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BEYOND CYBERNETIC FEDERALISM IN COMMUNITY DEVELOPMENT*

RICHARD DELEON**

RICHARD LEGATES***

Fourteen and one-half billion dollars in federal Community Development Block Grant (CDBG) assistance has been authorized for expenditure in the next three years by the Housing and Community Development Act of 1977 (hereinafter 1977 Act).¹ Most of this money will be distributed by means of computer formulas that compress all considerations regarding which jurisdictions should get the assistance into less than half a page of algebraic symbols.²

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Quantified norms and programmable decision rules provide for an automatic, machine-like federal response to local problems and needs, like "the cybernetic state" as described by Alan Schick:

Government writes the program (in the computer sense of the word), establishes sociostatic norms (such as the "poverty level"), monitors the system and activates the money-disbursing machines. 3

"Cybernetic federalism" is the order of the day. But can the enormously diverse and politically fluid American federal system be understood and dealt with in this way? How much federal assistance to allocate to a local jurisdiction for community development activities might be more preferably based on analysis of such diverse economic factors as changing city tax bases and shifting locations of economic activity, demographic considerations such as white flight and differential fertility ratios of child bearing women, and political considerations including the existence or non-existence of political machines, political corruption, and political ideologies favorable or unfavorable to publicly-assisted development. None of these factors is addressed directly in the CDBG formula.

The attempt to impose cybernetic rationality upon any complex and politically charged system is a perilous enterprise, and the CDBG program is no exception. The original CDBG distribution formula was criticized by the authors and others for badly mistargeting aid. 4 Pressures for formula change mounted, as did pressures for more discretion in CDBG grant authority, from sources critical of formula-based dispersal of CDBG funds. During debate over the 1977 Act, Senate and House conferees deadlocked for several months over both formula (impaction adjustment) and discretionary grant (UDAG) issues. 5 Eventually a new "dual formula" and additional discretionary "Urban Development Action Grants" (UDAG's) were included in the legislation. 6 The nature of both the CDBG formula and discretionary CDBG grants will surely continue to occupy the attention of federal policy makers.

This Article will analyze the recent history and current status of the CDBG funding distribution system. In significant part, the Article is

4. See notes 8 and 31-35 infra.
intended to inform attorneys and other urban practitioners of the current status of CDBG formula and related allocation mechanisms. A critique of the current formula and recommendations for reform are advanced, but the Article also seeks to address broader issues concerning the strengths and limitations of computer formulas as devices for distributing intergovernmental assistance. We seek to postulate basic principles for a mixed formula and discretionary grant system beyond “cybernetic federalism.”

This Article addresses the following major questions:

1. What shifts in the distribution of federal funds does the new CDBG dual formula produce? Does the new formula redirect urban aid to regions of the country and to cities whose needs were neglected or inadequately met by the old formula?

2. To what extent, and by what criteria, is the new CDBG dual formula more efficient than the old formula in distributing CDBG assistance in relation to need in American cities? Are “vertical efficiency” (reaching only needy jurisdictions) and “horizontal efficiency” (reaching all needy jurisdictions) achieved?

3. What are the socioeconomic characteristics of cities protected against loss by retention of the original CDBG formula? Is this protection against loss desirable on grounds other than political expediency?

4. To the extent that deficiencies in the new formula appear from the above analysis, what approaches to formula redesign might prove most productive? What are the possibilities and limitations of different “impaction adjustment alternatives”? Should immediate or delayed capping or cutting take place with respect to some city allocations?

5. Beyond changes in the CDBG allocation formula, what corrective changes can be made in the federal system for allocating and regulating assistance? What role can administrative discretion, citizen participation, and advocacy play in a semi-cybernated distribution system?

6. What are the lessons to be drawn from recent CDBG experience in trying to cybernate the federal system? How can an appropriate balance be struck between computer systems and structured human decisionmaking in complex and politically sensitive areas of public policy?
BACKGROUND

The 1977 Act extends and modifies the system of block grants for community development begun by the Housing and Community Development Act of 1974 (hereinafter 1974 Act). The CDBG program has been extensively evaluated, and the subject of substantial scholarly attention. There has been a substantial amount of litigation con-


Concerning CDBG issues.10

Prior to 1974, federal community development aid had been distributed in the form of “categorical grant” assistance for projects which fell into one of ten specified “categories” for assistance.11 These categorical grants were distributed solely at the discretion of HUD.12

The 1974 Act folded these ten categorical programs into a single

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12. A distinction is drawn between “formula” grants in which designated recipient jurisdictions are entitled to a certain amount of aid on the basis of formula, and discretionary “project” grants in which eligible jurisdictions must apply for aid. Prior to 1974, federal community development programs were “project” grant programs.
“block” grant. Since that time HUD has allocated to cities and urban counties a single amount of money each year for use in virtually any physical development activity anywhere in the community.

Under the CDBG legislation, most assistance is distributed by formula(s) as a matter of entitlement. All “metropolitan cities”—any city designated as the central city of an SMSA or having over 50,000 population—is eligible for an automatic entitlement amount as determined by formula(s). “Urban counties” which meet specified legal and population size criteria are also eligible for entitlement funding by formula.

Under the 1974 legislation, as modified in 1977, several classes of CDBG discretionary grants may be made. Three percent of annual appropriations are reserved for the HUD Secretary's discretionary fund. Twenty percent of the remainder is set aside for discretionary grants to nonmetropolitan cities. Of the eighty percent allocated to cities and urban counties within metropolitan areas, a small amount is set aside for metropolitan discretionary grants to communities within metropolitan areas not eligible as a matter of entitlement and not participating in an urban county grant. The precise amount of this metropolitan discretionary fund depends upon the number of qualifying urban counties. Between 1975 and 1977 it was virtually non-existent.

13. For a discussion of the background and significance of the changes, see R. NATHAN, P. DOMMEL, S. LIEBSCHITZ & M. MORRIS, BLOCK GRANTS FOR COMMUNITY DEVELOPMENT 31-56 (1977).

14. Eligible activities are specified at 42 U.S.C. § 5305 (Supp. V 1975), including a full gamut of physical development undertakings. Unlike many prior categorical programs, the 1974 Act did not contain provisions restricting the activities to any type project area(s) within the city.


16. Id.

17. Id. § 5307 (Secretary's discretionary fund); Id. § 5306 (Metropolitan and Non-Metropolitan discretionary balances); Id. § 5318 (Urban Development Action Grants).

18. Id. § 5307.

19. Id. § 5306(f).

20. Id. § 5306(c).

21. The following amounts were allocated to CDBG Metropolitan discretionary funding: $54.6 million (Fiscal Year 1975), $82 million (Fiscal Year 1976) and $100 million (Fiscal Year 1977 estimate). U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT (HUD), OFFICE OF EVALUATION, COMMUNITY PLANNING AND DEVELOPMENT, COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM: SECOND ANNUAL REPORT (1976).
Until 1980 funds will be phased in or out to mitigate program discontinuities. But starting in 1980 funding for entitlement jurisdictions—the greatest amount—will be entirely cybernetically determined on the basis of formulas alone.22

Recipient jurisdictions are required to submit tri-annual CDBG plans, annual CDBG programs, and annual grantee performance reports.23 The stated “primary objective” of the 1974 Act is to benefit persons of low and moderate income.24 Additional goals and stated eligible activities are specified in the legislation.25 Recipient jurisdictions are also subject to federal statutory law relating to environmental quality, labor standards, equal opportunity, and relocation—so-called “overlay statutes.”26

The Nixon and Ford Administrations advocated a system with virtually no federal oversight of local decisionmaking, and administered the CDBG program with very little federal intervention.27 HUD, under the Carter Administration, has issued administrative regulations28 that set much clearer standards for the program, and is playing a more aggressive role in oversight of local jurisdictions.29

23. Id. § 5313(b).
25. Id. § 5305.
27. For examples of non-enforcement of statutory requirements in the 1974 Act under the Ford Administration, see SOUTHERN REGIONAL COUNCIL, note 8 supra, and testimony by representatives of the Southern Regional Council, Center for Community Change, Suburban Action, National Urban League and Detroit Coalition for Block Grant Compliance in SENATE COMM. ON BANKING, HOUSING, AND URBAN AFFAIRS—OVERSIGHT ON THE ADMINISTRATION OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974, 94th Cong., 2d Sess. (1976).
Data Sources and Methods

Data used in this Article were assembled for 433 of the 530 United States metropolitan cities which will receive CDBG funds in 1980. These 433 cities are included in those analyzed in the U.S. Department of Housing and Urban Development Evaluation Study of the CDBG formula. Together they accounted for approximately 95% of the total entitlement city population in fiscal year 1976. The data set for these cities includes information on basic demographic and socio-economic characteristics. It also includes need indices constructed by HUD's division of Policy Development and Research (hereinafter PD&R). Data were drawn directly or constructed from the following sources: the HUD CDBG Formula Evaluation Study; unpublished data from HUD's PD&R Division; 1967 and 1972 County and City Data Books; and the Federal Directory of CDBG Recipients.

