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Cover Page Footnote
Christopher A. Richardson, Ph.D., is an economist in the Housing & Civil Enforcement section of the U.S. Department of Justice's Civil Rights Division. He was previously a financial economist at the Federal Deposit Insurance Corporation. The views expressed in this Article are those of the author and do not necessarily represent those of the Department of Justice or its staff.

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THE COMMUNITY REINVESTMENT ACT AND THE ECONOMICS OF REGULATORY POLICY

Christopher A. Richardson*

INTRODUCTION

The Community Reinvestment Act of 1977 ("CRA") represents an attempt to shape the economic and social condition of communities by altering the economic policies of depository institutions. The CRA was passed to discourage disinvestment in urban, typically minority areas and to ensure that all communities, regardless of their economic or demographic characteristics, have fair access to credit. Its stated intent is vague, yet simple: to encourage each bank to meet the credit needs of its entire community, including low- and moderate-income neighborhoods, consistent with [the] safe and sound operation of the bank. The CRA has stimulated debate across the ideological spectrum. The CRA's supporters believe that it has provided increased access to credit in low- and moderate-income ("LMI") neighborhoods, and that it could be even more effective with greater enforcement. Critics of the CRA, on the other hand, argue that the law saddles banks with...
substantial compliance costs and that unfettered credit markets can properly allocate credit without ponderous government regulation.\textsuperscript{6} Even with the dismantling of the walls of separation between banking, insurance, and securities underwriting achieved by the Gramm-Leach-Bliley Financial Modernization Act of 1999,\textsuperscript{7} the CRA remains relevant. Its relevance emanates not only from its economic impact on LMI neighborhoods and financial institutions subject to CRA regulations, but also, as this Article discusses, from its fusion of economic and social policy.

The CRA illustrates how regulatory policies can have both economic consequences and social implications. The CRA’s passage in 1977 was based in part on the belief that it would benefit LMI communities by providing access to more credit than would be available otherwise.\textsuperscript{8} The Act’s enforcement mechanism requires that a bank comply with the CRA when it wishes to merge, acquire

\textbf{Reinvestment Act, Lending Discrimination, and the Role of Community Development Banks (1993).}

\textsuperscript{6} See, e.g., Keith N. Hylton & Vincent D. Rougeau, \textit{Lending Discrimination: Economic Theory, Econometric Evidence, and the Community Reinvestment Act}, 85 \textit{Geo. L.J.} 237, 239 (1996) ("Economic theory and empirical evidence suggest that the benefits of the CRA's regulatory framework are uncertain. The costs, on the other hand, are clear. The CRA is, according to bankers, the most administratively burdensome of all bank regulations."); Jonathan R. Macey & Geoffrey P. Miller, \textit{The Community Reinvestment Act: An Economic Analysis}, 79 \textit{Va. L. Rev.} 291, 294 (1993) (arguing that the CRA, as it was implemented and enforced at the time they wrote their article, "does more harm than good"); Lawrence J. White, \textit{The Community Reinvestment Act: Good Intentions Headed in the Wrong Direction}, 20 \textit{Fordham Urb. L.J.} 281, 305 (1993) (arguing that increased competition in financial services markets undermines the CRA and that the CRA promotes unprofitable lending because profitable lending in LMI areas would be made in its absence).


\textsuperscript{8} Some have argued that access to credit will decrease under the CRA. Macey & Miller, \textit{supra} note 6, at 314, point out that Because a bank’s CRA rating is based on its lending practices in the area contiguous to its offices, the CRA imposes greater costs on banks in poor areas than those in wealthy areas to the extent that it causes banks to lend funds locally. Banks located in wealthy areas can elect not to make loans in poor areas without risking serious CRA challenge. Banks located in poor areas, on the other hand, are effectively forced to devote a substantial portion of their loan portfolios to their local communities. Because of these additional regulatory requirements and costs, banks seeking to expand will be less likely to establish new branches or offices in poor areas than they were prior to the promulgation of the CRA.
existing branches, or open or close branches. Thus, the CRA has direct economic effects on banks as well as on neighborhoods.

LMI areas, however, also may accrue social benefits from improved access to credit. Greater credit access increases economic prospects for residents and businesses in LMI areas. Improved economic prospects can in turn improve the social condition of residents by decreasing crime, homelessness, inadequate health care, and neighborhood instability caused by low homeownership rates. These external benefits—otherwise known as positive ex-

At the time the CRA was being debated, Robert Barnett, chairman of the FDIC, wrote that

[T]he practical effect of the bill could be to discourage financial institutions from making applications for offices in neighborhoods where funds are badly needed because of the reexamination that this would entail with respect to their lending policies in service areas where they already have offices. Some institutions might even close down offices already established in certain neighborhoods if they felt that they could be publicly criticized for not meeting the credit needs of such neighborhoods when they apply for a branch in another location. The result of this would be to increase the present concentration of financial institution offices in more affluent neighborhoods.

Id. (quoted from a letter from Robert Barnett, Chairman, FDIC, to Senator William Proxmire (May 4, 1977), reprinted in Community Credit Needs: Hearings on S.406 Before the Senate Comm. on Banking, Housing, and Urban Affairs, 95th Cong., 1st Sess. 133 (1977)). These economic arguments notwithstanding, it still remains the case that the original intent of the CRA was to increase credit availability to LMI neighborhoods.

9. See generally supra notes 4-6 and accompanying text.

10. For an analysis of the positive relation between poverty and crime, see H. NACI MOCAN & DANIEL I. REES, NAT'L BUREAU OF ECON. RESEARCH, WORKING PAPER No. 7405, ECONOMIC CONDITIONS, DETERRENCE AND JUVENILE CRIME: EVIDENCE FROM MICRO DATA 17-18 (1999) (testing an economic model of juvenile crime using micro-level data, the authors find that an increase in local unemployment and in local poverty increases the propensity for juveniles to commit crimes and that family poverty increases the probability of males committing robbery, burglary and theft, and of females committing assault and burglary). The authors conclude that “Employment opportunities, increased family income and more strict deterrence are effective tools to reduce juvenile crime.” Id.; see also EDWARD L. GLAESER & JOSEPH GYOURKO, NAT'L BUREAU OF ECON. RESEARCH, WORKING PAPER No. 8598, URBAN DECLINE AND DURABLE HOUSING 5 (2001) (developing a model that explains why declining cities disproportionately attract “low human capital” residents who face higher levels of unemployment and poverty and earn lower wages, and suggesting that the model “may help us understand the correlation between urban social problems and declining urban population”).

