risk managers do not even consider the adverse effects that environmental activism may have on a borrower's reputation or business activity.¹¹ Consumer boycotts and negative public sentiment in response to an environmental transgression are too remote to be of ongoing concern to loan officers.

¹⁰ Levine, Paul. "Knowing When & How to Lend on Contaminated Properties," Lecture for Environmental Bankers Association, 5 May 1998.

¹¹ We have not considered in consumer preference risk the direct objection of local residents of an objectionable use of a property. Such opposition is likely to suspend loan origination.

A lending institution is disposed to grant a loan to a borrower provided that it is a legal business or entity and its credit worthiness is in line with the bank's risk thresholds. Banking organizations and loan officers can and presumably do make "ethical" lending decisions with environmental overtones. However, such considerations go beyond the obligations of prudent lending. Besides, pressures on loan officers to approve potentially profitable loans tend to offset such speculative concerns.

Findings and Conclusions

Financial and banking trade journals encourage lending institutions to make informed loans when environmental risk is a factor and not to shun a potentially profitable loan based solely on environmental risk. Most banking organizations share this view and conduct their environmental assessment activities by emphasizing lending policies based on the FDIC environmental guidelines. These lending policies focus on the value and integrity of the real property to provide protective collateral while, under the prospect of foreclosure, protect the bank from having to abandon its claim on the collateral in order to avoid exorbitant remediation and liability costs.

Regarding loan pricing and structuring, loans with environmental risks are more conservatively underwritten than loans without such risk. Lending institutions consider environmental risks to be credit risks that could affect both the cash flows and collateral value. This viewpoint is consistent with the FDIC and Federal Reserve Board environmental guidelines that consider and treat environmental liability as a form of credit risk. While environmentally risky loans typically have lower loan-to-value and debt service coverage ratios, they are priced similarly to "clean" loans. Loans with

environmental issues include specific and stringent stipulations and conditions that address the property's unique problems. Indemnities, hold harmless clauses, and requirements to comply with all applicable environmental laws are written into the loan agreement.

The protective covenants that can trigger a condition of default provide useful leverage for the lender to initiate early corrective action by the borrower. As a practical matter, environmental risk is not priced into the loan is because the magnitude of the potential liability far exceeds the value of collateral and the adverse impact on loan profitability is wildly uncertain. Even if quantifiable, increased interest rates or extra points up front would neither be competitive nor able to cover losses in extreme cases of remediation, loan default, or outright condemnation of the property. Therefore, lending institutions do not have a strategy for differential loan pricing when underwriting loans with environmental factors.

Environmental Risk Management departments establish environmental policies to facilitate prudent loan underwriting. Though they establish the policies and procedures for assessing risk, they do not decide whether to approve individual loans. In reviewing applications, ERM's in this study consider primarily the environmental liability in case of foreclosure and the regulatory risks on the borrower's cash flows. Environmental risk managers may play a significant advisory role in a specific loan situation if the inherent liability issues are large in relation to the collateral value, or if the risk manager has a very different opinion of the viability loan from that of the credit manager or loan officer.

Chapter 4: Looking Forward

Overview

Owning real estate has often been described as owning a bundle of rights. No one person or entity enjoys the whole bundle. Rather, to varying degrees for each “stick” in the bundle, borrowers and lenders share the rights, responsibilities and benefits associated with a given property. Under the law, moreover, third parties (and “society”) also have rights in the bundle when the property is used in a way that creates adverse consequence from contamination or other conditions of use.

The presence of environmental issues can impinge dramatically on the rights of borrower and lender. Under current environmental laws, federal agencies can step in and retract most of the privileges of land ownership. The government can both demand and enforce remediative action by attaching a Superlien onto the property or even onto the borrower’s other assets. In such an event, the borrower and lender’s rights have been preempted, at least until the environmental violation and consequent damages are cured. The owner still owns the land, but he has no control over the property’s continued use and cash flows. Nor can the owner sell the property at will. Worse, both the owner and the lender may be held responsible for large, open-ended clean up costs for contamination they may not have caused.