Estimates were made of 1980 CDBG funding under the new and old formulas using the unpublished PD&R data, applying the assumptions and procedures specified in notes thirty and thirty-nine below. The same data were used in generating estimates under the alternative impaction-adjusted formulas.

The regional classification used in this analysis is from the U.S. Census Bureau and is identical to that employed in the Brookings CDBG study.

The HUD need index referred to in this analysis provides a useful overall index of community development need in metropolitan cities. Developed by HUD's PD&R Division, the index was designed as a summary measure of the relative variation among cities in per capita need. Each city's score on this index is a summation of weighted factor scores on five dimensions of need: poverty, age of housing stock, density, crime and unemployment, and lack of economic opportunity. Despite its limitations (acknowledged and discussed in the HUD report), the composite index is based on a plausible weighting scheme and is sufficiently comprehensive in scope to warrant its use here in combination with additional discrete indicators of community development need. City scores on the index are used in the need quartile classification and correlation analyses that follow.

The correlations reported below are simple Pearson product-moment correlation coefficients. This coefficient ranges in value from −1.0 (perfect negative relationship) to +1.0 (perfect positive relationship), with values near zero indicating a non-relationship.
THE CDBG FUNDING DISTRIBUTION FORMULAS

The 1974 Act contained a single CDBG distribution formula (hereinafter Formula A), which included the factors of total population, poverty population (double counted), and extent of housing overcrowding. Between 1975 and 1977 "impact analysis" of the distributional consequences of the original formula was carried out by a number of researchers: Paul Dommel and Richard Nathan of the Brookings Institution, staff of the United States Department of Housing and Urban Development, Professor Robert Schaefer of Harvard University, analysts at the New Jersey State Department of Urban Affairs, and the present authors. While the analytic techniques employed and the distinct perspectives of these groups varied, all formula research concluded that the original formula was defective. All five studies were influential in shifting the climate of opinion in favor of formula change. Principal credit for the new approach to distribution of CDBG assistance ultimately adopted in 1977 rests with Paul Dommel of the Brookings Institution.

30. Algebraically, Formula A may be defined as follows:

\[ F = 0.50(Pov/SMSA Pov) + 0.25(\text{Pop/SMSA Pop}) + 0.25 (\text{Crowd/SMSA Crowd}) \]

where \( E_i \) = the \( i \)-th metro city's entitlement;
\( F \) = total amount of formula allotment to metropolitan areas;
\( Pov \) = city's 1970 Census Poverty Count;
\( \text{Pop} \) = city's 1973 total population (to be updated to 1975);
\( \text{Crowd} \) = city's 1970 housing overcrowding, defined as the 1970 Census number of housing units with more than 1.01 persons per room;
and SMSA Pov, SMSA Pop, SMSA Crowd, are the National SMSA amounts corresponding to Pov, Pop, and Crowd, respectively.

31. See Block Grants, note 8 supra.

32. See Evaluation of CDBG Formula, note 8 supra.


34. New Jersey State Department of Public Affairs (unpublished research leading to Williams Amendment—unsuccessfully proposing an impecation adjustment to the 1977 Act).


36. See notes 37, 65 and accompanying text infra.

37. See P. Dommel, The Politics of Revenue Sharing (1974). Dommel is an authority on the politics of revenue sharing. He originally proposed introduction of a "dual formula" based upon the precedent of a dual formula in General Revenue Sharing, which had broken a congressional deadlock and made passage of the original revenue sharing legislation possible. The dual formula Dommel originally proposed was composed of population, age of housing (double weighted), and poverty. HUD staff changed population to "population decline." Dommel did not agree with this adaptation because it did not take account of slow growing cities and had some
The dual formula will become fully operative in 1980. At that time each metropolitan entitlement city will receive the higher amount from one of two formulas: Formula A, which is exactly the same as the old CDBG formula, or Formula B, a new "alternative" formula created by the 1977 Act which allocates funds proportional to the number of a city's housing units built before 1939, the number of poor, and the amount of "growth lag" experienced by a city in comparison with the overall population growth rate of aggregated metropolitan city populations from 1960 to 1973.

Analyses of the 1974 CDBG distribution formula provide detailed empirical information concerning redistributive effects of the formula. The normative conclusions drawn by authors from these analyses were generally negative regarding funding shifts between re-

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39. Algebraically, Formula B may be defined as follows:
\[
F = \frac{0.50(Age/\text{SMSA Age}) + 0.30(Pov/\text{SMSA Pov}) + 0.20(\text{GroLag}/\text{Metro Grolag})}{E_i}
\]
where
\[
E_i = \text{the ith metro city's entitlement;}
F = \text{total amount of formula allotment to metropolitan areas;}
Age = \text{city's 1970 Census number of housing units built before 1939;}
Pov = \text{city's 1970 Census Poverty count;}
\text{and SMSA Pov, SMSA Age are the National SMSA amounts corresponding to Pov and Age, respectively.}
\]

The growth lag component of Formula B is a complex and "dynamic" variable measuring community development need. A given metro city's growth lag is calculated in several steps. First, the total population of aggregated metropolitan cities is computed for 1960 (the base period) and for the latest year with sound census estimates (currently 1973). The percentage change in aggregate total population from 1960 is then computed. From 1960 to 1973, for example, this percentage change was 11.288%. Any city that grew at a lesser rate from 1960 to 1973 had growth lag. To calculate the growth lag for each city, its 1960 population is multiplied by the aggregate percentage change (1.11288), and from this product is subtracted the city's actual 1973 population. Treating all minus figures as zero growth lag, a city's "GroLag" is then a city's deficit in population growth compared to what it would have had in 1973 if it had grown at the aggregated rate of metropolitan cities. Metro "GroLag" in Formula B above is simply the summation of individual city growth lags.

The city-level data and national SMSA totals were supplied to the authors by HUD's PD & R Division.

In the analysis that follows and in the formula simulation to be presented later in the paper, the figure assumed for \( F \) (total formula allotment to metropolitan areas) is $2.755 billion. This figure is derived under the assumptions of a formula allotment of $3.55 billion ($3.8 billion minus $0.25 billion set-aside), a Secretarial fund share of 3%, and a metro/non-metro split of 8/2.

40. See notes 31-35 supra.
regions of the country, between metropolitan v. non-metropolitan areas, and between classes of recipients within metropolitan areas.41

The formula studies documented the fact that, compared with the distribution of assistance under the categorical system, the original CDBG formula would have led to dramatic resource shifts between different regions of the country if the formula had become fully operative.42 Funds would have shifted away from the New England and Mid-Atlantic regions in favor of the three Southern regions (South Atlantic, East South Central, and West South Central) and the Pacific region.43 The Brookings Institution study projected that recipient jurisdictions in the New England region would have experienced a 37% decrease in funding by 1980 had the original formula become fully operative, and jurisdictions in the West South Central region would have experienced a 203% increase.44 The Brookings Analysis of projected per capita funding shifts among regions also showed similar patterns of dramatic loss to New England and the Middle Atlantic region and substantial gains in the South and West.45 These conclusions were corroborated by the other studies.46

The principal criticism advanced against the regional shift which the original CDBG formula would have brought about was that the regions that would experience the greatest loss contained the oldest large central cities, generally in the worst physical condition and experiencing the most "hardship" under many sets of assumptions. It was noted, however, that jurisdictions in the South benefited by the formula tended to have higher proportional concentrations of poor people living within them.47 While some theorists argue that channeling federal aid into the most depressed areas is unwise and urge various kinds of triage, dispersal and growth support strategies,48 none of the authors of the CDBG formula studies advocated an extreme movement of aid away from the whole regions of the country with most severe urban problems.

