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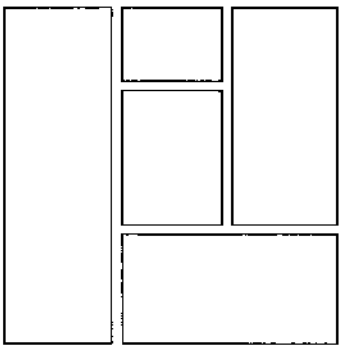

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**Project Report**

# URBAN DEVELOPMENT ACTION GRANTS TO RURAL COMMUNITIES

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## ABSTRACT

The purpose of this paper is to examine the characteristics of Urban Development Action Grants (UDAGs) to rural communities. We use a data base maintained by the U.S. Department of Housing and Urban Development, data obtained from a telephone survey of 223 towns and 101 firms that received UDAG grants, and information from five on-site case studies to 1) provide a baseline understanding of the UDAG program and 2) explore the role of capital subsidies in rural economic development. Four findings are reported. First, rural UDAG grants are more likely to subsidize industrial than commercial or housing developments, and are distributed across all regions and sized communities. Second, the projects are concentrated in the most distressed rural communities. Third, UDAG grants are more likely to be allocated to firms in the most competitive industries, suggesting recipients are in need of a capital subsidy. Finally, there is no evidence that recipient firms are relatively capital intensive, as argued by some critics of capital subsidy programs.

# URBAN DEVELOPMENT ACTION GRANTS TO RURAL COMMUNITIES

The Urban Development Action Grant (UDAG) program is one of the largest sources of federal funds for rural economic development. The UDAG program is shrinking, however, and faces termination. Absent in the debate over UDAG's future is an understanding of UDAG grants to rural areas and the program's achievements in stimulating rural economic development. Since the major share of UDAG funds is allocated to urban areas, the rural component of the program has been overlooked.

With the loss in real rural incomes during the 1980's and the impending federal budget cuts, an evalulation of the effectiveness of the rural UDAG program is even more critical. Is the UDAG program one that has and can continue to promote development in rural areas? Or is the program responsible for too few jobs at too high a public cost? While this paper cannot definitively answer these questions, it sheds light on the impact of rural UDAG grants.

Previous studies have explored the impact of UDAG grants to urban areas, and in their annual report, HUD summarizes the characteristics of both large and small city grants. No one, however, has investigated the characteristics of the rural UDAG program. The purpose of this paper is to fill this gap and at the same time to add to overall understanding of capital subsidies as a tool for economic development.

Using the rural UDAG program as a case study, we examine two commonly argued hypotheses. One is, because capital costs are a small percentage of an enterprise's total costs, capital subsidies are too small to have an observable impact on new investment; and two, capital subsidies primarily attract capital-intensive firms and consequently create relatively few jobs.

The purposes of the UDAG program are to stimulate employment and generate revenue in distressed urban and rural communities of the United States. In contrast to UDAG's precursors, such as Urban Renewal and Model Cities, UDAG regulations require that each application for funds includes at least 2 1/2 dollars of private investment for every dollar of UDAG funds and letters of commitment from private participants. UDAG supports industrial, commercial, and residential developments.

The UDAG program was initiated under President Carter as part of the Housing and Community Development Act of 1977 and funds were first appropriated by Congress in 1978. The largest annual appropriations, of $675 million, occurred in 1980 and 1981. Since 1981, the budget has been cut, falling to $220 million in 1987. The 1988 budget calls for an appropriation of $200 to $210 million. About 10 percent of all UDAG funds have gone to rural communities.

The principal findings of our study are: 1) industrial projects are the largest category of rural UDAG awards, and these awards are distributed across all regions and sized communities; 2) as intended by the program designers, the projects are concentrated in the most distressed rural communities in the U.S.; and 3), several criticisms leveled at government capital subsidy programs do not appear to

apply to the UDAG program. Evidence shows that the major share of UDAGs are allocated to firms that needed the subsidy to invest at their current scale and in their present location, and are not disproportionately allocated to capital-intensive firms.

## DATA BASE

The overview of rural UDAG projects is based on HUD's grant agreement data, a telephone survey of 169 manufacturing projects, and four in-depth case studies. HUD keeps records on the financing arrangements, jobs created, other public subsidies, taxes paid, and some community characteristics for all UDAG projects. Although valuable in exploring the characteristics of the rural UDAGs, these data are limited for our purposes in several respects. The file on earlier projects ends with closeout, the date on which the grant to the city is dispersed. Therefore, the HUD data provide no information on recipient business failure rates or up-to-date information on job creation. In addition, the HUD data base does not explore the "but for" question. Would the firm have made the same investment in the absence of UDAG funding?

To supplement the UDAG data base, we conducted a telephone survey of 223 communities. In 101 of these cases we were also able to interview the recipient firm. These interviews provided information on the secondary impacts of the investment on the community, participant firms' survival rates, the role the UDAG grant played in the firms' investment decisions, and the number of jobs still in existence. In order to gather information on

completed projects where development impacts would be most evident, the surveys were limited to projects approved in 1983 or earlier.

The survey also focused on industrial projects, because they are the largest share of all rural projects and are likely to have a greater impact on development than residential or commercial projects. Industrial projects generally increase local incomes by expanding the export base of the local economy. Residential and commercial projects are more likely to be non-basic activities which generate less additional income. Finally, we focused on manufacturing establishments because there is a manager or owner available for interview. In the case of commercial or residential developments it is harder to track down private developers responsible for the initial investment.

We interviewed 169 city governments that had received UDAG awards; for 101 of these we were also able to interview the manager or owner of the UDAG recipient firm. In 17 cases the original plant had closed but is now reoccupied; in 14 cases the facility had closed and was now vacant, and in 37 cases plant managers/owners would not agree to the interview.