For evidence of the relation between income and health, see ANGUS DEATON & DARREN Lubotsky, Nat'l Bureau of Econ. Research, Working Paper No. 8370, Mortality, Inequality, and Race in America Cities and States 22-23 tbls. 1, 2 (2001) (showing the negative relation between income and mortality for the fifty states, the District of Columbia, and for 287 Metropolitan Statistical Areas). High crime rates are more likely in large, urban areas. See Julie Berry Cullen & Steven D. Levitt, Crime, Urban Flight, and the Consequences for Cities, 81 REV. ECON. & STAT. 159 (1999) (“Violent
ternalities—are not limited to LMI areas themselves. High-income suburban residents enjoy activities in central cities such as cultural attractions and sporting events, and central cities continue to be major hubs of economic activity in most large metropolitan areas. A decrease in social problems in LMI communities is likely to confer positive benefits to residents in other communities as well. Because these benefits do not accrue to banks lending in LMI neighborhoods, however, banks do not take them into account when making their lending and investment decisions. This leads to a below-optimal level of lending and investment in LMI areas. By requiring banks to meet the credit needs of LMI areas in their markets, CRA lending, investment, and service requirements can lead to a higher level of social benefits than would be produced absent credit market intervention.

The CRA stands out as a model for regulation based on economic principles—the correction of redlining and inadequate lending in LMI areas—and its attempt to encourage banks to operate in the best interest of consumers and society. Part I of this Article examines the economic issues associated with providing access to credit in LMI areas. Particular attention is paid to market failure, information asymmetries, and social welfare maximization.

Crime rates in U.S. cities with populations over 500,000 in 1993 were four times higher than in cities with populations below 50,000, and seven times greater than in rural areas. High crime rates also lead to neighborhood instability and deterioration in housing values: "The results we obtain are consistent with a strong relationship between changes in crime rates and urban flight. . . . Highly educated households [which earn higher incomes] and households with children are most responsive to crime." Id. at 159-60.


12. Redlining was defined by Senator William Proxmire, a sponsor of the CRA, during the legislative debate for its creation. As he explained:

[F]or more than two years the Banking Committee has been studying the problem of redlining and the disinvestment by banks and savings institutions in older urban communities. By redlining let me make it clear what I am talking about. I am talking about the fact that banks and savings and loans will take their deposits from a community and instead of reinvesting them in that community, they will... actually or figuratively draw a red line on a map around the areas of their city,... sometimes in the older neighborhoods, sometimes ethnic and sometimes black, but often encompassing a great area of their neighborhood.

123 Cong. Rec. 17, 630 (1977). Areas contained within the literal or figurative "red lines" denote areas where an institution will avoid, in whole or in part, reinvesting or otherwise doing business.
Market failure results, in part, from the positive externalities associated with lending in LMI areas that are not internalized by lenders. Even without these externalities, however, the amount of lending to LMI areas suffers from the informational asymmetries inherent in bank lending: Borrowers know more about their probability of loan repayment and of the expected profitability of their investment projects than do lenders. Such informational asymmetries can cause lenders to ration the amount of credit they provide to potentially high risk customers.\(^{13}\) Informational asymmetries are larger in LMI areas than in more affluent areas due to the larger proportion of LMI borrowers who lack bank checking or savings accounts—the so-called “unbanked.”\(^{14}\) Such borrowers increase the riskiness and lower the volume of LMI-area lending. Indeed, the inherent risk involved in lending in LMI areas means that absent regulation, lending volume and financial services will be more volatile in LMI areas than elsewhere. Government regulations such as the CRA can act as a buffer to the detrimental effects of the withdrawal of credit.

To the extent that adequate flows of credit to LMI communities provide external social benefits to society, the goal of improving access to credit can be examined within the framework of the government’s attempt to maximize social welfare. Within this paradigm, government regulations (and their method of enforcement) affect both efficiency (obtaining the highest possible aggregate social welfare, given resource constraints) and equity (distributing aggregate social welfare in the most socially beneficial manner).\(^{15}\)

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14. Sherrie L. W. Rhine, Maude Toussaint-Comeau, Jeanne M. Hogarth, William H. Greene, Fed. Reserve Bank of Chi., \textit{The Role of Alternative Financial Service Providers in Serving LMI Neighborhoods} 63, 66 (Conference Proceedings of Changing Financial Markets and Community Development, Working Paper, 2001) (Using survey data from the Metro Chicago Information Center’s 2000 survey of households in the Chicago metropolitan area, the authors found that “The majority of unbanked households (70 percent) have incomes less than $30,000 or live in LMI areas (74 percent). . . . Studies have consistently shown that unbanked consumers are more likely to have lower income and net worth, to reside in an LMI neighborhood, to be less educated and unemployed, and to be more heavily represented among Black, Hispanic, female, unmarried, and younger consumers.

15. Although the maximization of social welfare does not involve equity concerns, the particular constraints on economic behavior imposed by economic actors may very well affect the distribution of income. Imagine a situation where the government can choose between two different policies, both of which will result in the same aggre-
The operative choices with regard to formulating governmental policies and choosing the "best" policy from an array of alternatives thus become the choice of incentives, created by the policies, on which economic actors—consumers, firms, and the government—will base their decisions.16

Part II of this Article examines the interplay between incentives and economic decision-making within the context of a conceptual framework for investigating regulatory policy. The framework involves separating the economic actions firms take in their normal course of business—producing goods and services for profit—from the regulatory actions the firm must undertake as required by the relevant governing institution. Creating the dichotomy between economic actions and regulatory actions allows a policymaker to focus more sharply on two tasks fundamental to fostering the goal of efficiency without undermining legitimate concerns of equity: (1) deciding what goals are valued among economic actors and consequently by society as a whole, and (2) implementing an incentive structure that will support those societal goals in the most efficient manner, while allowing actors to freely choose their actions.17

Ironically, a positive aspect of the CRA is its inherent ambiguity, which stems from its vague wording18 and its reliance on bank regulators to craft regulations that delineate its enforcement procedures. That ambiguity facilitates laying a foundation for a regulatory structure that gives the CRA the flexibility it needs to be a viable mechanism achieving efficiency and equity.

Despite the great potential of the CRA as a vehicle for progressive economic and social policy, the current enforcement regime of the CRA (initiated in 1995 as a revision of the pre-1995 "efforts-based" regime) can still be improved upon.19 Part III of this Article offers a market-based enhancement to the CRA that can im-

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16. For a discussion of the importance of incentives in the formation of public policies, see AMARTYA SEN, DEVELOPMENT AS FREEDOM 129-31 (1999).