41. Id.
42. Id. See Block Grants, supra note 8, at ch. 4-5.
43. Block Grants, supra note 8, at 139.
44. Id.
45. Id.
46. See notes 31-35 supra.
47. Block Grants, supra note 8, at 139.
With regard to the Metropolitan-Non-metropolitan area breakdown, the 1974 Act provided that, after setting aside two percent of annual appropriations for the HUD Secretary's discretionary fund, twenty percent of balance would be earmarked for discretionary grants to non-metropolitan areas and eighty percent for use within metropolitan areas.49 The Brookings Study concluded that the share of total funding to metropolitan areas would have declined from 87.4% under the categorical system to 80% of all funds under the fully operative formula.50 Metropolitan areas would have experienced a slight absolute funding increase only because of an expansion in the total amount of CDBG funding.

The principal criticism addressed to this shift relates to the intended purpose of the funding. The CDBG program is intended to address urban problems, and proportional increase of funding to small non-metropolitan jurisdictions runs against that central purpose.

Within metropolitan regions, the 1974 Act specified three classes of recipient jurisdictions: entitlement communities, metropolitan discretionary communities, and urban counties.51 Under the original 1974 formula, entitlement communities in 1980 would have received 59.1% of metropolitan area funds,52 with 28% going to metropolitan discretionary communities, and 12.9% to urban counties.53 Compared to previous funding levels, this allocation would have tripled the total going to urban counties and quadrupled the amount for metropolitan discretionary communities. Critics of these projected intra-metropolitan shifts pointed out that, in general, larger "urban" communities, and particularly core cities (where total share of federal grants would have dropped from 71.8 to 42.2%),54 are relatively more needy than the counties and smaller discretionary communities.

In addition to documenting different classes of damaging macrolevel shifts which the CDBG formula would have caused, several studies analyzed the "match" between CDBG funding levels and quantifiable recipient needs.55 Different indices of need were used

50. BLOCK GRANTS, supra note 8, at 179.
52. See REDISTRIBUTION EFFECTS, supra note 8, at 180.
53. Id.
54. Id.
55. See notes 56-65 and accompanying text infra.
and different analytic techniques employed, primarily correlation and regression analysis.

The Brookings Institution study made significant use of a synthetic need indicator earlier developed by Richard Nathan and Charles Adams—the Nathan-Adams Central City Hardship Index. Employing this composite index as one evaluation tool, Dommel and Nathan concluded that 1974 formula was not particularly responsive to differences in hardship among cities. Employing this composite index as one evaluation tool, Dommel and Nathan concluded that 1974 formula was not particularly responsive to differences in hardship among cities. Newark, New Jersey, for example, with a hardship index score of 422 would have suffered a 52.2% decrease in 1980 funding, while Ft. Lauderdale, with a hardship index score of only 64, would have experienced a 436.4% gain. In general, Nathan and Dommel found the 1974 formula to be least responsive to physical dimension of community development need.

The DeLeon-LeGates study articulated several distinct community development strategies, selected a number of discrete need indicators appropriate for evaluating the 1974 formula from each strategic perspective, and concluded from an analysis of national and California data that (1) the general direction of funding shifts was from the more needy to the less needy cities, and (2) the pattern of allocations generated by the formula was (a) superior to the categorical system in addressing needs linked to poverty and racial impact, but (b) severely deficient in addressing both physical and fiscal community development needs. The study called for a new formula incorporating a broader range of need indicators and responding more effectively to the intensity vis-a-vis the magnitude of a city's hardship.

The HUD formula evaluation study used several need indexes, including the composite need index referred to in subsequent sections of this Article. Extensive regression and correlation analyses corroborated the evidence of other studies regarding deficiencies contained in

57. See Block Grants, supra note 8, at 158-59.
58. Id. at 158.
59. Id. at 159.
61. Id. at 376-81.
62. Id. at 389.
the 1974 formula. New formula designs were tested (including those proposed by the Brookings study) and most were found to be distinctly superior to the 1974 formula in targeting resources to needs. In sum, the major conclusion drawn from these various evaluation studies indicated that the 1974 formula was extremely deficient, that the categorical system achieved better results in some respects but worse in most, and that new improved CDBG formulas were both possible and desirable.

**The New Dual Formula**

The dual formula adopted in 1977 significantly changes the distribution of CDBG aid and responds to some of the major criticisms directed against the original formula. By adding an optional second formula (Formula B), the dual formula creates very substantial percentage and per capita increases in entitlements to jurisdictions within those regions of the country that would have experienced the most severe cuts by 1980 had the original CDBG formula, Formula A, become fully operative. For example, jurisdictions within New England receive an aggregate eighty-six percent increase in 1980 entitlements over the old formula amount. Retention of the original CDBG formula as an option protects other regions from substantial losses that would have occurred if the Formula B had been wholly substituted for Formula A. For example, jurisdictions within the West South Central region would have experienced an aggregate thirty-three percent cut in funding if Formula B were substituted for Formula A. This is illustrated in Table 1.

The data shown in Table 1 also display a thematic pattern, which will be elaborated in several ways and in greater detail in the sections below. Specifically, the “option” provided by the dual formula is primarily intended to protect against funding cuts in what the HUD evaluation study calls a potential “new class of losers” among metropolitan cities located predominantly in the Southern and Western regions. A direct substitution of Formula B for Formula A would scarcely affect allocations to metropolitan cities in the Northeastern and North Central regions but would involve major redistribution of

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64. *Id.* at 47-89.
65. *Id.* at 90-107.
66. See table 1 in text *infra.*
67. *Id.*
Table 1

Aggregate Percentage and Per Capita Changes in 1980 Funding in the Shift from the Original to the Dual Formula Compared with Funding Changes From the Original Formula to Formula B Alone

<table>
<thead>
<tr>
<th>Region*</th>
<th>% aggregate increase in entitlements from old formula to dual formula</th>
<th>$ per capita aggregate increase old to dual formula</th>
<th>% aggregate increase in entitlements from old formula to Formula B alone</th>
<th>$ per capita aggregated increase from old formula to Formula B alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>New England</td>
<td>+86%</td>
<td>+$15</td>
<td>+86%</td>
<td>+$15</td>
</tr>
<tr>
<td>Mid-Atlantic</td>
<td>+71%</td>
<td>+$16</td>
<td>+71%</td>
<td>+$16</td>
</tr>
<tr>
<td>East North Central</td>
<td>+68%</td>
<td>+$14</td>
<td>+64%</td>
<td>+$13</td>
</tr>
<tr>
<td>West North Central</td>
<td>+65%</td>
<td>+$12</td>
<td>+61%</td>
<td>+$11</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>+16%</td>
<td>+$3</td>
<td>-5%</td>
<td>-$2</td>
</tr>
<tr>
<td>East South Central</td>
<td>+14%</td>
<td>+$4</td>
<td>-13%</td>
<td>-$3</td>
</tr>
<tr>
<td>West South Central</td>
<td>+3%</td>
<td>0</td>
<td>-33%</td>
<td>-$8</td>
</tr>
<tr>
<td>Mountain</td>
<td>+9%</td>
<td>+$2</td>
<td>-28%</td>
<td>-$4</td>
</tr>
<tr>
<td>Pacific</td>
<td>+20%</td>
<td>+$3</td>
<td>-7%</td>
<td>-$2</td>
</tr>
</tbody>
</table>

* Regional divisions used by the U.S. Bureau of the Census are: New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut; Middle Atlantic—New York, New Jersey, Pennsylvania; East North Central—Ohio, Indiana, Illinois, Michigan, Wisconsin; West North Central—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas; South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida; East South Central—Kentucky, Tennessee, Alabama, Mississippi; West South Central—Arkansas, Louisiana, Oklahoma, Texas; Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada; Pacific—Washington, Oregon, California, Alaska, Hawaii.

Funds from metropolitan cities in other regions. To avoid creating this “new class of losers” the dual formula builds a minimum funding floor under these entitlement cities.