Fear of such an unpleasant scenario has made lenders extremely cautious about originating loans when environmental liability is associated with the collateral or with the borrower’s business activity. This uncertainty about the consequences of environmental risk has caused lending activity to be curtailed and stifled investment and economic

development, particularly of brownfield properties, whose availability and desirability is on the increase. Although recent interpretations of CERCLA and the Lender Liability Rule have alleviated some lender fears, borrowers' exposure remains unabated. Environmental problems, therefore, continue to generate circumstances for business enterprises that disrupt operations, add costs, reduce liquidity and, consequently, create potential losses for lending institutions. Hence, banking organizations continue to have a vested interest in environmental issues and in promoting sustainable development policies. As the attractiveness of brownfield development grows, banks face greater potential involvement in environmental risk management.

This concluding chapter summarizes the findings of this research and, in its Ways Forward section, discusses the paper's conclusions and recommendations. The view developed by this paper is that sustainable development--incorporation of environmental preservation and enhancement as an element of value, particularly for brownfield properties:

- is likely to increase because of the growing economic potential of the affected properties;
- is the best way to both realize the value of these properties and to manage the environmental risk for lenders; and
- can be influenced in positive ways by lender practices both in the granting and administration of real estate loans.

As a given, any environmental management policy must satisfy a lending institution's need to be profitable.¹ For a forward thinking lender, the establishment of a positive, sustainable development policy must be coordinated with rigorous financial

¹ Robb, p.103.

analysis and prudent lending practices. Such lending practices must demonstrate that financing brownfields or clean technologies make sense not only from an ecological point of view, but more fundamentally, from an economic perspective. Prospectively, the payoffs to these lenders are larger portfolios of more performing loans with higher collateral values.

Banking organizations can promote sustainable development by encouraging borrowers to integrate environmental considerations into their core business activities and to establish corporate environmental management policies.² Better management of environmental risk in the private sector could, as a societal benefit, reduce the need for government intervention and regulation. Free-market solutions usually allow for more efficient allocations of capital than government appropriations and restrictions. Environmentally progressive lending practices, particularly in regional banks or local branch operations, can also give banks a competitive edge over “Wall Street banks”, pension funds, and insurance companies, which employ even more environmentally restrictive lending practices than traditional banking organizations. Banks can also add to their profits by reducing losses resulting from environmental liability. A recent survey of German real estate lenders indicated that approximately 3% of their loan losses are due to environmental risk and liability factors which, under German law, are comparable to lender liability under United States law.³

² Schmidheiny, p. 116.

³ Weber, O. and Scholz, R.W. “Okologie und Umweltrisken in Sparkassen und Landesbanken”, *Sparkasse*, Vol. 8, 1996, pp. 372-373.

Ways Forward

As potential promoters of sustainable development, the lending industry can have a pivotal influence. Almost every business and real estate developer has some sort of debt in its capital structure. Thus, lending institutions, working together could have the leverage to drive standards for real estate lending that could promote sustainable development on a broad scale. The rest of this section offers suggestions as to how banking organizations can both promote sustainability and improve their own environmental risk management programs. This discussion will follow the loan processing model of *Loan Origination, Loan Structuring and Pricing*, and *Loan Administration* that the thesis proposed in Chapter 1.

Loan Origination

The loan origination process provides the first opportunity, in a transaction context, for the lending industry to support sustainability; lenders can standardize credit and environmental reviews around key elements that will facilitate sustainable development lending. Although the FDIC and the Federal Reserve Board have issued general environmental guidelines to provide for flexibility among and within institutions, implementation by lenders requires that they take certain specific actions and processes.

The most significant need is for lenders to share and to standardize the use of environmental risk-related information. Standardization in the use of this information would facilitate coordination among the various federal and state agencies, lenders'

environmental management departments and borrowers. It would also improve the quality of and reduce the uncertainty of environmental risk assessments and promote the adoption of common assessment standards among Licensed Site Professionals. Perhaps in the future such standardization might also help qualify these loans for securitization.