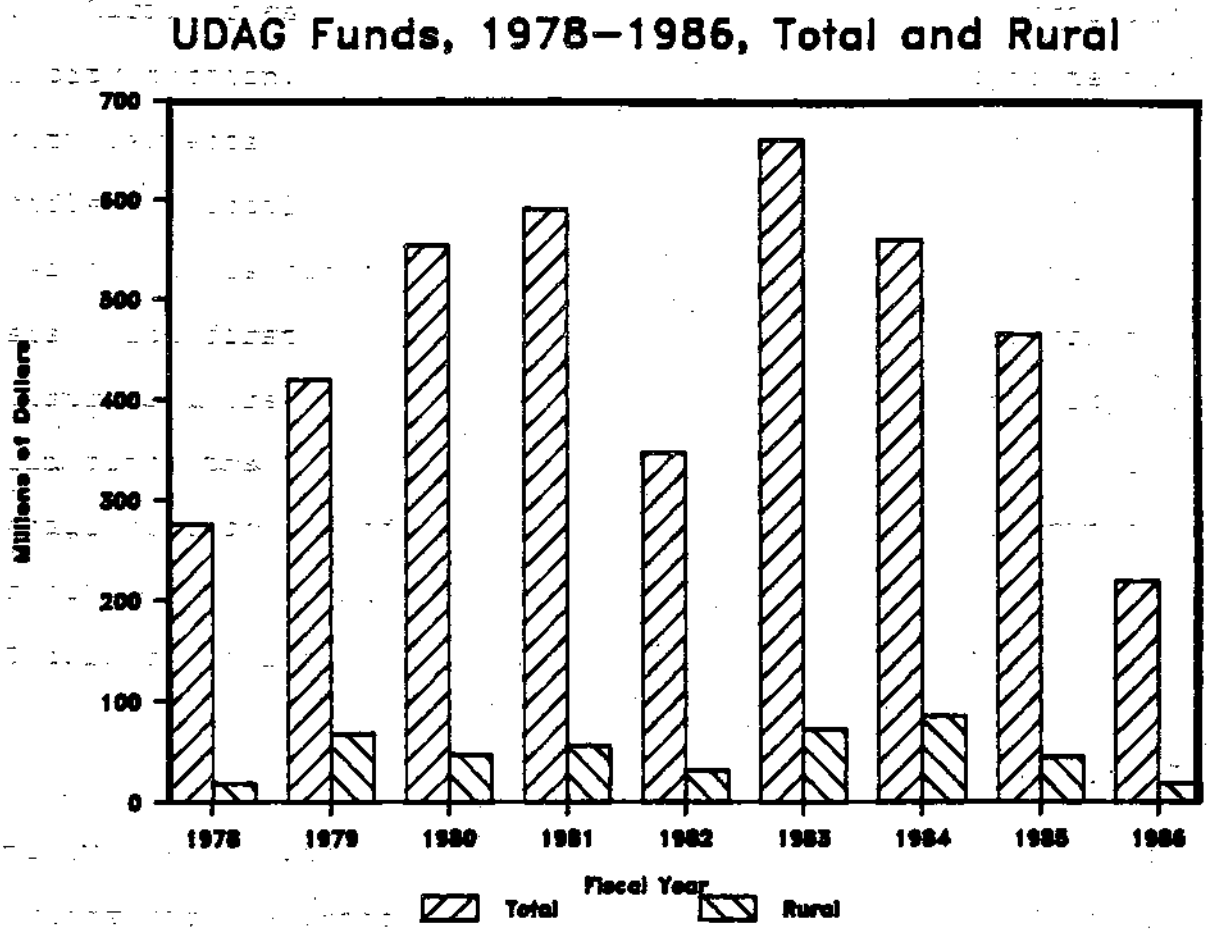
These data bases were supplemented with on-site case studies of five UDAG projects in four towns. The cases included a bicycle plant and a bicycle pedal manufacturer in Olney, Illinois; a mobile home manufacturer in Chico, California; a children's puzzle manufacturer in Avon-Phillips, Maine; and a craft yarn manufacturer in Lake City, South Carolina.

## CHARACTERISTICS OF RURAL PROJECTS

The UDAG legislation requires allocation of 25 percent of UDAG funds to cities with a population of less than 50,000 that are not central cities of Metropolitan Statistical Areas. Rural areas compete with suburban small cities for this small city portion. Until 1984, available UDAG funds exceeded small city requests, therefore the suburban-rural breakdown in funds reflected local demand. Since 1984, small-city demand has exceeded available funds and grants have been awarded on a competitive basis, with first priority given to feasible projects in the most distressed areas.

As of April 1988, 2912 projects had been funded since the program's inception, including 1308 projects in small cities; 787 of those projects and 10.3 percent of all UDAG funds have been awarded to non-metropolitan small cities. The total UDAG dollar commitment for the 765 rural projects funded as of December 1986 was $573.4 million, with a mean expenditure per project of $749,600.

The breakdown of UDAG funds for rural projects by year is shown in Graph 1. The annual allocation of rural UDAG funds varies across the years for a number of reasons, including the sensitivity of development and therefore requests for funds to the business cycle, policies in later years which encouraged small city grants, and the overall level of UDAG appropriations. The largest commitments of


UDAG Funds, 1978–1986, Total and Rural
Millions of Dollars
700
600
500
400
300
200
100
0
1978
1979
1980
1981
1982
1983
1984
1985
1986
Fiscal Year
Total
Rural

Graph 1

funds occurred in the relatively strong growth years of 1979, 1983, and 1984, and the years when appropriations were most generous, 1980 and 1981. In addition, the low value in 1986 reflects the fact that many of the grants awarded in 1986 did not yet have signed grant agreements when these data were compiled. When grant agreements are signed in 1987, the data will be recorded as a 1986 project, the year the project was awarded.

## The End Use of Rural UDAG Funds

UDAG funds are used to fund residential, retail, office, hotel, and industrial projects. The largest proportion (49%) of rural projects are industrial (See Graph 2). The next largest category is residential with 11.8 percent of all projects. Office developments comprise the smallest share of projects at 1.4 percent.

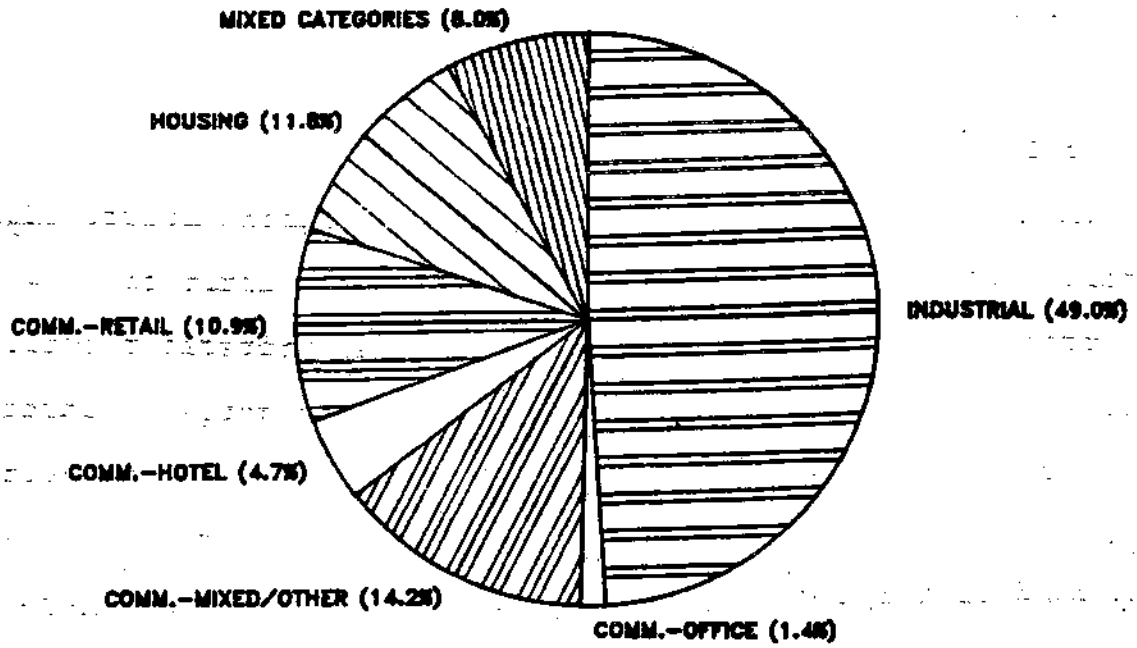
The distribution of rural projects by type differs substantially from that of large city projects. Large city Action Grant awards are more likely than the rural awards to go toward commercial developments, including office, hotel, and retail. For example, as of September 1986, only 24 percent of all big city UDAG awards went to industrial projects, while 47 percent of awards went to commercial projects. These differences probably reflect the preferences of commercial activities for urban locations and the tendency for industry to locate where large parcels of land are available and relatively inexpensive.