The 1977 Act does not alter the proportions of funding allocated to non-metropolitan and metropolitan areas.68 Criticisms advanced

against the original formula as devoting too much proportional benefit to non-metropolitan jurisdictions still hold. 69

Construction of a formula to distribute federal community development assistance must confront the fact that physical deterioration problems (as measured by an objective need indicator such as the number of housing units built before 1939) and social problems (as measured by such indicators as income and race) are somewhat independent of each other and are unequally distributed regionally. A formula attempting to precisely target areas where physical deterioration problems are concentrated (as in many New Jersey cities) runs the risk of doing so by shifting funds away from areas containing proportionately fewer old housing units but proportionately more

### Table 2

Coefficients of Correlation between Selected Need Indicators and Per Capita Funding under the Categorical Program, the Previous CDBG Formula (Formula A), The New Alternative Formula (Formula B), and the Dual Formula (433 Metropolitan Cities)

<table>
<thead>
<tr>
<th></th>
<th>$ Per Capita Prior Categorical&lt;sup&gt;a&lt;/sup&gt;</th>
<th>$ Per Capita Formula A&lt;sup&gt;b&lt;/sup&gt;</th>
<th>$ Per Capita Formula B&lt;sup&gt;b&lt;/sup&gt;</th>
<th>$ Per Capita Dual Formula&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Percent individuals below low income level</td>
<td>.22</td>
<td>.95</td>
<td>.35</td>
<td>.52</td>
</tr>
<tr>
<td>(2) Percent Negro of total 1970 population</td>
<td>.24</td>
<td>.68</td>
<td>.35</td>
<td>.42</td>
</tr>
<tr>
<td>(3) Percent housing units built pre-1939</td>
<td>.37</td>
<td>.15</td>
<td>.84</td>
<td>.73</td>
</tr>
<tr>
<td>(4) Percent housing with 1.01 persons or more per room</td>
<td>−.01</td>
<td>.65</td>
<td>−.08</td>
<td>.11</td>
</tr>
<tr>
<td>(5) Local taxes per capita 1969</td>
<td>.23</td>
<td>.01</td>
<td>.35</td>
<td>.27</td>
</tr>
<tr>
<td>(6) HUD Need index</td>
<td>.39</td>
<td>.80</td>
<td>.76</td>
<td>.81</td>
</tr>
</tbody>
</table>

<sup>a</sup> 1970 total population figures used—categorical funds are average annualized figure for the period 1968-1972.

<sup>b</sup> 1973 total population figures used.

69. This is ultimately a normative question concerning the purposes of federal community development legislation—whether it is urban legislation primarily, or addressed to all communities.
poor people and minorities. An examination of coefficients of correlation between need indicators and the amounts of funds distributed by various formulas contained in the new dual system clarifies this important dilemma.

Table 2 indicates that the original CDBG formula (Formula A) achieved a superior match between the distribution of funds and key social need indicators, but an inferior match with the leading indicator of physical quality (percent of housing units built pre-1939). In contrast, Formula B alone would achieve a much superior match between funds and physical deterioration as measured by pre-1939 housing units, but at the cost of an inferior match between funding and the three leading indicators of social needs. Adoption of the dual formula is intended to “balance” these objectives, and indeed the correlation results generally moderate the extremes produced by either formula alone. The dual formula achieves a superior match between resources and all indicators of need than did the categorical system. In addition, it appears to strike a reasonable balance between addressing physical development and social needs, although how efficiently this is achieved will be a major theme of later parts of this Article.

The effects of the change upon individual cities illustrate the general positive direction of change achieved by the new dual formula. Table 3 presents information on the per capita funding allocated to the ten “most needy” and ten “least needy” cities of more than 250,000 population.

Half of the ten “most needy” large cities could have experienced funding cuts from their prior categorical level by 1980 had the original CDBG formula become fully operative. The cuts would have been substantial for some very large and/or quite needy cities. Newark, for example, would have received a per capita cut from $54 to $32 and Boston from $47 to $22. All of the most needy large cities will receive significant per capita increases in funding under the dual formula. In some cases this will lag behind what they previously received under the categorical system (Newark and Boston), but in other cases there will be more than full restoration (for example, Buffalo will more than double its funding).

70. See table 3 in text infra.
71. Id.
72. Id.
### TABLE 3
Comparisons of Per Capita Funding Under the Categorial Program, Formula A, and the New Dual Formula in the 10 Most Needy and 10 Least Needy Large Cities*

<table>
<thead>
<tr>
<th>Most Needy Cities</th>
<th>Rank on HUD Need Index</th>
<th>$ Per Capita Prior</th>
<th>$ Per Capita Formula A</th>
<th>$ Per Capita Dual Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newark, NJ</td>
<td>5</td>
<td>$54</td>
<td>$32</td>
<td>$44</td>
</tr>
<tr>
<td>St. Louis, MO</td>
<td>12</td>
<td>24</td>
<td>32</td>
<td>66</td>
</tr>
<tr>
<td>New Orleans, LA</td>
<td>13</td>
<td>24</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>New York, NY</td>
<td>23</td>
<td>13</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td>26</td>
<td>21</td>
<td>25</td>
<td>59</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>28</td>
<td>47</td>
<td>22</td>
<td>41</td>
</tr>
<tr>
<td>Buffalo, NY</td>
<td>30</td>
<td>25</td>
<td>21</td>
<td>58</td>
</tr>
<tr>
<td>Jersey City, NJ</td>
<td>38</td>
<td>25</td>
<td>23</td>
<td>42</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>41</td>
<td>40</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>Birmingham, AL</td>
<td>43</td>
<td>16</td>
<td>30</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Least Needy Cities</th>
<th>$ Per Capita Dual Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Jose, CA</td>
<td>14</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>18</td>
</tr>
<tr>
<td>Tucson, AZ</td>
<td>17</td>
</tr>
<tr>
<td>Indianapolis, IN</td>
<td>17</td>
</tr>
<tr>
<td>Tulsa, OK</td>
<td>17</td>
</tr>
<tr>
<td>Wichita, KS</td>
<td>19</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>17</td>
</tr>
<tr>
<td>Albuquerque, NM</td>
<td>19</td>
</tr>
<tr>
<td>Omaha, NB</td>
<td>16</td>
</tr>
<tr>
<td>Ft. Worth, TX</td>
<td>22</td>
</tr>
</tbody>
</table>

* Cities having a total 1973 population of 250,000 or more.
None of the "least needy" ten largest cities receives any increase in funding as a result of the dual formula, with the single exception of a $1 per capita increase in Wichita, Kansas. Table 3 also contains suggestive information illustrating weaknesses of both the categorical system and the original CDBG formula. Note, for example, that Albuquerque, New Mexico—a large city having a very low score on the HUD need index—was receiving more than twice as much categorical aid as justified by either Formula A or B, illustrating the whimsical nature of the categorical grant system. Note also that Phoenix, Arizona, another large city rating very low on the needs index, received a 900% windfall increase in per capita funding under Formula A. This will not be reduced by the new formula.

Towards "Equitable Efficiency" in Community Development

The 1977 Act requires the Secretary of HUD report to Congress by September 30, 1978, with respect to the adequacy, effectiveness, and equity of the formula used for allocating CDBG funds, with specific analysis and recommendation as to the feasibility of utilizing factors of impactions (such as adjusted age of housing and extent of poverty) as a measurement consideration.73 "Impaction" is defined by the Act as meaning the impaction measured in terms of absolute number and proportions of each need factor.74 Detailed simulations of alternative formulae are being undertaken by HUD.75 This section will discuss some approaches worthy of detailed study and advance some tentative conclusions regarding the likely consequences of the studies.

Analytic categories developed in the analysis of income maintenance systems are helpful in approaching the questions which Congress has posed to HUD. Theodore Marmor, in an essay concerning income maintenance systems, develops the concept of "equitable efficiency."76 In making policy comparisons, certain programs for distributing social welfare assistance are seen as more "efficient" than

74. Id.
others in targeting resources to identifiable needs. A program intended to improve equity is maximally “efficient” in Marmor’s terms if it reaches all of those with need and none others. 77 To the extent that a program fails to reach all of those with need it is “horizontally inefficient.” If it produces “spillovers” to non-needy recipients, then it is “vertically inefficient.” 78

The original Formula A distributed large amounts of aid to jurisdictions having little need for assistance, an instance of severe vertical inefficiency. It also distributed relatively small amounts of aid to those jurisdictions heavily or primarily afflicted by physical community development needs, i.e., it was also horizontally inefficient.