It should be recognized that, as barriers to achieving these goals, there are major deficiencies in the availability, consistency and quality of environmental data. These data deficiencies reflect the diverse and fragmented legal and business framework that has governed real estate ownership and use in the United States. Sources of data regarding different environmental attributes (often not explicitly identified as such) of individual properties include the federal government, state environmental protection agencies, title companies, local real estate tax departments, building departments, property and casualty insurance companies and lenders. The organization, format and content of the records kept by these myriad entities are highly idiosyncratic. Notwithstanding this lack of standardization of environmental data, greater standardization of process remains a worthwhile goal.

The second practice recommendation that lenders should incorporate into their environmental risk programs is the requirement that each borrower establish corporate environmental policy statements and that lenders periodically assess the borrower's performance against its own policies

The final recommendation in support of improved loan origination is that lending institutions should improve the environmental training of their loan officers, credit officers and loan administrators. The largest banks should have dedicated

environmental risk management staff with a wide range of expertise that covers all the complex issues involved in evaluating and underwriting loans with environmental concerns.⁴ Compensation, career path and other career rewards should also be aligned with each institution's business and loan policy objectives as they relate to the management of environmental risk.

Loan Structuring and Pricing

Currently, banks use relatively straightforward, asset-based credit risk evaluation methods when structuring and pricing loans. These techniques, which incorporate traditional loan-to-value, loan coverage and other financial ratio analyses, do not specifically address risks associated with environmental liability. As discussed previously, variations in loan pricing to differentiate environmental risk do not have sufficient capacity to compensate a lender adequately over an uncertain range of economic outcomes. Consequently, banks need to reconsider how to adapt loan structuring techniques to reduce their exposure on riskier projects. In the opinion of this paper, lenders seeking to further sustainable development, including brownfield properties, should look to:

- the use of land leases to separate out soil-related contamination issues from those (like asbestos) that may be associated with the building structure or fixtures;
- the availability of publicly subsidized and guaranteed financing options, particularly in inner city and blighted industrial areas where redevelopment is sought as a matter of public policy. Both the Small Business Administration and the Department of

⁴ Henry, Evan C. and Muller, Randy A. "Private Sector Financing Considerations for Brownfields," Bank of America Internet site, © 1996.

Housing and Urban Development have grant and loan guarantee programs for such properties.⁵

- restructuring collateral in the cases where subsequent contamination is found or restrictions on use arise. The same land lease techniques to structure a transaction before closing can be employed for the property loan-in-being.
- implementing risk-based clean up standards which make remediation costs more predictable more and affordable. Increased certainty provides value to banks, which will enable them to create competitive pricing strategies.⁶
- providing in advance for the substitution or enhancement of collateral in the event that adverse environmental event lowers the value of the original collateral below some designated threshold. Although such a contingency provision could encumber other property of the borrower, it could be preferable than more equity.

Beyond the power of lenders, but material to their interest, are the current IRS provisions regarding the tax deductibility of the cost of environmental remediation and hazardous material abatement. The relevant sections of Internal Revenue Code, revenue rulings and advisory letters are ambiguous, confusing, and conflicting in the tax treatment of these costs. A reasonable summary of these provisions is as follows:

- in general, the cost of removing contaminants from a structure, especially if part of a larger construction project, is a capital expense, to be deducted ratably over the tax life of the project;
- encapsulation of (as opposed to removal of) contaminants within a structure is an immediately deductible expense;
- however, under Section 198 of the revised code, enacted in 1996, there is a window from the years 1997 through 2000 during which both removal and encapsulation of contaminants in a structure are immediately deductible; and
- as provided in Revenue Ruling 9438, the removal of in-the-ground contaminants is immediately deductible.