For purposes of analysis, we have divided the uses of UDAG funds into four categories: (1) as direct incentives to developers and

RURAL

## UDAG PROJECTS BY TYPE OF PROJECT

**Number of Projects**




GRAPH 2

firms for construction and capital equipment, (2) indirect incentives, including the local public sector development of infrastructure such as streets, water and sewer facilities, and parking, (3) for land acquisition, clearance, and relocations, and (4) for administrative and professional costs. Between January 1983 and December 1986, 77 percent of UDAG funds to rural communities were given in the form of on-site or direct incentives, 8 percent of UDAG funds were spent for off-site or indirect incentives, 7 percent went to assist in land acquistion, clearance and relocation costs, and 7 percent to administrative costs, professional fees, and other costs.[1]

## Nature of UDAG Incentives

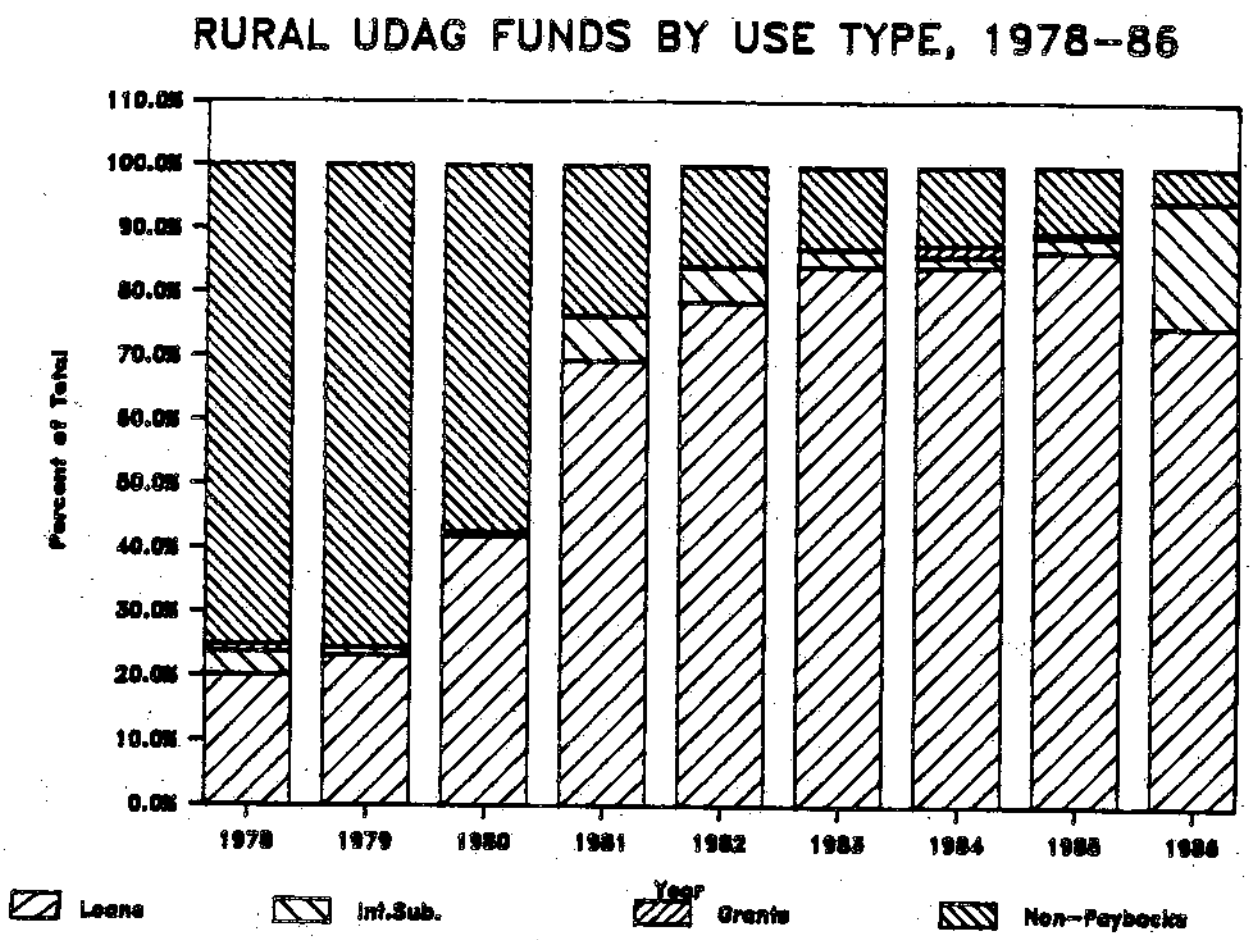
All UDAG funds are federal grants to locales. The arrangement between the locale and the private sector recipient can take the form of 1) low interest loans, 2) interest subsidies on bank loans, 3) direct grants to private businesses, or 4) other non-paybacks, including the public provision of project-specific infrastructure. The locality also can use funds to cover project administration. The majority of the funds were allocated in the form of low interest loans (See Table 1). Both interest subsidies and direct grants to private developers comprise a very small percentage of all rural UDAG assistance.

Table 1
Nature of Rural UDAG Subsidy Funds($000's)
Total Funds Allocated as of December 31, 1986

| | $ | % |
|---|---|---|
| Loans | $378,797 | 66 |
| Interest Subsidy | $ 20,184 | 4 |
| Non-paybacks | $174,433 | 30 |
| Total | $573,414 | 100 |

While rural action grants primarily take the form of loans and non-paybacks, the type of assistance is influenced by the needs of the developer and national urban policy. For example, funding for on-site construction, capital equipment, or other costs usually assumed by the private sector is more likely to take the form of loans. UDAGs not requiring firm or developer repayment are more likely to fund the preparatory work, such as land acquisition, clearance, or relocation, and to support the installation of infrastructure, such as streets, water lines, sewers, and parking.

The nature of rural UDAG assistance also has been influenced by a HUD policy in 1980 to shift away from grants and other non-paybacks to loans. In 1978, loans comprised only 20 percent of rural UDAG funds, with 76 percent of assistance going to developers in the form of non-paybacks. In 1986, only 5 percent of rural UDAG funds went to non-paybacks (See Graph 3). This trend applies to urban projects as well. The percentage of all projects, including urban and rural, requiring some type of repayment has increased from 37 percent of FY 1978 projects to 94 percent of FY 1984 projects (U.S. Department of Housing and Urban Development 1985).


RURAL UDAG FUNDS BY USE TYPE, 1978-86
110.0%
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Percent of Total
1978
1979
1980
1981
1982
1983
1984
1985
1986
Year
Loans
Int.Sub.
Grants
Non-Paybacks

Graph 3

Another sign of the reduced dollar asset value of UDAG assistance to the developer is an increase in the average interest rate and a reduction in the average term of loans.[2] The spread between the subsidized loan rate and prime rate has narrowed over time (see Table 2). UDAG loans are generally subordinated debt, which increases the risk and therefore the value of the UDAG interest subsidy. Therefore, the comparison with the prime rate here is not meant to suggest that the prime represents the opportunity cost of funds to these firms.