17. The "freedom of economic choice" viewpoint espoused here is that of Amartya Sen, see supra note 16, at 13-20, who has made the case in his writings that a key measure of economic development and growth is the degree of freedom economic actors have over their individual choices and prospects.

18. Macey & Miller, supra note 6, at 295 ("[The CRA's] requirements are vague and self-contradictory, and its enforcement often appears arbitrary.").

prove its efficiency by creating property rights for a new financial asset that gives banks more flexibility in meeting their CRA lending requirements. This increased flexibility will allow banks to meet their CRA requirements at lower cost, while ensuring the same amount of or more CRA lending in the aggregate. The market-based enhancement that this Article proposes can be implemented by a simple revision of the regulations\textsuperscript{20} without the need for new legislation.

I. The Economic Rationale for the CRA

To a large extent, the writing and passage of the CRA in 1977 was motivated by evidence of redlining and disinvestment of bank deposits in LMI areas.\textsuperscript{21} Some scholars believe that an underlying motivation for the CRA was not just to correct geographic credit imbalances, but also to prevent racial discrimination in credit markets.\textsuperscript{22} Although this may have been seen as a desirable byproduct of the CRA, race is not explicitly mentioned in the CRA statute. To the extent that minorities are more likely to live in LMI neighborhoods, ensuring fair access to credit for LMI neighborhoods implies ensuring fair access to credit for minorities as well. Certainly, by requiring banks to make credit available in areas where they might not otherwise, the CRA can be expected to have indirect positive effects on the incidence of discrimination in credit markets. A strict interpretation of the CRA’s purpose, however, suggests that it is an anti-redlining statute and not an anti-discrimination statute.\textsuperscript{23}

The CRA’s goal of encouraging banks to meet the credit needs of the communities where they accept deposits is more nebulous than the intent of related anti-discrimination laws such as the


\textsuperscript{21} See supra note 12 and accompanying text.

\textsuperscript{22} Macey & Miller, supra note 6, at 298-99; see also Hylton & Rougeau, supra note 6, at 246 (“In spite of its title and its general language about meeting the needs of the community, it is well known that the CRA is aimed at eliminating a pattern that seems to be racially discriminatory. The statute is framed in nonracial terms, but interpretations by regulators and legislators consistently refer to minority groups.”).

Equal Credit Opportunity Act\textsuperscript{24} and the Fair Housing Act\textsuperscript{25} It is therefore particularly important that the CRA have a strong economic basis. The CRA is justified on economic grounds by three principles: (1) the presence of externalities in the market for mortgage and business loans in LMI areas that lead to the failure of unregulated markets to produce adequate levels of credit to LMI areas; (2) information asymmetries, whereby potential lenders in LMI areas may find it too costly to obtain the requisite information for determining profitability of prospective lending opportunities and to properly assess credit risk in LMI areas; and (3) the government’s (implicit) desire to maximize some measure of social welfare in the aggregate while increasing the social welfare of LMI areas through the socially optimal allocation of credit.

\section*{A. Externalities and Market Failure}

The economic underpinnings of the CRA are largely based on the notion that low levels of lending in LMI areas result from the inability of rational lending decisions made by profit-maximizing lenders to achieve a socially optimal flow of credit to LMI areas.\textsuperscript{26} This market failure occurs because the marginal cost of a single lender acquiring the information necessary to adequately assess risk and identify profitable lending opportunities in LMI areas outweighs the potential marginal benefit the lender can expect to accrue. In the extreme case, if no single lender is willing to incur the necessary information cost, every lender will rationally decide not to lend in the area, and no loans will be made.

One implication of this type of market failure is that lending in LMI neighborhoods can create positive externalities that benefit lenders—namely, information about property values and the expected profitability of business projects that all potential lenders in an area can use but the cost of which is incurred only by the lender making the loan.\textsuperscript{27} For example, mortgage-lending activity in a neighborhood generates information about property appraisals. These appraisals create a stock of information that can increase the

\begin{itemize}
  \item 27. These positive “information externalities” are different from those mentioned previously in this Article. Hereafter, the Article focuses on information externalities because they more directly affect the parties creating the externalities in the first place—the lenders. In doing so, the intent is not to minimize the importance of positive externalities resulting from the economic uplift of LMI neighborhoods.
\end{itemize}
The improved reliability of property appraisals brought forth by the increased lending activity benefits all subsequent lenders in the neighborhood and over time decreases information acquisition costs. In this sense, the information created by sustained lending in LMI areas is a "public good." Because lower-income neighborhoods typically have more uncertainty surrounding property values than more affluent areas, information generation and acquisition is critically important in LMI areas. Under the "information as a public good" theory, the CRA's requirement that all lenders in a community be active in lending, serving, and investing in the community effectively increases the stock of information about profitable lending opportunities and may lower loan denial rates.

Notwithstanding the "public good" component of information generated by bank lending, lending in LMI areas also requires the investment of private bank resources. Information generated by lending activity contains aspects of a private good. For example, the experiences of a bank's loan officers when lending to a particular neighborhood are accessible only by the bank itself. The bank directly benefits from incurring information costs to properly assess credit risk. However, if a bank makes only a small number of loans in an area, it may not be able to recoup its private investment in information because the marginal return on the information investment may be less than the marginal cost of information acquisition. The bank may therefore be less willing (or unwilling) to make the private investment necessary for profitable lending, which decreases lending activity.

Assessing the relative importance of the public good versus the private good aspects of lending is ultimately an empirical question. Robert Avery, Patricia Beeson, and Mark Sniderman31 examined the public good and private good aspects of lending using data made available pursuant to the Home Mortgage Disclosure Act

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31. Id.
They did not find evidence supporting the public good information effect. However, they did find support for the "private good" information effect: mortgage denial rates for a lender decrease as the number of loans the lender processes in a neighborhood increases. These findings have an important implication for CRA enforcement: the strict view regulatory agencies took before the CRA was revised in 1995 regarding each lender's obligation to be directly active in all portions of its assessment area "may not be in the best interest of the most underserved communities, where there are relatively few transactions."

The authors' conclusion implies that lenders that service LMI areas need a critical mass of business volume to enjoy economies of scale and to make lending in those areas cost-effective. It also suggests that efforts by regulatory agencies to encourage banks to generate loans in LMI areas on a larger scale may yield Pareto-improving allocations of loans in those areas. Pareto efficiency is defined as a situation when no one can be made better off without making someone else worse off. The authors point out that their results support the idea that banks would be well served to take advantage of the increased flexibility of the 1995 revision of the CRA by taking advantage of "resource-pooling arrangements" in their CRA compliance strategies.