⁵ Telego, Dean Jeffery. "Financing the Reuse of Contaminated Commercial and Industrial Sites," Presented to Conference on Risk-Based Decision-Making in Successful Financial Transactions and Brownfield Redevelopment, Washington DC, April 1998.

⁶ Brown, p. 32.

Immediate deductibility, of course, is better for borrowers (and also lenders) because of its favorable effect on cash flow.⁷

Lenders should use their influence to obtain more consistent and permanent favorable tax treatment for all remediation costs. In such an event, loan structures could be revised to reflect the improved cash flow and reduced collateral impact when properties are affected by the presence of environmental contaminants.

Loan Administration

Loans with environmental risks, once booked, should receive diligent oversight throughout the term of the loan. Even after the loan has been substantially paid down, potential Superfund liabilities for lenders do not diminish along with the unpaid loan balance. The environmental scrutiny of the initial due diligence phase should continue throughout the life of the loan. The reality, however, is that once a lending institution makes a loan, it is not legally required to seek out any environmental liability afterwards.

Nor does the Prudent Man Rule necessarily apply to ongoing environmental risk monitoring. There are, however, adverse financial consequences if a problem, long undetected or ignored, is discovered after having grown in magnitude over time. Like cancer, environmental contamination is best detected and treated early. Once a problem is discovered, the bank should work with the borrower and environmental agencies to correct the problem and reduce the financial risk to all.

⁷ Interview with Thomas K. O'Brien, CPA, who researched the relevant provisions of the tax code and rulings summarized here.

Conclusion and Summary

The hypotheses stated at the beginning of this paper regarding bank lending practices on properties, especially brownfield properties, having elements of environmental risk were that:

- lenders focus on contamination as a threat to collateral value. There is a much lower level of concern over impaired future use and negative consumer response against a borrower with a poor environmental record;
- lenders categorically avoid such properties. Such wariness is as much a function of perceived exposure to adverse financial consequences as exposure to lawsuits and citations by environmental regulators; and
- although loan structuring methodologies serve to partially mitigate environmental risk, loans are not priced in relation to their environmental risk exposure. Rather, the potential magnitude and uncertainty of such exposure is beyond the range of pricing latitude that lenders practically have in a competitive market.

The research has largely supported these hypotheses. At the same time, the findings of this paper point to the opportunity to lenders of meeting borrowers' and community needs for supporting the development of brownfields projects, which in large part are dependent on the availability of mortgage financing.

Lenders in all size categories have certain competencies and resources that can support their being more aggressive in making such loans. Smaller institutions have the advantage of local knowledge. Larger institutions have the scale to maintain environmental risk management departments that can develop practices and training programs to ensure effective lender management of environmental risk. And all lenders could avail themselves, their borrowers and their communities of loan subsidy and guarantee programs designed to promote brownfields developments in communities that could benefit from them.

To participate successfully in this market lenders have to focus on the way they approach environmental risk management throughout to loan cycle. Origination practices need better environmental risk information and more standardized treatment of environmental risk factors by better trained loan officers in screening and qualifying loan and borrowers. Borrowers need to be encouraged by lenders to develop and practice sound, sustainable development practices for the properties they own and manage. Structuring practices could also benefit from new creative approaches to buttress the collateralization of loans both at their outset and if values become jeopardized by subsequent events. While loans are outstanding, lender oversight of borrowers' environmental management policies and practices should be as integral to ongoing administration as review of property financial performance.

To be sure, there are external barriers that must be overcome. Poor reliability, usefulness and quality of environmental data on properties are problems long in the making and not easily remedied. Complex tax provisions that discourage and deter the redevelopment of environmentally impaired properties need to be addressed.

Despite the constraints, the real estate market is directing more and more development activity to properties with negative environmental histories. The primary drivers for increased activity in these properties are the shrinking availability of undeveloped land in good locations and public policy initiatives to redevelop blighted properties. Taken together, these forces will increasingly shape the future for lenders and the borrowers whose needs they serve.

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