Table 2
Comparison of Rural UDAG Subsidized Rate with Prime Interest Rate

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|---|---|---|---|
| UDAG | .02 | 2.4 | 6.7 | 7.5 | 8.6 | 6.9 | 6.3 | 6.2 | 5.8 |
| Prime | 9.1 | 12.7 | 15.3 | 18.9 | 14.9 | 10.8 | 12.0 | 9.9 | 8.4 |
| Spread | 9.1 | 10.3 | 8.6 | 11.4 | 6.3 | 3.9 | 5.7 | 3.7 | 2.6 |
| Mean Term of Loan | 15.3 | 17.6 | 17.9 | 18.2 | 13.8 | 15.0 | 13.8 | 12.7 | 13.5 |

Source: HUD Grant Agreement Data Base

Over the life of the program, the average interest rate on the subsidized loans to rural projects is 6.5 percent and the mean loan term is 15 years.

The Financial Composition of UDAG Sponsored Development

A large proportion of UDAG projects also received assistance from other local, state, and federal sources. UDAG assistance covered only 14 percent of total project costs. Forty-eight percent of total project costs were covered by some form of government grant or subsidized loan. State and locally subsidized loans includes industrial revenue bonds, which are issued by the state or locality, but subsidized by the federal government.

Table 3
Private and Public Financing for Rural UDAG Projects
As of December 1986

| Category | Dollars (Millions) | Number of Projects | Percentage of Total Dollars |
|---|---|---|---|
| Action Grant | 573.4 | 765 | 13.5 |
| Private Unsubsidized | 2,272.5 | 717 | 53.5 |
| State and Local loans/bonds | 1,276.4 | 391 | 30.0 |
| State Grant | 23.7 | 61 | 00.5 |
| Local Grant | 70.1 | 151 | 01.5 |
| Federal Grant (non-UDAG) | 30.9 | 33 | 01.0 |
| Total | $4,247.0 | 765 | 100.0 |

Source: HUD Grant Agreement Data Base

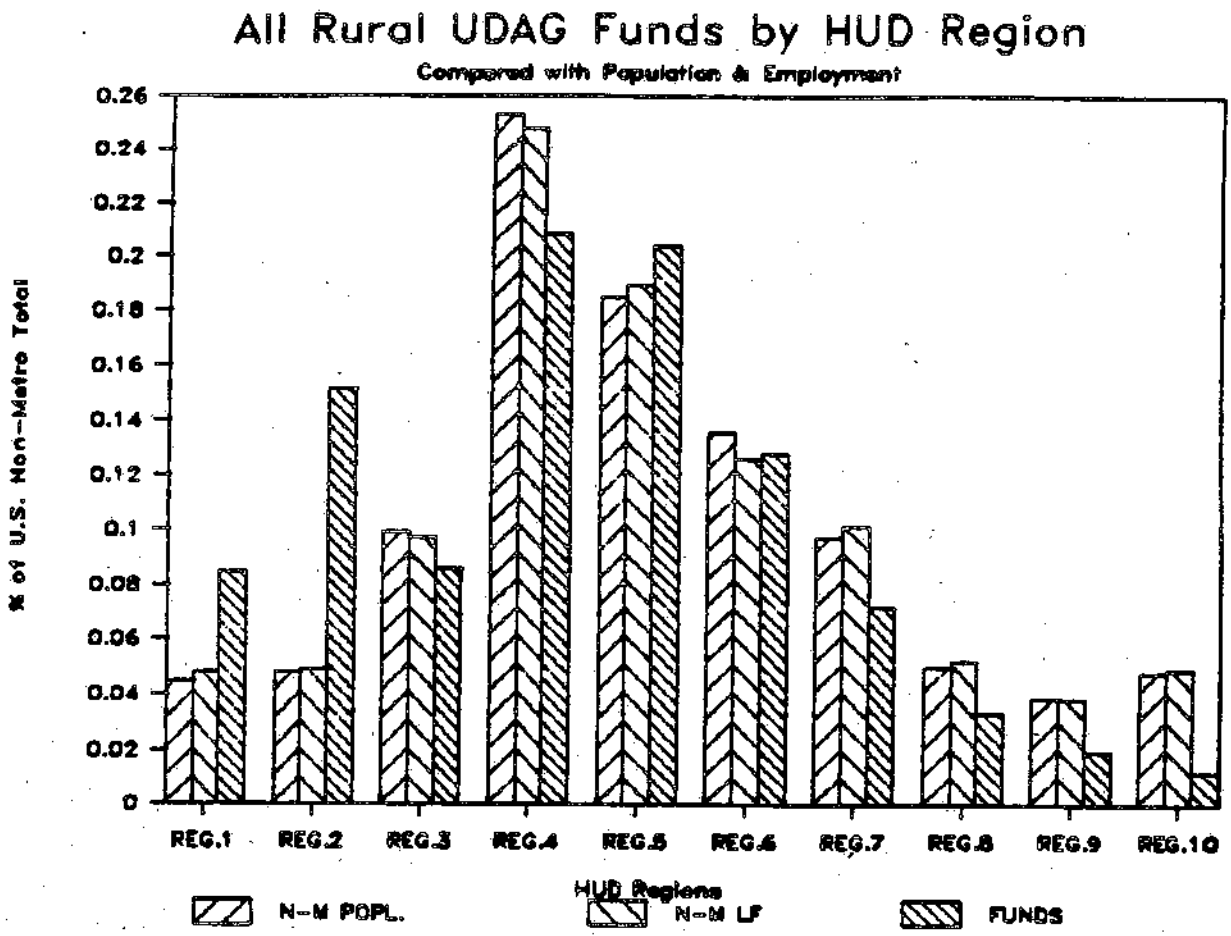
Industrial revenue bonds are the largest component of state and local subsidized loans. Local grants include such programs as Community Development Block Grant (CDBG) funds.[3] Federal assistance other than UDAG money came from such sources as the Economic Development Administration, the Farmers Home Administration, and the Urban Mass Transit Authority.

## Regional Distribution

The regional distribution of rural UDAG grants and dollars only roughly corresponds to the regional distribution of rural population and employment. Graph 4 compares the regional distribution of non-metropolitan population and labor force with the distributions of rural UDAG dollars. The graph shows the Northeastern regions (HUD regions 1 and 2) captured a greater proportion of funds than their rural populations and employment would suggest, while the Southeastern states from North Carolina to Florida (Region 4), and Western states (Regions 7,8,9, and 10) received a smaller proportion. The bias toward Northeastern states reflects a high demand for UDAG grants in the Northeast and a distress ranking which has favored the Northern communities.

The distress ranking given to every eligible rural town is based on an index composed of the percentage of the local housing stock built before 1940 (weighted at 40 percent), the unemployment rate (weighted at 30 percent), and the percentage of the population in poverty (weighted at 30). The age of housing stock variable biases the distress index towards the older communities of the North. The weighted index of these values is called an impaction ranking, with the most distressed small cities given the lowest rating.