B. Information Asymmetries

A fundamental issue affecting credit allocation in LMI areas is information asymmetry. Information asymmetries occur in the lending process because borrowers typically have a greater quantity and quality of information about their creditworthiness and the expected profitability of their projects than lenders do. Because the information lenders possess is incomplete, lenders must infer the creditworthiness of loan applicants and the expected profitability of potential loan opportunities by referring to signals provided

33. The public good and private good hypotheses tested in Avery et al., supra note 29, are not opposite; accepting one does not necessarily imply rejecting the other. Each must be tested separately.
34. See Evanoff & Segal, supra note 19, at 23 (noting that "regulators have been more strict in assigning CRA ratings").
35. Avery et al., supra note 29, at 4.
36. Id. at 28.
38. See Avery et al., supra note 29, at 4.
by the applicant, such as credit scores, income, past financial relationships with the applicant, collateral, the amount of money the applicant is willing and able to put up in the transaction (e.g., down payments for mortgage loans), and possibly, although it is illegal to do so, race, gender, or other characteristics prohibited by the Equal Credit Opportunity Act ("ECOA"). 39 Even under the best circumstances, however, it is unlikely that these signals of applicant creditworthiness will precisely predict the likelihood of borrower repayment or project success. In the economic literature, many researchers have shown that these types of information asymmetries can lead to the rationing of credit. 40

Information asymmetries are a critical source of sub-optimal levels of credit in LMI communities because potential borrowers are typically at a disadvantage in signaling their creditworthiness using the aforementioned methods. By definition, LMI areas have less income than other areas. Moreover, the LMI/non-LMI area disparity in wealth (wealth can be used as collateral or as a down payment) is even greater than the disparity in income. 41 Residents of LMI areas are less likely than residents in wealthier neighborhoods to use traditional financial service institutions like banks and credit unions. 42 They are also less likely to have a past relationship


41. Using data from the 1988 Survey of Income and Program Participation ("SIPP"), Oliver and Shapiro find that "Whites possess nearly twelve times as much median net worth as blacks, or $43,800 versus $3,700." MELVIN L. OLIVER & THOMAS M. SHAPIRO, BLACK WEALTH/WHITE WEALTH: A NEW PERSPECTIVE ON RACIAL EQUALITY 86 (1995). This large racial disparity, coupled with the fact that African-Americans i) are disproportionately represented in LMI areas, ii) experience lower rates of homeownership than whites at all levels of income, iii) own less valuable homes than whites when they do own homes ($45,000 median home value for whites versus $31,000 for blacks in 1987 SIPP database), and iv) receive a greater proportion of their accumulated wealth from home equity ("63 percent of all black wealth and 43 percent of all white wealth" as calculated from the 1987 SIPP database), implies that the disparity in wealth between LMI and non-LMI neighborhoods is larger than the disparity in income. Id. at 108, 109 tbl. 5.4.

42. See RHINE ET AL., supra note 14, at 63.
with a depository institution. The large proportion of unbanked residents can leave an LMI community particularly vulnerable in the event of bank disinvestment, for if local deposits leave these areas to be invested in more affluent ones, the barriers to lending erected by information asymmetries may be so high that out-of-market lenders will not be willing or able to incur the costs and risks of lending there. The end result of disinvestment is often that borrowers in LMI areas lose their most promising sources of capital. Even though LMI areas do not always have significantly lower credit scores than more affluent areas, the more limited use of traditional banking services by LMI residents makes it more difficult for those residents to establish credit histories that will lead to high credit scores. Finally, given the fact that LMI areas are typically disproportionately populated by African Americans and Hispanics, the potential for illegal discrimination is greater than in more affluent areas.

There are, however, ways to alleviate information asymmetries. One means is engaging in "relationship lending," whereby bank customers make repeated transactions with a particular lender. A bank that does business with a customer repeatedly gains more information about that customer's repayment patterns, risk of default, sensitivity to adverse economic shocks, and financial capacity than if the customer was only making one transaction with the bank. Moreover, if the customer lives in the general vicinity of the bank branch, the bank is also able to make more accurate assessments of the overall economic conditions facing the customer.

43. "People in low-income neighborhoods are almost as likely to have strong credit scores as those in high-income neighborhoods." Edward Kulkosky, Pipeline Fed: Low-Income Areas Get Good Credit Scores Series: 6, AM. BANKER, Aug. 28, 1996, at 6. In quoting a Federal Reserve Board study on the power of credit scores in predicting loan performance, the article made the point that "'Most households have relatively high scores, regardless of the income or home-value characteristics of the area in which they reside.' Households in neighborhoods with low incomes or low home values do tend to have lower credit scores, but one researcher said the impact was minor."Id.

44. See Rhine et al., supra note 14, at 63, 69.

45. See id. at 59, 74.

46. This is not to imply that discrimination is rampant in LMI areas or that lenders necessarily have a greater propensity to discriminate in LMI areas. My point is simply that there is a greater opportunity for illegal discrimination based on a protected class in areas where greater numbers of that protected class are present.

additional information can allow the bank to make more precise evaluations of the expected return on a potential loan with the borrower than would otherwise be possible, without incurring additional monitoring or risk assessment costs.

C. Social Welfare Maximization

The problem with the externalities and informational asymmetries present in credit markets is that they do not allow banks to allocate credit in ways that maximize not only their private benefits, but also the social benefits of all parties either directly or indirectly affected by banks’ activities. Maximization of these benefits requires the allocation of credit across communities to be Pareto efficient. The maximization of social welfare—an aggregation of the social benefits enjoyed by all economic actors—while not an explicit goal of the CRA, is certainly in agreement with the stated goals of the CRA.

Economic theory melds considerations of Pareto efficiency and of equity through the construct of a social welfare function which aggregates the utility functions of all economic entities (firms and consumers). The function includes weights that indicate the relative importance of one person’s or firm’s utility in relation to other persons or firms. The social welfare function is a useful concept because it allows one to consider simultaneously all parties that may be affected by an economic policy or action, instead of considering each group of affected parties separately. When the well-being of individuals is considered in isolation, it becomes easy to shortchange one individual at the expense of another by ignoring the possible effect of one individual’s actions on another’s well-being.