The major contribution of the dual formula is to improve the horizontal efficiency of the allocation system, mainly by enlarging the pot and distributing much of the increment consistent with physical development needs. The principal deficiency of the dual formula is that it does not correct the vertical inefficiency produced by the original formula, i.e., it does not take back the significant amount of funds given to low need jurisdictions who should not have received funding in the first place.

The vertical efficiency problem is essentially a political one. “Vertical inefficiency” is highly correlated with the extent of “protected” CDBG assistance—the funding that continues to flow to jurisdictions as a result of retaining original Formula A. Table 4 shows that this “protected” CDBG aid is unequally distributed among regions.

Within the New England and Mid-Atlantic regions there are no cities that would lose a great deal of per capita funding ($8 or more) if Formula A were dropped and Formula B were used exclusively, and few cities that would suffer even modest losses. The majority (71% in the Mid-Atlantic; 50% in the New England states) would have received great gains (more than $15 per capita). In other regions—the West South Central again being the most striking—the pattern is nearly opposite.

At the national level any attempt to reduce “protected” CDBG assistance to achieve greater vertical equity would likely run into political obstacles in Congress. If Senators and Congressmen voted in the financial interests of their electoral districts, any attempt to in-

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77. See Marmon, supra note 76, at 87.
78. Id. at 88.

BEYOND CYBERNETIC FEDERALISM

Table 4

Formula A Cities by Magnitude of Protected Loss* and Formula B Cities by Magnitude of Achieved Gain ($ Per Capita): Distribution by Region and Need Quartiles

<table>
<thead>
<tr>
<th>Region</th>
<th>FORMULA A CITIES</th>
<th></th>
<th>FORMULA B CITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Great Protection</td>
<td>Modest Protection</td>
<td>Great Gain (up to $15 P/C)</td>
<td>Total**</td>
</tr>
<tr>
<td></td>
<td>(Would lose $8 P/C or more)</td>
<td>(Would lose up to $8 P/C)</td>
<td>(more than $15 P/C)</td>
<td>N</td>
</tr>
<tr>
<td>New England</td>
<td>0%</td>
<td>11%</td>
<td>39%</td>
<td>50%</td>
</tr>
<tr>
<td>Mid-Atlantic</td>
<td>0</td>
<td>6</td>
<td>24</td>
<td>71</td>
</tr>
<tr>
<td>East North Central</td>
<td>6</td>
<td>23</td>
<td>40</td>
<td>31</td>
</tr>
<tr>
<td>West North Central</td>
<td>7</td>
<td>35</td>
<td>41</td>
<td>17</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>33</td>
<td>40</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>East South Central</td>
<td>33</td>
<td>44</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>West South Central</td>
<td>55</td>
<td>29</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Mountain</td>
<td>47</td>
<td>37</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Pacific</td>
<td>33</td>
<td>46</td>
<td>19</td>
<td>3</td>
</tr>
</tbody>
</table>

Need:

(1) Lowest Need Quartile

<table>
<thead>
<tr>
<th>Region</th>
<th>FORMULA A CITIES</th>
<th>FORMULA B CITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East North Central</td>
<td>17</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>West North Central</td>
<td>17</td>
<td>26</td>
<td>28</td>
</tr>
</tbody>
</table>

(2) Highest Need Quartile

<table>
<thead>
<tr>
<th>Region</th>
<th>FORMULA A CITIES</th>
<th>FORMULA B CITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Total N=95</td>
<td>Total N=127</td>
<td>Total N=110</td>
</tr>
</tbody>
</table>

* Per Capita loss if Formula B had been made a straight substitute for Formula A.
** Percentage totals may not sum to 100% due to rounding.

crease vertical efficiency would split Congress along essentially regional lines. Attempts to increase the metropolitan as opposed to non-metropolitan proportional share of funding would split Congress along essentially rural-urban lines. In addition, any attempt to diminish the “urban county” share of funding would split Congress along essentially urban-suburban lines.

While the politics of instituting a single formula that achieves both horizontal and vertical efficiency may be difficult, empirical analysis
of need indicators and simulations of the funding outcomes of alternative formulas (including several variations of the “impaction adjustment” concept) provide essential bases for informed policymaking. Differences between normative interpretation of what is desirable, and political judgment concerning what compromises must be struck, can proceed on a more informed footing.

Central to analyzing the problem of vertical efficiency is information concerning the extent to which cities tend to have high physical needs alone, high social needs alone, or high combined needs. Table 5 presents information on indicators of need broken down by Formula A and Formula B cities.

<table>
<thead>
<tr>
<th>TABLE 5</th>
<th>Mean Scores on Selected Need Indicators by Type of City, Formula A or Formula B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FORMULA A</td>
</tr>
<tr>
<td></td>
<td>Great Protection (N = 95)</td>
</tr>
<tr>
<td>(1) Percent individuals below low income level</td>
<td>14%</td>
</tr>
<tr>
<td>(2) Percent Negro of total 1970 population</td>
<td>13%</td>
</tr>
<tr>
<td>(3) Percent housing units built pre-1939</td>
<td>14%</td>
</tr>
<tr>
<td>(4) Percent housing units with 1.01 persons or more per room</td>
<td>10%</td>
</tr>
<tr>
<td>(5) Local taxes per capita, 1969</td>
<td>$60</td>
</tr>
<tr>
<td>(6) HUD NEED index</td>
<td>-.203</td>
</tr>
</tbody>
</table>

In general, Table 5 shows that Formula B cities tend to have high levels of both physical and social needs. Formula A cities on the average have very low levels of physical needs, but clearly a large number of Formula A cities have great social needs. This subset of Formula A recipients would have been severely penalized by funding cuts, and “protecting” them from such loss can be justified. But is vertical inefficiency a price which must necessarily be paid to mini-
mize the inequities created by the dual formula? Must the unneedy be protected along with the needy? Simulation of impaction adjustments sheds light upon this important question.

A comparison of two large Southern cities will illustrate the logic and purpose of a formula impaction adjustment. In 1970 New Orleans had a total population of 593,471 and a poor population of 155,938. Houston had a total population of 1,232,407 and a poor population of 171,706. Under Formula B, three-tenths of the total metropolitan entitlement funds will be distributed in direct proportion to a jurisdiction’s share of the national SMSA total number of poor. On that basis, if the jurisdictions included only Houston and New Orleans, Houston would receive 52% of the money, New Orleans 48%. This distributive outcome occurs because Formula B considers only one dimension of poverty impaction, magnitude, measured by the sheer numbers of poor in each city. It neglects a second important dimension of impaction, intensity, measured by the percentage of a city’s population that is poor. By the percentage measure New Orleans is much more “impacted” (26%) than is Houston (14%). These percentages also reflect a contextual difference between the two cities. Specifically, the ratio of non-poor to poor in New Orleans is 2.85 (74/26) whereas in Houston it is 6.14 (86/14). These ratios indicate much greater local capacity to deal with problems of poverty in Houston than in New Orleans. Formula B's one-dimensional emphasis on the magnitude of poverty impaction neglects these important contextual differences in local resource capacity.