Thirty-one percent of all rural projects were in the most distressed quartile of all eligible communities, with 19 percent of the projects in the least distressed quartile. Although overall, a disproportionate share of UDAG projects went to the most distressed communities, this pattern does not hold for all of the regions. Of


All Rural UDAG Funds by HUD Region
Compared with Population & Employment
% of U.S. Non-Metro Total
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
REG.1
REG.2
REG.3
REG.4
REG.5
REG.6
REG.7
REG.8
REG.9
REG.10
HUD Regions
N-M POPL.
N-M LF
FUNDS

Graph 4

HUD Regions

Region 1
Massachusetts
Rhode Island
New Hampshire
Vermont
Maine

Region 2
Connecticut
New York
New Jersey
Puerto Rico

Region 3
Maryland
Pennsylvania
Delaware
Virginia
West Virginia
District of Columbia

Region 4
Kentucky
Tennessee
North Carolina
South Carolina
Georgia
Alabama
Mississippi
Florida

Region 5
Minnesota
Wisconsin
Michigan
Ohio
Indiana
Illinois

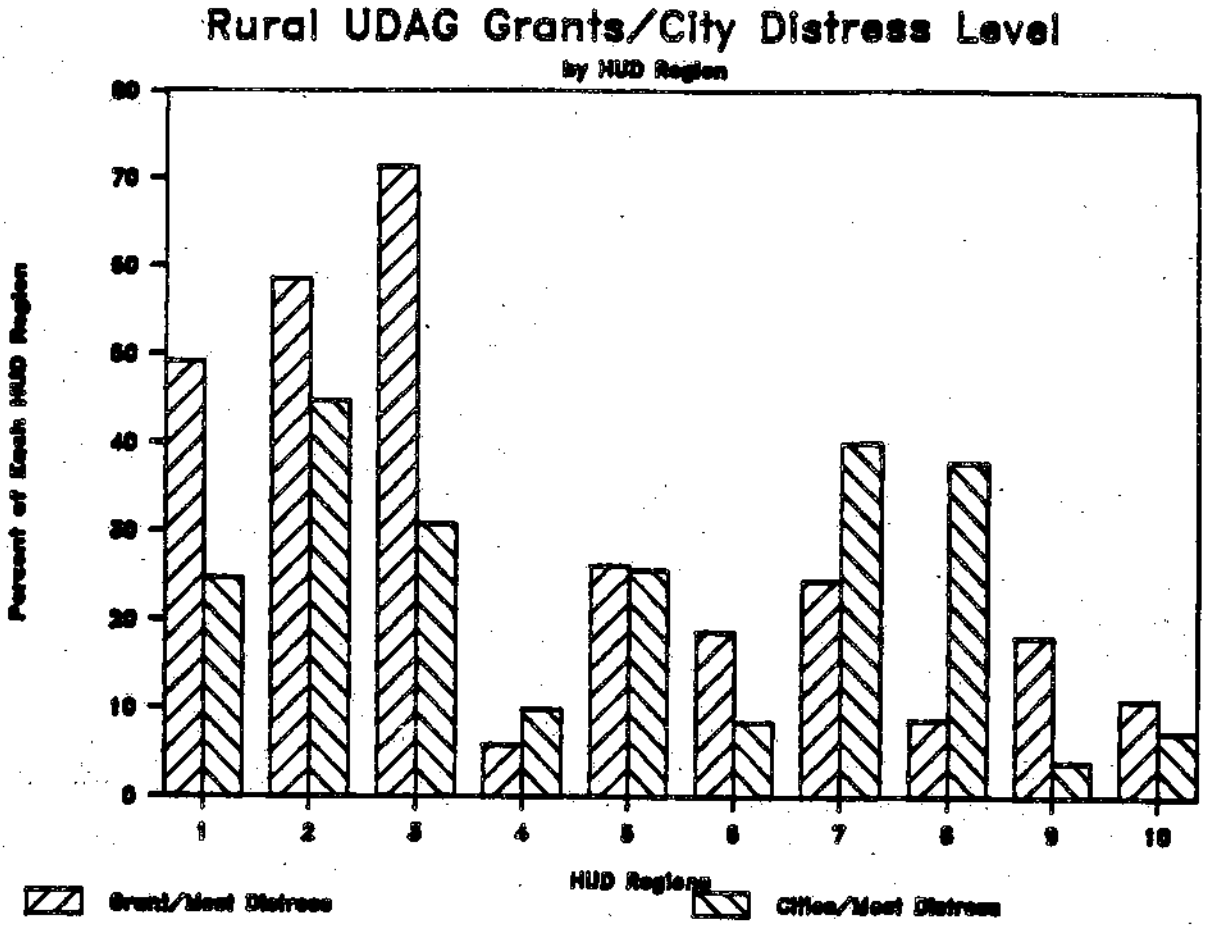
Region 6
Texas
Louisiana
Arkansas
Oklahoma
New Mexico

Region 7
Missouri
Iowa
Nebraska
Kansas

Region 8
Montana
North Dakota
South Dakota
Wyoming
Colorado
Utah

Region 9
Arizona
Nevada
California
Hawaii

Region 10
Washington
Oregon
Idaho
Alaska


Rural UDAG Grants/City Distress Level
by HUD Region
Percent of Each HUD Region
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
HUD Regions
Grant/Most Distress
Cities/Most Distress