The maximization of a social welfare function implies Pareto efficiency. More importantly, under certain technical assumptions, the converse is true: every Pareto efficient allocation of goods max-

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48. See Varian, supra note 37 and accompanying text for a definition of Pareto efficiency.
49. Mathematically, the problem of maximizing social welfare can be expressed as a function

$$\max W(U_1(x_1), \ldots, U_n(x_n)) \text{ s.t. } \sum_{i=1}^{n} x_i^g \leq \omega^g, \ g = 1, \ldots, k$$

where $W$ is the social welfare function, $U_i$ is the utility of the $i^{th}$ consumer, $x_i$ is the $i^{th}$ consumer’s consumption of the $k$ different goods and services in the economy, and $\omega^g$ is the total amount (initial endowment) of the $g^{th}$ good or service in the economy. Varian, supra note 37, at 333.
50. Id. at 334.
imizes social welfare for some social welfare function. So, in terms of government policy, it might appear that all that really needs to be done is to make sure that social welfare is maximized, which implies that the allocation of resources and loans and profits in the economy are Pareto efficient—a task that in some cases might indicate that the best governmental policy is no policy (or at least a policy to refrain from interfering with the free market).

However, the challenge facing society lies not only in maximizing social welfare, but also in choosing the “proper” (i.e., most equitable) social welfare function. This is why the CRA’s ability to increase the relative weight of LMI neighborhoods in the social welfare function is so important. This re-weighting is crucial because the weights are directly related to an agent’s income—agents with larger income have larger weights in the implicit social welfare function. The CRA, however, raises the relative weights of LMI neighborhoods and lowers the weights of more affluent neighborhoods. In so doing, the CRA attempts to redistribute wealth from non-LMI areas to LMI areas.

A careful consideration of the social welfare aspects of government regulation can assist the development of a conceptual framework for evaluating and formulating socially optimal regulatory policy. The next Part of this Article takes a step in that direction.

II. A Conceptual Framework for Regulatory Policy

This Part uses the economic principles discussed in the previous Part to develop a general theoretical framework for regulatory compliance mechanisms. The framework is based on recognizing the economic incentives available to firms as they pursue the dual tasks of maximizing profits while complying with government regulations. This Part discusses how firms’ compliance with government regulations can be made more efficient through market creation and property rights. The key lies in recognizing the inher-

51. Id.
52. Id. at 335.
53. Id.
54. The operative word here is attempt; the redistribution does not occur automatically. The allocation of capital and wealth in the CRA’s absence may in theory maximize some social welfare function, but such allocation generally will not maximize social welfare once the CRA affects the reweighting of individual utilities. Redistribution must take place in order for social welfare to once again be maximized under the new, reweighted social welfare function. For additional theoretical background in social choice theory, see David M. Kreps, A Course in Microeconomic Theory 149-84 (1990).
t value (or cost) of a firm engaging in actions solely to satisfy a
government regulation.

A firm, during the course of conducting its business, will often
either: (1) perform ancillary actions or create derivative products—
byproducts of the firm’s main business activities (i.e., pollution cre-
ated by a chemical processing plant)—that create externalities; or
(2) perform actions or create products subject to restrictions im-
posed by a governmental entity (i.e., making “CRA loans”) that
also may create externalities. In the first case, the byproduct is
produced as an unavoidable consequence of the firm creating its
primary product; in the second case, the byproduct is produced in-
tentionally in an attempt to comply with the law. The byproduct in
both scenarios distorts to some extent the firm’s profit-maximizing
decisions. In other words, in the absence of the externality or regu-
lation, the firm would face a different optimization problem and
would probably make different production decisions.55

Let us assume that in the first case above the firm produces a
“bad good”—pollution, and that in the second case the firm is re-
quired by law to create a “good good”—CRA loans. Consider for
the moment the case where these derivative products are ignored.
What happens? The first case demonstrates the theory of external-
ities: the firm will not internalize the negative effect of the pollu-
tion it produces, which will lead to it to produce an amount of
pollution that is more than socially
optimal. In the second case,
the firm will maximize its
profits in such a way that the CRA
regulatory requirement is met. If one assumes that CRA loans are
less profitable (on average and at the margin) than conventional
loans,58 the firm will make the bare minimum of CRA loans neces-
sary for compliance. However, because the marginal expected re-

55. In economic parlance, the firm would be optimizing a different objective func-
tion, subject to different constraints.
56. This Article is implicitly making the assumption that any positive amount of
pollution emitted by the firm is bad and thus lowers social welfare (i.e., the marginal
social damage caused by the firm’s pollution is positive), which rules out any “thresh-
old effects” of pollution whereby a firm may not produce enough pollution to move
the aggregate level of pollution above the threshold level. In such a situation, the firm
would not be said to be producing more than the socially optimal amount of pollution,
because the marginal social damage caused by its pollution would be zero.
57. More generally, the firm will maximize some objective function, which may
include factors other than profits.
58. This is a reasonable assumption in many, but not all, cases. A study of the
largest financial institutions subject to CRA regulations by the Federal Reserve Board
indicated that the majority of lenders surveyed found CRA-related lending to be as
profitable as conventional lending, with a small percentage of institutions claiming
that its CRA lending was more profitable than conventional lending. See generally
turn for CRA loans is lower at the minimum level of CRA lending than for conventional loans, the firm will be forced to forego the additional profits it would have earned if it had been allowed to allocate its loanable funds between conventional and CRA loans so that the marginal expected returns for both loan types were equal.

In the real world of many heterogeneous firms, both results fail to satisfy the Pareto criterion for efficiency. Consider the pollution example first. If firms are heterogeneous in their effectiveness of pollution abatement (perhaps because some firms are able to achieve a certain level of production while emitting less pollution than other firms), then the production of a given aggregate amount of pollution can be re-allocated through the creation of property rights for pollution. This can be achieved in the form of pollution "credits," whereby firms with better pollution abatement technology can sell pollution credits to firms with less effective abatement technology. Thus, the high-polluting firms can avoid restricting production or buying expensive pollution abatement equipment, both of which lower profits. Instead, these firms can purchase additional pollution credits to cover the extra pollution they produce. Because the high-polluting firms can always revert to the status quo of imposing production restrictions or purchasing pollution abatement technology, they will be no worse off than before, and some will be made strictly better off. The low-polluting firms can receive additional revenue from selling their unused allotment of pollution credits without changing their production; thus, they are no worse off than before, and some will be strictly better off.

Conceptually, the creation of pollution property rights can be thought of as a separation of the normal actions the firm performs in its line of business to earn profits (what I call "economic actions") from the actions it is required to perform to comply with the government regulation of pollution (what I call "regulatory actions"). If the intent of the regulation of pollution is to achieve some sort of aggregate (i.e., regional or national) pollution abatement goal rather than a firm-level goal, a market for the regulatory good of pollution can be created, property rights can be established, and firms can use the price mechanism to re-allocate the production of pollution at minimum (i.e., productively efficient) cost. In this way, the price mechanism can facilitate cooperative behavior between firms in the aggregate production of the regulatory good.