An impaction adjustment can help to correct these kinds of deficiencies in the current formula. Such an adjustment can take several different forms (e.g., threshold factors, weights determined by national averages, or sliding weights). The simulations conducted in this study employed a sliding weight. A sliding weight adjustment

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79. **COUNTY AND CITY DATA BOOK** (1972) (table 6).
80. *Id.*
82. *Id.*
83. This sliding weight should not be confused with the fixed weights contained in Formula B (0.5 times Age., 0.3 times Pov., etc.). Those fixed weights reflect the relative priorities assigned by policymakers to age of housing, poverty and growth lag as components of community development need. The fixed weights assign priorities to types of need, the raw totals reflect magnitude of need, and the sliding weights respond to intensity of need.
would involve multiplying ("weighting") each city’s number of poor by its percentage poor. Thus, Houston’s total number of poor would be multiplied by .14, New Orleans’ by .26. New Orleans’ poor population is weighted more than Houston’s—that is, the weight is variable and "slides" to reflect the difference in the intensity of poverty impaction between the two cities. Houston’s total weighted number of poor is 24,039, now exceeded by New Orleans’ total of 40,544. If jurisdictions included only these two cities and, if funding were now made proportional to the city’s share of total weighted number of poor, New Orleans would receive 63% of the funds, Houston 37%. Assuming a fixed amount of total funds, New Orleans would gain significantly from an impaction-adjusted formula and Houston would lose. Simulations were undertaken in which Formula B is altered to produce three distinct impaction-adjusted formulas for comparison and analysis: (1) Formula X, with a sliding weight for age of housing stock; (2) Formula Y, with sliding weights both for age of housing stock and poverty population; and (3) Formula Z, with a sliding weight for poverty population alone.84

84. Formula X may be defined algebraically as follows:

\[
E_i = F((0.5)[(a_i)(\text{Age}_i)/\sum_i (a_i)(\text{Age}_i)] + (0.3)[P_{oi}/\sum_j P_{oi}] + (0.2)[\text{GroLag}_i/\sum_i \text{GroLag}_i]).
\]

**Formula Y** is:

\[
E_i = F((0.5)[(a_i)(\text{Age}_i)/\sum_i (a_i)(\text{Age}_i)] + (0.3)(P_{oi}/\sum_j (P_{oi})/P_{oi}) + (0.2)[\text{GroLag}_i/\sum_i \text{GroLag}_i]).
\]

**Formula Z** is:

\[
E_i = F((0.5)[\text{Age}_i/\sum_i \text{Age}_i] + (0.3)(P_{oi}/\sum_j (P_{oi})/P_{oi}) + (0.2)[\text{GroLag}_i/\sum_i \text{GroLag}_i]).
\]

where

\[E_i = 1980 entitlements received by ith metro city;\]

\[F = \text{aggregate total 1980 CDBG funds allocated to 433 cities ($=1.895 billion in all formula simulations);}\]

\[a_i = \text{percent of housing units built pre-1939 in ith city;}\]

\[P_{oi} = \text{percent of population below low income level in ith city;}\]

and \(\text{Age}_i, P_{oi}\), and \(\text{GroLag}_i\) are as defined in note 18 *supra*. Analysis of results generated by these three formulas is restricted for the most part to a comparison with 1980 funding estimates using the current Formula B. The impaction-adjusted formulas could alter the total metro city share of 1980 metropolitan area funds. Data are not available to measure the effects of formula change on the size of this share. To simplify comparisons, (1) only aggregate totals for the 433 cities are used rather than national SMSA totals, and (2) the 433-city total 1980 funding ($1.895 billion) generated by Formula B is used as the base amount to be allocated in each situation.
The results of simulation runs using the three impaction-adjusted formulas suggest preliminary answers to the following questions:

1. To what extent would an impaction adjustment improve Formula B's match of federal resources to local needs?
2. In addressing different types of community development need, what are the particular advantages and limitations of each impaction-adjusted formula?
3. Would impaction adjustments discernibly improve the vertical efficiency of the present allocation formula without sacrificing the gains achieved in horizontal efficiency?
4. What would be the likely effects of impaction adjustments on the regional distribution of CDBG funds?
5. Can a single formula be developed that would eliminate the vertically inefficient “protection” afforded by the current dual

<table>
<thead>
<tr>
<th>Need Indicators</th>
<th>Formula B</th>
<th>Formula X (Impaction Adjustment for Age of Housing)</th>
<th>Formula Y (Impaction Adjustment for Age of Housing and Poverty)</th>
<th>Formula Z (Impaction Adjustment for Poverty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent individuals below low income level</td>
<td>.36</td>
<td>.31</td>
<td>.51</td>
<td>.62</td>
</tr>
<tr>
<td>Percent Negro of total 1970 population</td>
<td>.35</td>
<td>.27</td>
<td>.35</td>
<td>.45</td>
</tr>
<tr>
<td>Percent housing units built pre-1939</td>
<td>.84</td>
<td>.89</td>
<td>.81</td>
<td>.75</td>
</tr>
<tr>
<td>Percent housing units with 1.01 persons or more per room</td>
<td>-.08</td>
<td>-.10</td>
<td>.08</td>
<td>.15</td>
</tr>
<tr>
<td>Local taxes per capita 1969</td>
<td>.35</td>
<td>.37</td>
<td>.32</td>
<td>.28</td>
</tr>
<tr>
<td>HUD NEED Index</td>
<td>.76</td>
<td>.74</td>
<td>.83</td>
<td>.86</td>
</tr>
</tbody>
</table>

Table 6
Coefficients of Correlation Between Selected Need Indicators and 1980 Per Capita Funding under Formula B and Three Impaction-Adjusted Simulated Formulas (N = 433)
formula without causing damaging funding cuts in the 1980 entitlements going to needy cities?

Impaction adjustments can improve the match of federal resources to local needs. Of the three types of adjustment analyzed here, the poverty-impaction adjustment contained in Formula Z is superior. Table 6 shows coefficients of correlation between selected need indicators and 1980 per capita funding under Formula B and the three impaction-adjusted formulas.

At the time of the 1977 Act the Senate bill included a housing impaction adjustment introduced by Senator Williams of New Jersey.\textsuperscript{85} The provision was eliminated by Senate-House conferees.\textsuperscript{86} Simulations suggest that such a housing impaction adjustment is the least promising single formula alternative to the present dual formula system.

By comparison with Formula B, Formula X further increases the correlation between CDBG funding and the physical needs of cities—but at the price of further diminishing the correlation between funding and social needs. The correlation with percent of housing units built pre-1939 increases from .84 to .89; the correlation with percent of individuals below low income drops from .36 to .31. This pattern accentuates the strength and exacerbates the weakness of Formula B. By itself, a housing impaction adjustment would make protection of funding to cities with social needs even more necessary.

Formula Y contains impaction adjustments for both housing and poverty. Compared with Formula B, it increases the responsiveness of federal funding to social needs without greatly diminishing responsiveness to physical needs. The correlation with HUD's composite need index exceeds that of the dual formula and demonstrates that a single formula can achieve balance in addressing both physical and social needs. Comparing Formula X and Formula Y, the message is clear that any proposal for a housing impaction adjustment should also be accompanied by one for a poverty impaction adjustment in order to offset imbalances that otherwise would occur.

Based on the correlation results shown in Table 7, Formula Z—the impaction adjustment for poverty alone—yields the most balanced and most responsive allocation pattern achieved by any of the formulae considered in this Article. Formula Z produces the highest corre-

\textsuperscript{85}\ S. 1523, 95th Cong., 1st Sess. § 105 (1977), contained the Williams impaction adjustment.

\textsuperscript{86}\ Section 106 of the 1977 Act, 42 U.S.C.A. § 5306 (West Supp. 1978), does not contain an impaction adjustment.
### TABLE 7

Comparison of Formula B and Formula Z: Frequency Distribution of “Protected” Cities and Gaining Cities Broken Down by Need Quartiles

<table>
<thead>
<tr>
<th>Need Quartiles</th>
<th>Great Protection (would lose $8 per capita or more)</th>
<th>Modest Protection (would lose up to $8 per capita)</th>
<th>Modest Gain (up to $15 per capita)</th>
<th>Great Gain (more than $15 per capita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Lowest Need</td>
<td>45%</td>
<td>37%</td>
<td>16%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>(N=95)</td>
<td>(N=127)</td>
<td>(N=110)</td>
<td>(N=101)</td>
</tr>
<tr>
<td>(2)</td>
<td>19</td>
<td>32</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>(3)</td>
<td>19</td>
<td>22</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>(4) Highest Need</td>
<td>17</td>
<td>9</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>Totals</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

** FORMULA B

* Per capita loss if Formula B had been made a straight substitute for Formula A.
** Per capita gain if Formula B had been made a straight substitute for Formula A.