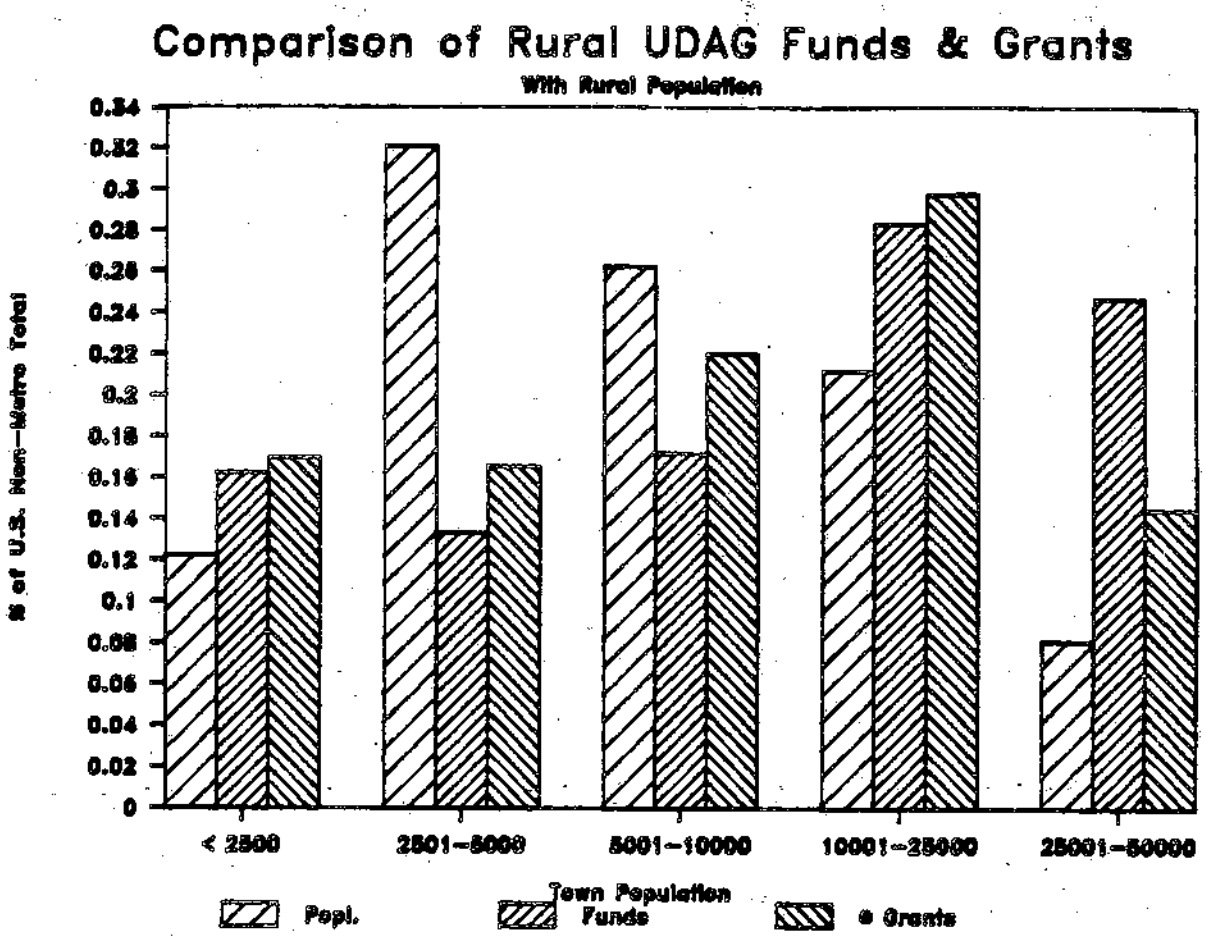
GRAPH 5

all UDAG projects in the Northern regions, more than 50 percent were in the most distressed quartile of eligible communities in that region. However, of all projects in the Southern and Western regions, fewer than 20 percent of projects were in the most distressed quartile of communities in that region (See Graph 5). There is no obvious explanation for this pattern.

Distribution of UDAG Dollars by Size of Town

We expected to find UDAG projects concentrated in the largest rural communities. These communities have the largest agglomeration economies, which makes them the most attractive to private investment. They also have larger local government staffs to coordinate the UDAG application process.

The projects are more uniformly distributed among the smallest rural towns than expected. Graph 6 compares the distribution of rural UDAG communities and projects by size of town and distribution of rural population in each size of town. Although cities sized 2,501 to 10,000 are less represented than total population in this size of town would suggest, the smallest rural communities of 2,500 or less received a disproportionately large share of UDAG funds. The largest two categories of rural communities, 10,001-25,000 and 25,001- 50,000, also received more UDAG dollars than the population in these towns would suggest.


Comparison of Rural UDAG Funds & Grants
With Rural Population
% of U.S. Non-Metro Total
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
< 2500
2501-5000
5001-10000
10001-25000
25001-50000
Town Population
Popl.
Funds
Grants

Graph 6

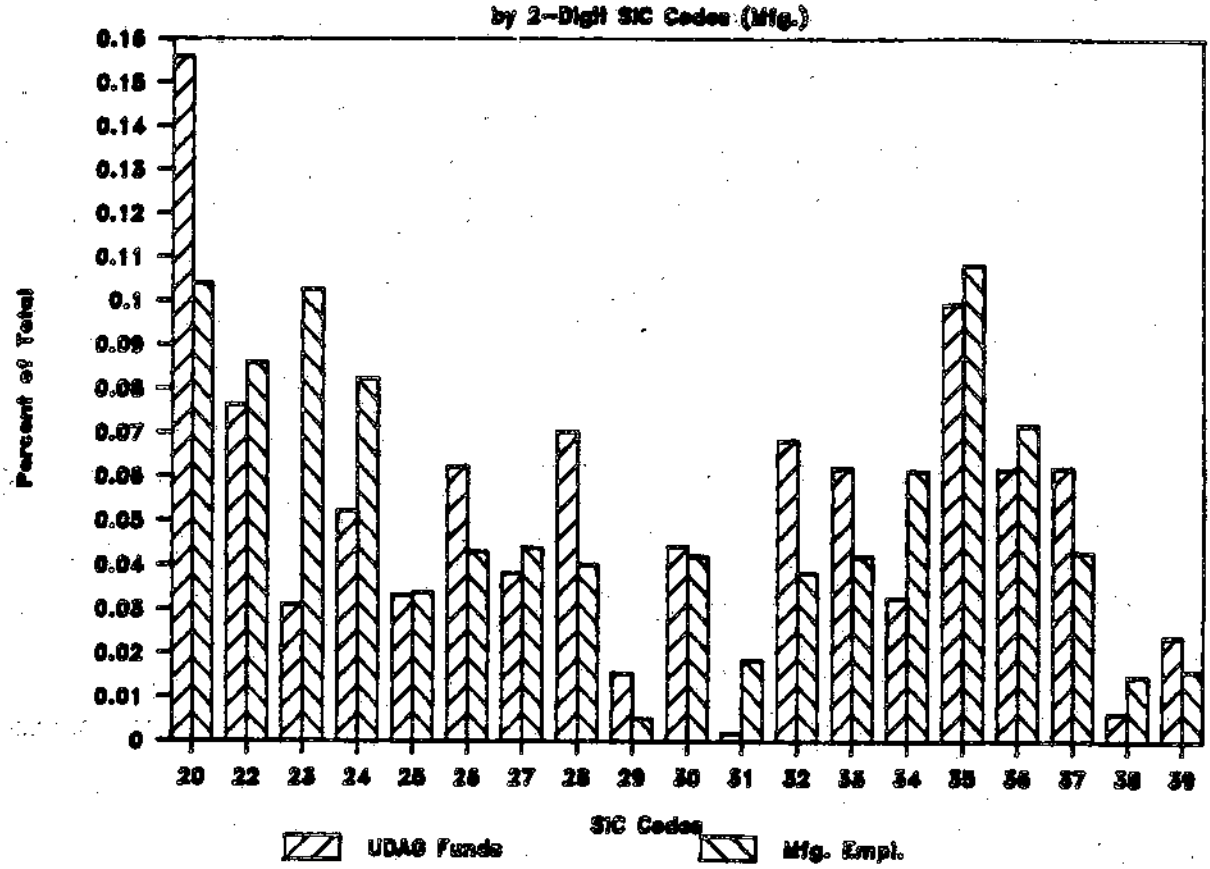
Rural Projects by Industry

Rural UDAG funds have been granted to firms in all of the 2-digit Standard Industrial Code (SIC) industries (See Graph 7). The largest recipients are SIC 20, Food Processing; SIC 22, Textiles; SIC 23, Apparel; SIC 24, Furniture and Woodworking; and SIC 35, Machinery Manufacturing. The smallest proportion of rural UDAG funds went to SICs 29, Petroleum and Coal Products; 31, Leather and Leather Goods; and 38, Instruments and Related Products. Below we discuss the characteristics of industries that received UDAG awards.

Graph 7 also compares the distribution of UDAG grants across industries with the industrial distribution of non-metropolitan manufacturing employment. The following industries received a greater proportion of rural UDAG dollars than their distribution of rural employment would suggest: SIC 20, Food Processing; 26, Pulp and Paper Processing; 28, Chemical Products; 29, Petroleum and Coal Products; 32, Stone, Glass and Clay Products; 33, Primary Metals; and 37, Transportation Manufacturing. Industries 23, Apparel; 24, Furniture and Woodworking; and 31, Leather Products received fewer rural UDAG dollars than their proportion of all rural manufacturing would indicate. Clearly, UDAG awards do not mirror the existing industrial shares of rural employment.

CAPITAL SUBSIDIES: CAN THEY CREATE JOBS IN LAGGING AREAS?