A relevant real-world example of this principle is the collection of emissions-trading permit systems designed by the Environmental Protection Agency ("EPA") under Title IV of the Clean Air Act Amendments of 1990.\textsuperscript{59} This trading system, and others like it, create de facto property rights for emissions. These property rights, called allowances, consist of a system whereby one allowance is defined as the right to emit one ton of pollutant into the atmosphere.\textsuperscript{60} Such systems have replaced the traditional "command and control" regime of air pollutant regulation whereby regulators required all production plants, regardless of size or production mix, to install expensive equipment designed to decrease emissions.

The Title IV program, which regulates sulfur dioxide (SO\textsubscript{2}) emissions from electric utilities, created a national market for SO\textsubscript{2} permits.\textsuperscript{61} The trading program was designed specifically to reduce the level of SO\textsubscript{2} emissions.\textsuperscript{62} The Act created de facto property rights for emissions called allowances, with one allowance defined as the right to emit one ton of SO\textsubscript{2} into the atmosphere. The allowances, or permits, which are freely tradable, give utility companies complete flexibility in determining how they will comply with their obligations under the law.\textsuperscript{63}

The Title IV trading program has resulted in large reductions in health-care costs and in regulatory compliance costs. Researchers have estimated that in 1995 the cost savings from permit trading totaled approximately $97 million or thirteen percent of estimated compliance costs in the absence of the trading program. In 2005 the cost savings are expected to total $531 million or approximately thirty-seven percent of compliance costs in the absence of the trading program.\textsuperscript{64} In addition, the trading program resulted in aggregate estimated health-related benefits nationally of almost $570 million in 1995 and is expected to result in approximately $125 million of such benefits in 2005.\textsuperscript{65}

\textsuperscript{60} Id.
\textsuperscript{61} Id.
\textsuperscript{64} BURTRAW & MANSUR, supra note 62, at 19.
\textsuperscript{65} Id. at 2.
The conceptual regulatory framework discussed above has an important implication for the structure of laws and government regulations: laws should be written flexibly enough for the pricing mechanisms to be implemented in situations where they can be efficiency-enhancing, yet specific enough about goals to adequately support the social and equity goals underlying the intent of the law. As the next Part illustrates, the concept of separation of economic and regulatory actions is particularly applicable to the CRA.

III. APPLICATION: A MARKET-BASED ENHANCEMENT TO THE CRA

The regulatory framework outlined in Part II can be applied to develop a system to make the CRA more efficient. As justifiable as the CRA may be on economic and equity grounds, the implementation of the current CRA\(^6\) contains some inefficiencies. The requirement that every institution be directly involved in lending to all parts of its market area (including LMI areas)\(^7\) can impose substantial costs on banks, and more importantly, may result in the inefficient use of resources by banks that do not possess the “community capital” necessary to identify profitable lending opportunities and properly assess risk in LMI areas. Moreover, there may not be enough profitable lending opportunities available to make lending in LMI areas profitable for every bank operating in an area—there may be too many banks chasing after too few loans.\(^8\)

For these reasons, it is possible that the creation of a new market for CRA regulatory compliance credits—which I call “CRA vouchers”—may result in a Pareto-improving allocation of CRA loans among banks in LMI areas. Under certain conditions this may lead to a higher aggregate volume of CRA loans in LMI areas as well.

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66. By “the current CRA,” I am referring to the reform of the CRA regulations that occurred in 1995 and went into effect in 1997, but not the changes stipulated by the Gramm-Leach-Bliley Act of 1999, as they have not fully taken effect.

67. See, e.g., Avery et al., supra note 29, at 1 (“Under the CRA’s provisions, bank regulators are required to use their supervisory authority to encourage each depository institution—including those in low- and moderate-income communities—to help meet its community’s credit needs consistent with safe and sound lending practices.”).

68. In contrast, one can view predatory lenders as lenders who make loans profitable that would be unprofitable for most legitimate, nondiscriminatory, regulated banks. However, the means by which they make such loans profitable—exorbitant interest rates, excessive mortgage points and fees, equity-stripping loan terms, and opportunistic “loan flipping” practices—are not viable or desirable options for making profitable loans in LMI areas for government-regulated financial institutions. For a comprehensive discussion of the characteristics of predatory lending, see Kathleen C. Engel & Patricia A. McCoy, A Tale of Three Markets: The Law and Economics of Predatory Lending (Working Paper, Sept. 1, 2001).
CRA vouchers represent a new financial asset, with property rights created by the regulator, and are designed to give banks added flexibility in establishing their CRA compliance. Michael Klausner advanced a similar idea with the same underlying principle. This Part applies the conceptual framework of separating regulatory actions from economic actions to expand on Klausner’s concept of “tradable obligations” and propose a basic structure for a CRA voucher compliance system.

A. Characteristics of a Market-Based CRA Compliance System

The basic structure of a CRA voucher system is as follows. Assume there are two banks, A and B, operating in a geographic market. For the purposes of this Article, a CRA voucher is defined as an agreement that bank B (A) will count a specified dollar amount of bank A’s (B’s) CRA-qualifying loans towards its own CRA compliance. So, for example, one CRA voucher for bank B might equal CRA credit for $1 million of bank A’s CRA loans. The CRA voucher would specify the loan(s) in the voucher-issuing bank’s portfolio for which CRA credit will be granted, as well as each loan’s essential identifying characteristics, such as the origination date, loan type (single-family mortgage, business, consumer, etc.), loan term, and geographic location. These details are neces-

69. Klausner, supra note 40, at 1580 (discussing the concept of “tradable obligations”). Klausner argued that although the CRA was intended to correct a market failure (banks’ sub-optimal allocation of credit to LMI neighborhoods), the CRA’s requirement that every bank make substantial efforts to lend in LMI areas prevents banks from economizing on information costs and internalizing information about LMI neighborhoods—that is often costly to obtain—and could lead to inefficiency in originating CRA loans.

70. Klausner’s “tradable obligations” proposal, Klausner, supra note 69, at 1580, differs in some respects from the “CRA voucher” system discussed in this Article, as will be discussed.