<table>
<thead>
<tr>
<th>Need Quartiles</th>
<th>Great Protection</th>
<th>Modest Protection</th>
<th>Modest Gain</th>
<th>Great Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Lowest Need</td>
<td>77%</td>
<td>28%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>(2)</td>
<td>18</td>
<td>36</td>
<td>33</td>
<td>3</td>
</tr>
<tr>
<td>(3)</td>
<td>3</td>
<td>30</td>
<td>33</td>
<td>26</td>
</tr>
<tr>
<td>(4) Highest Need</td>
<td>3</td>
<td>7</td>
<td>25</td>
<td>71</td>
</tr>
<tr>
<td>Totals</td>
<td>101%</td>
<td>101%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

** FORMULA Z

*** Per capita loss if Formula Z had been made a straight substitute for Formula A.
**** Per capita gain if Formula Z had been made a straight substitute for Formula A.
lation (.88) with the HUD need index. It is only slightly less responsive than Formula B to physical housing needs. Also, it is significantly more responsive to poverty and racial impaction.

Compared to the technically clumsier, although politically ingenious, dual formula structure (see Table 2 above), Formula Z achieves higher correlations with every need indicator, including HUD's composite need index. Formula Z thus seems to be the most promising single formula alternative to the dual formula system—an alternative that adds to horizontal efficiency and markedly improves vertical efficiency.

To further test the vertical efficiency claims made for Formula Z, let us imagine that Formula Z is substituted for Formula B in the present dual formula structure with Formula A continuing to function as a protective bulwark against funding cuts. If the same dividing lines are used to differentiate degrees of protection and gain, and if Formula Z is indeed more vertically efficient than Formula B, then we would expect to find that the most protected cities under Formula Z are also the least needy ones. Such is the pattern that would result if Formula Z threatened to cut funds only in cities where needs were small and protection least justified. By this interpretation, Table 7 shows Formula Z to be dramatically superior to Formula B in vertical efficiency. Under Formula B, 36% of the most protected cities are in the two highest need quartiles. Formula A protects against funding cuts in these cities but does so “inefficiently” by also protecting cities having relatively little need. Formula Z reduces that figure to 6% and also places a high proportion (71% versus 58%) of those cities achieving the greatest gains in the highest need quartile. By this analysis, if the impaction-adjusted Formula Z were substituted for Formula B, the “protection” offered by the dual formula system could be justified only on (political?) grounds unrelated to considerations of need.

Table 8 shows the regional distribution patterns in mean per capita funding that would be produced by the three impaction-adjusted formulas. Compared to Formula B, Formula X directs more federal money to regions with the greatest physical housing impaction (New England, Mid-Atlantic) and away from regions with greatest poverty impaction (South Atlantic, East South Central, West South Central). Formula Y yields somewhat smaller gains to the Northeast, a modest overall increase in funding to the South, and funding cuts on the average to cities in the North Central and Western regions. Formula Z would produce sizeable average gains in the South, particularly in the West South Central region, and would impose modest cuts in the
Northeastern and North Central regions. CDBG impaction adjustments would not create major disruptions in politically significant regional allocation patterns. This suggests that adoption of a single formula based on impaction adjustments is politically possible.

To conclude this section, preliminary analysis suggests that formula impaction adjustments can substantially improve the cybernetic core of the CDBG allocation system. Of the alternatives considered, an impaction adjustment for poverty would give the best overall results in terms of balanced responsiveness, vertical efficiency, and regional equity. A single formula (designed along the lines of Formula Z) is a desirable and feasible alternative to the current dual formula system. Obviously, further investigation of these and other formula alternatives is necessary before drawing any firm conclusions and recommendations. But preliminary analysis suggests that the dual formula should and can be replaced with a single formula that is adjusted for poverty impaction using sliding weights.

A less desirable alternative to adopting a single formula with appropriate impaction adjustments would be to "cap" the amount of funding for some cities. Cities with low levels of need (as indicated by the HUD or other index) require certain levels of CDBG funding. Any funding increase could be capped, preventing the city from re-

<table>
<thead>
<tr>
<th>Region</th>
<th>Formula B</th>
<th>Formula X</th>
<th>Formula Y</th>
<th>Formula Z</th>
</tr>
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<tbody>
<tr>
<td>New England</td>
<td>$30</td>
<td>$33</td>
<td>$32</td>
<td>$28</td>
</tr>
<tr>
<td>Mid-Atlantic</td>
<td>41</td>
<td>46</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
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<tr>
<td>West North Central</td>
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<td>20</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>21</td>
<td>19</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>East South Central</td>
<td>21</td>
<td>19</td>
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<td>25</td>
</tr>
<tr>
<td>West South Central</td>
<td>17</td>
<td>15</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Mountain</td>
<td>12</td>
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<tr>
<td>Pacific</td>
<td>12</td>
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<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

* See note 83 for exact formulas.
ceiving additional funds for a fixed period. For example, all jurisdictions in the bottom quartile of the HUD need index which received a $5 increase in per capita funding between 1975 and 1980 might appropriately be "capped" at their 1980 entitlement amount for a specified number of years. Those in next quartile which received $10 increases might be capped, and so forth.

"Lagged" cutting or capping is also possible, which would defer the impact of specified cuts or caps for a certain period of time. This has certain planning and policy advantages since a community could adjust its programs to a projected cut or cap. A "lagged" cutting or capping strategy also has political advantages. Experience of deferring impacts in order to achieve legislation is illustrated in the context of the CDBG program itself. The initial Nixon "Better Communities" legislation proposed an immediate cut for many cities from the categorical "prior program level" to their formula entitlement (under a severe cutting formula). That legislation failed. "Hold harmless" provisions deferring cuts for a three-year period were introduced in compromise legislation aimed generally at broadening the base of support for the legislation. The legislation passed just before an election (August 1974) with the ultimate outcome implicitly conditioned on the outcome of the election. That is, "phase down" entitlement jurisdictions were "held harmless" for a period running over into the next presidential term and congressional election period. Had Gerald Ford won the election and carried with him a significant conservative Congress, there is little doubt that the "hold harmless" cities would have experienced the devastating cuts now largely mitigated by the dual formula.

One symmetrical approach would impose projected cuts (or caps) of CDBG funding to some cities "lagged" to take effect after the 1980 presidential election. Whether or not the cut or cap would go into effect could turn on national electoral politics.

The Secretary of HUD, acting through the Assistant Secretary for Community Planning and Development, may impose administrative regulations consistent with the stated goals of the CDBG legislation. Absent legislative reform to reduce vertical inefficiency, ad-

87. The Nixon Administration's original "Better Communities" legislation was first introduced as S. 2333, 92d Cong., 1st Sess. (1971) and H.R. 8835, 92d Cong., 1st Sess. (1971). Subsequent modified versions of the original legislation were repeatedly introduced without success between 1971 and 1974.

88. The Secretary of HUD is authorized to make "such rules and regulations as may be necessary to carry out his functions, powers, and duties" by the Housing and Urban Development Act of 1965, 42 U.S.C. § 3535(d) (1970).
ministrative action to protect against its likely bad effects is clearly in order. Treating different classes of recipients differently, so long as the treatment is based on a rational reason and is not discriminatory or improperly motivated, is clearly legal.\textsuperscript{89} In current HUD CDBG regulations, different standards are applied to discretionary cities, entitlement jurisdictions, and urban counties.

One rational basis for regulation is classification by funding amounts and/or increases. For example, HUD legally could impose different CDBG performance standards for all cities which had experienced more than $1,000,000 funding increase over the last three years.\textsuperscript{90} Another rational basis is classification by need indicators—imposing a different standard upon cities with low “need” as measured by standard methodologically sound indices such as the Nathan-Adams Metropolitan Hardship Index or the HUD Need Index. Different standards based upon funding considered together with need is also possible.

Extreme and rapid funding increases warrant higher standards of administrative scrutiny and performance. Determination on the basis of objective measures that a locality has a low level of need would warrant administrative imposition of more rigorous performance standards. A suburban jurisdiction with a white population, high tax base, and new housing and infrastructure can and should be held to higher standard of community development performance, with respect to meeting the stated primary goal of benefiting low and moderate income people, than a distressed inner city.

\textbf{BEYOND CYBERNETIC FEDERALISM}

Within the framework and logic of the existing system of “cybernetic federalism” in Community Development, much can be done to achieve equitable efficiency. But there are limits to what cybernetics can accomplish. It is structurally impossible for any formula to encapsulate the complexity of physical development problems in American cities or for “cybernetic federalism” alone to meet highly diverse needs of American cities.