UDAG funding is intended to be contingent on the assurance that "but for" the Action Grant, the private sector would not invest the funds needed to undertake the project. The funds are intended to


Rural UDAG Funds & Non-Metro Mfg. Empl.
by 2-Digit SIC Codes (Mfg.)
Percent of Total
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
20 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
SIC Codes
UDAG Funds
Mfg. Empl.

Graph 7

fill the 'gap' between the resources available to the private sector, including grants from other public agencies, and the resources necessary to proceed with the development project. Government assistance is justified either when the firm is marginal and could not start-up, expand, or remain without subsidy; where the firm is not a marginal operation but must be compensated for producing in a higher cost, but distressed, locale; or where viable firms exist and can operate profitably in a distressed community, but cannot get financing because of failures in the private capital market.

The controversy over the value of government capital subsidy programs is heated. Critics charge most firms which receive capital subsidies would have made the same investment in the absence of assistance. Interest payments on capital are a small proportion of the average firm's total costs. Critics argue subsidies on these minor firm expenses have too small an affect on a firm's total costs to alter investment behavior. The value of capital subsidies is further reduced by the tax deductability of interest payments. Thus, according to this argument, capital subsidies end up in the coffers of firms that would have located at a site in any case.

A second criticism leveled at capital subsidy programs is the tendency for such programs to fund financially stable companies rather than the companies truly excluded from private capital markets. The favoring of large and stable companies arises where public officials and their elected bosses must appear to be supporting winners. Funding marginal companies, who can be expected to fail at above average rates, can be politically unpopular among

constituents. Moreover, a company must be making a very large investment to take advantage of most existing capital subsidy programs, such as Industrial Revenue Bonds. For example, IRB's offer no advantages to the firm if the bond is for less than $400,000 because transaction costs associated with bonding attorneys are fixed regardless of the size of the bond. In addition, large firms are more likely to be aware of government subsidy programs. As a consequence subsidies go to the largest companies, which least need government assistance.

This criticism has been specifically leveled at the UDAG program for "IRB Specials". The Industrial Revenue Code permits the ceiling on the total cost of a project financed with Industrial Revenue Bonds to be increased from $10 to $20 million when the project includes UDAG funds. Projects desiring large amounts of subsidized capital may seek UDAG funding solely to trigger this provision. There is some question as to whether firms requiring such large amount of public capital are truly marginal firms.

A third criticism of capital subsidy programs is they attract capital-intensive firms that create relatively few jobs for local residents. According to this hypothesis, either firms with labor intensive production processes do not apply for capital subsidy programs because they are not making sufficiently large capital investments to require them, or the subsidy leads companies to alter their production process to favor capital-intensity.

Proponents of capital subsidy programs argue access to capital is as important as the interest subsidy. There are gaps in the

private capital market and viable businesses are squeezed out of the market for loanable funds. Small enterprises and investors in depressed local economies are particularly susceptible to capital market exclusion, according to this argument, and government capital programs can fill the gap and lead to job creation in depressed areas. Secondly, proponents argue that dealing with the government is costly for businesses in terms of start-up delays and paperwork, and consequently private companies do not seek out public funding unless it is critical to a project's existence.

Measuring the extent of private money displacement by government funds is a difficult task. We lack information on what would have happened in the absence of government funds. The analysis is further complicated because government assistance may lead private capital to shift from one poor community to another community, one with the talent and initiative to apply for UDAG funding. While we cannot measure the extent to which UDAG funds replace private financing, we can use UDAG as a case study to examine the validity of above arguments. If our findings are consistent with the arguments of capital subsidy proponents, then there is evidence of gaps in the private capital market and the feasibility of a capital subsidy program where public funds do not merely replace private funds. If the results support the arguments of capital subsidy opponents, we can conclude that either the criticisms stated above are correct and capital subsidies will not influence investment in the desired ways, or the UDAG program has just failed to reach those firms excluded from the capital market or marginal enough to be motivated by interest subsidies.

Our survey of UDAG recipient firms and city governments shows 35 percent of rural grants between 1978 and 1983 were initiated by the city, while 31 percent of grants were initiated by the firm. Another 10 percent of projects were initiated by other actors, such as consultants, and the remaining 24 percent of projects were jointly initiated by some combination of the city, firm, and/or outside consultant. Therefore, the industries receiving UDAG assistance reflect both those who sought federal money and those who were receptive when local officials proposed UDAG funding. Until 1984, all acceptable rural projects were funded since available funds exceeded demand. Therefore, the industrial distribution of projects reflects the demand for funds.

## Methodology

Three tests were conducted to determine whether rural UDAG grants went to projects in need of capital. The first approach was to explore the characteristics of manufacturing firms most likely to receive UDAG funding. A model predicting the probability a firm in a particular 3-digit Standard Industrial Code (SIC) industry would receive a UDAG grant was estimated. The hypothesis is that slow growth firms operating in a competitive environment are most likely to have low profit margins, and are therefore most in need of government startup, expansion, or retention assistance. To measure industry competition, we use the concentration ratio, the percent of industry employment in the four largest firms. The larger the ratio, the less competitive the industry. The model is shown in equation (1):

$$(1)\quad G^i = \alpha_0 + \alpha_1 RGR^i + \alpha_2 SRE^i + \alpha_3 CR^i$$

Where;
G = the number of grants in industry
RGR = the 1979 to 1982 industry rate of growth in rural areas
SRE = Industry share of all rural manufacturing employment
CR = Industry concentration ratio (The share of industry employment in the four largest companies)
i = 3-digit SIC industry

A more desirable test would use data on individual firms rather than industries. However, firm-level data are not available.

The 374 UDAGs made to manufacturers in rural areas, were allocated across 100 3-digit industries. Thirty-eight 3-digit industrial categories received no UDAG funds. Because of the large number of zero values for the dependent variable, Tobit analysis was used to estimate the model.

The share of rural employment in each industry is included to control for the fact that industries concentrated in rural areas are more likely to receive UDAG funding than industries with little rural employment. The data sources, the calculations of the variables, and the range for the independent variables appear in Appendix A.

The second test is to examine the failure rate of UDAG recipient firms. A lower than or average plant failure rate indicates UDAG funds are concentrated in larger, more secure investments, which probably could have obtained private capital. A third approach was to ask plant managers whether their startup or expansion at their site was contingent on UDAG funding. While asking recipients is not

always a dependable source of information, we hoped that because we were independent researchers and the grant had been received four or more years ago, reliable answers could be obtained. This question was explored in more depth in the on-site interviews.

A second hypothesis, that capital subsidy programs attract capital intensive manufacturing, was tested with a model similar to that of equation (1) and is shown in equation (2).

$$(2)\quad L^i = \beta_0 + \beta_1 RGR^i + \beta_2 SRE^i + \beta_3 CR^i + \beta_4 K/L^i$$

Where
L = the number of loans in industry
K/L = the industry ratio of capital to labor
The remaining variables are as defined above.

A positive coefficient on K/L would support the hypothesis that UDAG loans are more likely to go to capital intensive firms. Again, data on the capital intensity of individual plants, rather than the industry to which the plant belongs, would be desirable, but are unavailable.

The dependent variable in equation 2 is loans rather than grants, since this hypothesis specifically refers to loan subsidies. Presumably any firm, labor or capital intensive, would seek money which does not have to be repaid. Both equations 1 and 2 were estimated with the Tobit method, since the dependent variable includes many industries where no firms received UDAG funds.