71. My definition of a “CRA loan” would coincide with the definition used by the Federal Reserve, EVANOFF & SEGAL, supra note 19, at 24: “For one- to four-family residential mortgage lending, a CRA-related loan was defined to mean any loan made within the banking institution’s CRA assessment area to a low- or moderate-income borrower (regardless of neighborhood income) or in a low- or moderate-income neighborhood (regardless of borrower income). For small business lending, a CRA-related loan was defined as any small business loan (as defined in the CRA regulations) made within the banking institution’s CRA assessment area to a firm with annual revenues of $1 million or less (regardless of neighborhood income) or in a low- and moderate-income neighborhood (regardless of firm size).” Alternatively, CRA vouchers could be defined in terms of the number of loans (for example, one CRA voucher equals credit for one CRA loan). This type of definition might be preferable in some cases because in some CRA examinations regulators focus more closely on the number of CRA loans than on the dollar amount.
sary to verify during bank B's (A's) CRA examination that the loans comprising the voucher are in its self-defined market area designated for CRA assessment (its "assessment area"); to assign CRA credit to the proper loan category; and to prevent the voucher-issuing bank from double-counting CRA loans for which it has sold compliance credit. A bank would be allowed to sell CRA vouchers for any of its originations that qualify for CRA consideration, typically any loans made in LMI areas in the voucher-purchasing bank's assessment area.

Under the most conservative implementation of the voucher proposal, CRA examinations would remain fundamentally unchanged. In the course of a CRA examination, the regulator would add the loan amounts for the purchased CRA vouchers to the bank's originations (excluding any loans included in any CRA vouchers that the bank may have sold) and purchased loans. A bank's rating on the lending test portion of the CRA examination would depend on the bank's quantity and distribution of loan originations, purchased loans, and CRA vouchers; the investment and service tests would be unaffected. From an operational standpoint, the counting of CRA vouchers would resemble that of purchased loans. The origination and servicing responsibilities for CRA-voucher loans would remain with the voucher-issuing bank. As is the case with purchased loans, if the originating bank subsequently decides to sell the voucher loans outright or sell only the servicing rights, the purchaser cannot receive CRA credit for those loans or servicing rights (as this would be double-counting). Since in principle the efficiency of compliance is not affected by how the regulatory value of a loan is divided among its origination and servicing components, it would make sense from an administrative standpoint to count CRA vouchers as equivalent to originations. At any rate, because banks would be trading CRA vouchers solely for their CRA compliance value, it would be imperative for ensuring the integrity of the pricing mechanism that the weighting of each CRA voucher be consistent.

A more radical implementation approach more along the lines of Klausner's proposal would involve the establishment of explicit

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72. This aspect of CRA vouchers differs from Klausner's tradable obligations. Klausner, supra note 69, at 1581, proposes a "quota" be assigned to each bank, which can be met by either originating loans or purchasing them. However, the bank can "sell" part of or its entire obligation under the quota (hence the term "tradable obligations"). My proposal, in contrast, does not require the assignment of quotas (although they could be imposed as an option).
lending requirements for banks. Explicit CRA lending targets would remove much of the ambiguity surrounding the CRA examination process. However, given the widespread acceptance of the regime of “soft” CRA lending requirements currently in place for banks, explicit mandatory CRA lending requirements do not appear to be a viable option.

Fortunately, the recent success and growth of loan securitization as a tool for banks to meet CRA lending requirements suggests that explicit mandatory lending targets are likely to be unnecessary. A realistic alternative to explicit lending targets is to allow banks to use CRA vouchers as an additional CRA compliance tool along with loan securitization. Within the current CRA compliance framework, regulators could give CRA credit to vouchers in a manner similar to loan securitization. In this way, CRA vouchers would add flexibility to the current regulatory compliance process that can be used to realize gains from trade and foster “cooperative” agreements within the conventional banking system.

CRA-voucher buying and selling would only be permitted by institutions subject to CRA regulations. This restriction is necessary because the administrative task of verifying the CRA-applicability of the underlying loans realistically could only be accomplished if both parties are subject to regulatory review. Moreover, because the voucher system is intended to increase efficiency in the production of CRA loans by institutions subject to the CRA, institutions outside the reach of the CRA that provide credit to LMI communities (finance companies and non-depository subprime lenders, for example) should not be involved in voucher buying or selling. Without such restrictions, non-CRA regulated institutions could engage in voucher buying for the express purpose of forcing non-compliance by CRA-governed banks, or, if they were allowed to sell CRA vouchers, the voucher system would have the perverse effect of allowing a greater proportion of CRA-qualifying loans to be originated outside the CRA-regulated banking system, a particularly undesirable result considering that the majority of predatory lenders currently are not subject to CRA regulations.73

B.1. Efficiency and Pricing

For the CRA voucher system to be an unambiguous improvement to the current CRA compliance system in terms of efficiency, the system must not violate the Pareto principle. For Pareto effi-

73. ENGEL & McCoy, supra note 68, at 27-29.
ciency considerations, it seems reasonable to focus on the parties that would be directly affected by a voucher system: consumers (in both LMI and non-LMI areas), banks subject to the CRA, and the regulators. Consumers would be better off if a voucher system resulted in more CRA lending without decreasing non-CRA lending, or in lower prices without decreasing the amount of CRA and non-CRA lending. Banks subject to CRA regulations would benefit from a voucher system if profits were to increase. Profits would increase if average CRA loan costs declined without increasing for non-CRA loans, if the average profitability of CRA lending increased, or if a bank was able to make more non-CRA loans and fewer CRA loans (assuming the marginal profitability of non-CRA loans for the bank is higher than that of CRA loans) while still remaining in compliance. The regulators would benefit if CRA examinations could be completed in less time, if the voucher system fostered more amicable relations with banks, or if the positive reception of a voucher system created some political capital the regulators could use to push other regulatory items on their agenda.

The CRA voucher system should not be expected to violate the Pareto principle if the agents in the government's social welfare function are limited to consumers, banks subject to the CRA, and the regulators. Under the worst case scenario (excluding the case where no one trades CRA vouchers even though they are available), the total number of CRA loans made remains constant, but the distribution of CRA loans among lenders shifts. The shift in distribution will satisfy the Pareto principle if (1) every customer who would receive a loan in the absence of CRA vouchers receives one under the voucher system, (2) no customer pays a higher rate than she would in the absence of CRA vouchers, and (3) no bank earns lower profit than it would in the absence of CRA vouchers.