Bernard Frieden and Marshall Kaplan, in a recent important book, call for a “three-part approach” to the distribution of federal urban aid, concluding that there is a role for each of three major approaches:

\begin{itemize}
  \item \textsuperscript{89} K. Davis, \textit{Administrative Law of the 70's} (1976).
  \item \textsuperscript{90} Id.
\end{itemize}
The basic components of the present inventory—general revenue sharing, special revenue sharing, and the remaining categorical grants—are surprisingly capable of responding, in combination, to the political and administrative needs highlighted by the model cities experience. What is needed is a deliberate federal strategy that recognizes the continuing, special claims of poverty populations to a fair share of national resources, and a willingness to deploy the three types of federal aid in accordance with this strategy.\textsuperscript{91}

While retaining the “cybernetic core” of the CDBG distribution system, the U.S. should move “beyond cybernetic federalism” to a balanced system of federal aid where the powerful tool of computer information and logic is put in proper balance. The CDBG system should be structured to respond to accretions of knowledge developing (painfully and imperfectly) within HUD, the articulated needs and desires of intended beneficiaries of the assistance, and the informed pressures of advocates of inchoate interests.

Additional formula changes within the framework of “cybernetic federalism” should be accompanied by legislative and/or administrative changes to open up the decisionmaking process to a broader range of human factors and influences.

Large public serving bureaucracies develop specialized institutional competency to deal with questions within their purview. Within limits, HUD has an institutional capacity to make significant decisions concerning the allocation of CDBG funds. Within limits, HUD staff with experience in implementing HUD programs and familiarity with individual applicant jurisdictions can make informed decisions about whether or not to provide funds to a given jurisdiction, which encompass a much richer set of considerations than those contained in the CDBG formula(s). Additional subtle quantitative need indicators appropriate to a given locality may be included in the decisions of knowledgeable staff. Qualitative judgments are also important for effective decisionmaking. Local government capacity to implement programs is an obvious example of a highly relevant variable virtually impossible to define quantitatively.

A certain percentage of block grant funding should be set aside for discretionary funding to entitlement jurisdictions beyond that distributed by entitlement. The advantage of such a system is that funds could be given out on a flexible, non-mechanical basis that both re-

flects the full array of need indicators and HUD judgments regarding such qualitative factors as local jurisdiction capacity.

Discretionary grant authority should be retained for those categories of activity within the range of institutional competence of the organization. Increased discretion should be expanded in areas over which HUD, for example, may exercise reasonable control. Thus far, retention and expansion of discretionary grant authority as a part of the CDBG program has only partially honored this principle. Discretionary grant authority over non-metropolitan grants remains with HUD. HUD field staff with personal knowledge of the needs and capacities of myriad rural and semi-rural jurisdictions are better able than a computer system to make judgments as to where discretionary funding will do the most good. And, HUD is able to monitor and exercise control over rather small, discrete grants to jurisdictions which do not have strong enough bases of political power to disregard HUD.

The 1977 Act, however, created a class of discretionary grant assistance for Urban Development Action Grants (UDAG’s)—large grants to large distressed cities to aid in large-scale economic development activities. This is precisely the type of assistance program beyond HUD’s institutional capacity to wisely allocate and oversee. These funds should be allocated by formula. While not phrased in those terms, whether to allocate most of the eventual UDAG money by formula (as impaction adjustment) or as discretionary grants, deadlocked the Congressional Conference Committee on the 1977 Act for several months.

CITIZEN PARTICIPATION

Beyond the use of institutionalized bureaucratic capacity to introduce extra-cybernetic values into the CDBG allocation process, the CDBG system can be restructured to permit intended consumers of

92. LeGates, *Can the Social Welfare Bureaucracies Control Their Programs?: The Case of HUD and Urban Renewal*, 5 Urb. Law. 228 (1973). HUD, for example, is a weak bureaucracy with only a limited capacity to manage its programs. *Id.* In the past very large-scale projects, such as multi-million dollar commercial urban renewal projects, have not been amenable to control by HUD. *See, e.g.*, C. Hartman, *Yerba Buena* (1974). Smaller scale, more specialized projects and demonstrations, or funding to jurisdictions with comparatively less sophistication and independent political muscle have been amenable to some control.


94. *Id.* § 5318.
CDBG assistance to better articulate their views. Citizen participation can be a helpful device to maintain accountability over post-categorical systems.

At present, citizen participation in the CDBG program is required in all phases of the planning and implementation of local community development programs once funds have been allocated to a city. There is no provision for citizen participation to affect the amount of assistance coming to a city. The extraordinarily complex question of appropriate national distribution of CDBG resources is not the kind of question amenable to local citizen group decisionmaking, and clearly such citizen participation should not replace the cybernetic core of the allocation system. But regulations can be structured to make citizen participation a more important influence in raising or lowering CDBG funding as allocated by formula. Assuming appropriate standards controlling program benefits, those cities having a high level of citizen satisfaction with the outcomes of CDBG programs should receive increments in funding over what the formula(s) would provide. Those cities where citizen satisfaction is low may appropriately have funds cut back. Solicitation of citizen views in connection with application and grantee performance reporting can be structured in such a way as to make the cybernetic core of the program more responsive to human values.

LEGAL ENTITLEMENTS

Increasing the responsiveness of the CDBG allocation system to HUD norms and citizen views (within appropriate limits) would do much to sensitize the cybernetic core of the CDBG allocation system to needs, interests and opportunities beyond those encapsulated within the formula. But each of these devices relies to some extent upon articulated needs. In the CDBG system, however, many of the intended beneficiaries of the program are not well organized, politically powerful or articulate persons. In such a situation, entitlements and advocacy play important roles.

Despite a substantial amount of CDBG-related litigation, no CDBG-related case has proceeded to a legal conclusion favorable to plaintiffs. This is significantly related to the absence of enforceable

95. See Community Development Block Grant Regulations, 24 C.F.R. § 570.303 (1977).
97. P. Dommel, R. Nathan, S. Liebschitz, M. Wrightson, Decentralizing
entitlements in the legislation and/or administrative regulations, a situation shifting with recent publication of new administrative regulations concerning the Act. ⁹₈

Congress should write more explicit entitlements into the CDBG legislation, and HUD should further crystallize clear entitlements in administrative regulations. This would provide impetus to “bottom up” control of the CDBG program from intended beneficiaries. A responsive HUD grievance mechanism (something presently lacking in the program) would be important to such a system.

CONCLUSION

Reliance upon computer formulas to distribute federal urban assistance in the Community Development Block Grant program has created a qualitatively new form of “cybernetic federalism.” The computer is a powerful tool for analyzing need and calculating benefit payment amounts, and a cybernetic core to the CDBG distribution process should be retained.

The first three years of the CDBG program held many lessons about the CDBG distribution formulas. The original CDBG formula was extremely inefficient in that it both distributed assistance to recipients who had little or no need for it (vertical inefficiency) and did not distribute aid in the amounts called for to recipient jurisdictions with severe physical deprivation needs (horizontal inefficiency). Adoption of a dual formula in 1977 significantly redressed the horizontal inefficiency problem by expanding the pot of CDBG money and distributing the increment largely in line with need—particularly as measured by indicators of physical distress. The present dual formula remains defective in that it does not eliminate vertical inefficiency created by the original formula, and thus funds continue to be distributed to jurisdictions having little or no need for them. Because such “protected” jurisdictions are concentrated in certain regions of the country, reforms to cut and/or cap assistance to these “protected” jurisdictions runs the risk of splitting Congress and failing. Politically sensitive direct and/or lagged cutting or capping may be possible. Alternatively, introduction of an impaction adjustment to the formula, including measures of both social and physical dis-

⁹⁸ Community Development (1978) (Appendix on CDBG litigation by D. Keating & R. LeGates).
tress, which discriminates need for individual cities, will achieve marked improvements in vertical efficiency.

There are, however, limits to what can be accomplished within the framework of cybernetic federalism. Within the limits of HUD's administrative capabilities, increased discretion should be introduced into the CDBG assistance process to widen the range of factors considered in the distribution of assistance. Regulatory frameworks should be established to permit increased discretionary decisionmaking within achievable limits, increased responsiveness to legitimate articulated desires of intended consumers of CDBG benefits, and to legitimate advocates of inchoate interests intended to be served by the legislation.

A mixed cybernetic/human system employing both computers and human intuition should be developed beyond cybernetic federalism to provide for sensitive targeting and control of CDBG assistance.