Certainly, there are other parties that are affected by CRA enforcement, such as lenders not subject to the CRA, and community groups. This Article argues that these groups are not relevant for the purpose of assessing the efficiency impact of CRA vouchers if one takes the viewpoint that, all else being equal, more loans being made by CRA-regulated lenders and less made by non-CRA-regulated lenders will result in a net positive social benefit. Also, if there are more efficient and less costly ways of providing credit to LMI areas other than non CRA-regulated lenders, and non-CRA-regulated lenders are free to enter the CRA-regulated market; resources will be shifted from non-CRA-regulated lenders to CRA-regulated lenders so that the overall efficiency of LMI-area lending will increase. To the extent that non-CRA-regulated lenders include predatory lenders who make non-economic profits (profits that exceed those that would be attained under proper risk-adjusted pricing and competitive mechanisms), from a normative standpoint it does not seem appropriate to consider their welfare in efficiency calculations.
Let us now consider the conditions. Because the CRA voucher system shifts the production of CRA loans from higher-cost producers to lower-cost producers, any loan that was profitable to make without CRA vouchers will remain so under CRA vouchers. If a particular CRA loan was made by a low-cost producer before the CRA voucher system, it will continue to be produced by that producer under the voucher system. If a loan was made by a high-cost producer, either the high-cost producer will buy vouchers from the low-cost producer and the low-cost producer will expand production to make the loan the high-cost producer no longer makes, or some other producer with lower marginal CRA loan costs than the high-cost producer will expand production. To the extent there exist unrealized economies of scale in CRA loan production, the expansion of CRA lending by low-cost CRA lenders may further drive down costs. This would achieve conditions (1) and (3) above.

Condition (2), ensuring that no customer pays more for credit under a voucher system, is more problematic. The change in credit prices under a voucher system is ambiguous due to two opposing forces. This shift in CRA loan production to lower-cost producers and the attainment of any economies of scale by lower-cost producers will tend to decrease CRA lending costs and consequently decrease CRA loan prices. On the other hand, the reduction of competition in the CRA loan market will tend to encourage non-competitive CRA loan pricing and result in an increase in CRA loan rates. The net result will depend on the magnitude of the effect of a voucher system on the concentration of CRA lending in local lending markets, as well as the sensitivity of low-cost producer credit prices to changes in marginal cost.

It is impossible to make conclusive statements about CRA loan prices under a voucher system without a formal mathematical model, although one would suspect the reputational effects of being one of a few CRA-loan originators in a market would deter profiteering by low-cost CRA lenders.\textsuperscript{75} Regulators as well as community groups would need to be involved in making sure some of the efficiency gains generated by a voucher system are passed on to borrowers in LMI areas.

\textbf{B.2. Loan Securitization}

It is reasonable to ask the question of whether existing financial instruments, particularly loan securitizations, would have the same

\textsuperscript{75} Engel & McCoy, supra note 68, at 45-47.
characteristics and advantages of the CRA voucher system outlined above. Loan securitization is a major facet of bank asset management, and current CRA guidelines allow securitized loan purchases to count toward CRA compliance.66

A CRA voucher system would differ from the current secondary market for loans in many respects. The vast majority of loan securitizations involve mortgages; small business loans and other loans that receive CRA credit represent a small fraction of total loan securitizations.77 To date, most of the small business loans that have been securitized are either real estate loans or small business loans originated under lending programs operated by the U.S. Small Business Administration ("SBA"). Several factors complicate commercial loan securitization: the lack of product standardization (compared with standard thirty-year and fifteen-year mortgage products), difficulties in risk assessment, and high transaction costs (a direct consequence of a lack of product standardization and difficulties in risk assessment). Indeed, the minimum transaction cost of securitizing a commercial loan pool can run from about $500,000 to $1 million, and approximately $50-$100 million in loans is the minimum pool size that must be reached before securitization becomes cost effective.78 As the majority of commercial banks have fewer than $5 billion in assets79 and loan portfolios that are diversified over several loan types,80 widespread commercial loan securitization currently is not feasible for all banks. CRA vouchers, on the other hand, could be traded for any type of loan that receives CRA credit.

A key advantage of a CRA voucher system over loan securitization is flexibility in risk management. When loans are securitized, the securitizing agent usually issues bonds or short-term commercial paper backed by the pooled loans. The securities are often sold as structured debt instruments by dividing them into senior "A-piece" and subordinate "B-piece" tranches. The A piece is often attractive to institutional investors, while the more risky B

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66. See Luxman Nathan, The Growing Securitization of Small Business Loans, Fed. Res. Bank B., Summer 1998, at 4 ("Under the revised Community Reinvestment Act (CRA), a bank or a bank holding company may be entitled to CRA credit for purchasing securities backed by small business loans.").

77. Id. at 2-8.

78. Id. at 5.

79. Id.

piece, which absorbs most of the credit risk from the loans, is either retained by the lender or purchased by less risk-averse investors. So, although banks could allocate CRA lending more efficiently by increasing the securitization and trading of CRA-qualifying loans, the potential exists for risk-management problems at securitizing banks if they are forced to hold large amounts of relatively risky and less marketable subordinate tranche debt.

The added value of CRA vouchers over securitization lies in the fact that CRA vouchers transfer regulatory credit for CRA compliance without altering the credit risk of the banks involved in the voucher transaction. They accomplish this by effectively separating the regulatory value of CRA loans from their cash flow value, and creating a market for trading the regulatory value while leaving the cash flow value intact. CRA vouchers thus represent a niche market that can coexist with loan securitizations to give banks increased flexibility in meeting both their CRA compliance and risk-management objectives.

**CONCLUSION**

The CRA was designed to achieve the socially beneficial goal of combating redlining and disinvestment from LMI communities. The economic opportunities of residents and businesses in LMI areas are substantially curtailed by informational asymmetries, which make lending to those areas more risky than lending to more affluent areas. With "community capital" being so critical in encouraging profitable lending and investment in LMI areas, it is easy for those areas to fall victim to a downward spiral, as low levels of lending create low levels of community development, which make future lending even more risky and improbable. The CRA acts as a buffer to stem the tide of disinvestment caused to a large extent by unrestrained market forces.

As a new century dawns with the modernization of banking regulations, it seems appropriate to include the CRA in that process. Although evidence has suggested that the CRA has provided communities with tangible benefits, it could provide even greater ben-

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81. See Evanoff & Segal, supra note 19; see also Katherine A. Samolyk & Christopher A. Richardson, The Impact of Bank Consolidation on CRA Business Lending 320-39 (Conference Proceedings of Changing Financial Markets and Community Development, Working Paper, 2001) (providing econometric evidence that the negative effects of bank consolidation on small business lending are not as severe for LMI areas in a bank's assessment area; this suggests the CRA benefits LMI areas with regard to small business lending to some degree).
efits, and provide them more efficiently, by allowing banks to use the price mechanism to re-allocate the production of CRA-qualifying loans to the banks with the greatest amount of community capital and the lowest CRA origination costs. Implementing such a system would be a viable way of enhancing the effectiveness of the CRA in the twenty-first century.