## Results

The results for both equations 1 and 2 are reported in Table 4. The results for equation 1 are contrary to that predicted by capital subsidy opponents. As expected, UDAG funds were most likely to go to firms in industries with a high proportion of employment in rural areas. However, supporting the arguments made by capital subsidy proponents, grants were most likely to go to firms in the more competitive industries. Firms in competitive industries are more likely to be marginal and view small differences in costs as making the difference between profits and losses. This suggests UDAG funds are most likely to go to enterprises that need financial assistance to either start-up, expand, or remain in their current location.

The statistical results on the concentration ratio can be interpreted as follows. A 1 percent decrease in an industry's concentration ratio increases the probability of receiving a UDAG grant of by .423 percent and a loan by .481 percent.

The sign on RGR is negative, indicating grants are more likely to go to firms in industries with slow rural growth rates than in industries with rapid rural growth. However, this coefficient is not statistically significant. Nevertheless, UDAG grants clearly are not going to plants in the most rapidly growing rural industries, again suggesting UDAG funds are reaching the more marginal enterprises.

Table 4
Regression Results
Tobit Analysis

| | No. of Awards | No. of Loans |
|---|---|---|
| Independent Variables | | |
| SRE | .03* | -.003 |
| | (5.3) | (-.66) |
| | [ .042] | [-.005] |
| RGR | -.01 | -.001 |
| | (-.26) | (-.44) |
| | [-.006] | [-.013] |
| CR | -.90* | -.01* |
| | (-3.91) | (-2.20) |
| | [-.423] | [ -.48] |
| K/L | -- | -.0001 |
| | | (-.11) |
| | | [-.008] |
| Predicted Probability of Model = | .69 | .63 |

() = T-ratios
[] = Elasticity when all other variables are at their mean value
* = Statistically Significant at the 5 percent level.

An additional indication UDAG funds successfully reach firms in need of assistance is the failure rate of UDAG recipients. Public subsidy programs that successfully reach marginal and risky ventures should exhibit above-averages rates of failure. The failure rate of UDAG ventures is above average. The results of our survey of 169 industrial projects is reported in Table 5. Of plants receiving grants between 1978 and 1983, 17.7 percent have failed or closed.

Table 5

Status in August 1987 of
Firms Receiving UDAG funds between 1978 and 1983*

| Status | Percent |
|---|---|
| Financially Stable or Expanding | 77.1 |
| Currently in Trouble | 5.1 |
| Plant Closed | 17.7 |

Source: Urban Institute Survey
* N= 169; missing values = 7

This rate is higher than the 1980 average bankruptcy rate for all firms of 3 percent and the 1980 average rate of business dissolutions of 9.6 percent (U.S. Small Business Administration, March 1983, p. 150-138). Although 17.7 percent (31) of the original UDAG recipients had closed, 17 had new tenants in the original building.

Finally, to test the extent to which UDAG grants were responsible for job creation, we asked plant owners and managers whether they would have made the same site location, expansion, or retention decision without UDAG. The results are reported in Table 6.

Table 6
Would You Have Invested in This Town in the Absence of UDAG Funding?

| | All | Independents (+ 1 Headqtr) | Branches |
|---|---|---|---|
| Yes | 23.6 | 19.5 | 27.1 |
| No | 59.6 | 70.7 | 50.0 |
| Unsure | 16.9 | 9.8 | 22.9 |
| N = | 89 | 41 | 48 |

Missing values = 4
Source: Urban Institute Survey

These results indicate a majority of firms would not have made the investment in their current town without UDAG funding. Still, a sizable proportion, nearly 24 percent, would have. This 24 percent includes establishments would would have made the investment, but not at the same scale without the UDAG award. Subdividing the data by independents and branch plants shows branches were less likely than independents to require UDAG funding.

The relatively high proportion of branch plant managers who were uncertain (see Table 6) is due, in part, to greater management turnover in branch plants than in independents. Branch managers were less likely to have been involved in the UDAG application process than the managers (mostly owners) of independents.

Presumably, branches of large companies are more likely to have access to capital from parent companies. This was the case in one of the on-site studies. An Illinois subsidiary of a German company

wanted to add capacity in plastic bicycle pedal production. Previously, the plant produced only the metal "rat trap" pedals. Company officials believed they could have obtained expansion capital from their parent if they had asked, but did not approach the parent because they were eager to demonstrate some independence. This finding was in contrast to the two on-site interviews with independents and one on-site interview with a very small multiplant operation. In all three cases, the firms had no collateral to back additional bank loans, and the UDAG loans and grants were crucial factors in their expansion and ultimately in their current profitability.

The fourth on-site study involved another branch, in this case a mobile home assembly plant. Company officials claimed the UDAG funds were necessary to attract the plant to that particular site. The parent had already decided a new plant would be built in the Western region, and without the UDAG subsidy, the Chico location would not have stood out as desirable. In this case, the UDAG grant resulted in the spatial reallocation of capital to a distressed community.

In addition to branch plant status, projects initiated by cities were more likely to involve the displacement of private funds. In projects initiated by firms, 64.5 percent stated they would not have made the investment in this location without UDAG assistance. Among city initiated projects, only 54.8 percent of firms reported they would not have invested in the current location without UDAG funding.

These telephone survey results are slightly less favorable than a 1982 HUD study which addressed the extent to which UDAG funds were displacing private capital. The HUD study included both urban and rural projects and decided substitution of public for private funds did not occur if 1) the project had greater scope, including size and uses, because of the UDAG funds, 2) the project occurred at the current distressed location instead of another non-distressed location because of UDAG funds, or 3) the project would not have proceeded without UDAG funds. HUD's methodology was three-fold: to 1) interview the private and public sector actors involved with project formation, 2) make site visits to each of the projects, and 3) have developers familiar with each type of development review the project's finances.

The study found no evidence public funds substituted for private funds in 64 percent of the Action Grant projects. There was evidence of partial substitution in 13 percent of the projects. In these cases, some part of the project did not depend on UDAG funding. The results were inconclusive in 15 percent of the projects, where there was some evidence to suggest but not conclude public funds substituted for private funds. Finally, full substitution was determined to have occurred in 8 percent of the cases. (U.S. Department of Housing and Urban Development, 1982a) HUD's study on the extent of substitution or public for private funds was a much more thorough examination of this question than we were able to carry out. But the similarity of the findings from our telephone survey and HUDs analysis suggests the respondents to our question were honest.

It is reasonable to suspect less substitution occurred in the later years of the UDAG program than in the years examined in our study and the HUD study. First, in response to the above study, HUD adopted revised project selection criteria to screen out projects where substitution of private for public capital is most likely to occur, and second, the project selection procedure has become increasingly competitive, allowing HUD greater range for selecting projects where a real capital gap exists.

In summary, these findings indicate rural firms in competitive industries are most likely to seek UDAG assistance and the failure rate of UDAG projects is slightly higher (by about 3 percent) than the closure rate for all establishments. Both of these results suggest the UDAG program is reaching marginal, riskier enterprises that would have had trouble borrowing in private capital markets at acceptable interest rates. While the majority of firms that received grants in the 1978 to 1983 period claimed they would not have made their investment in the absence of UDAG funds, a sizable minority of projects still involved the public substitution for private funds.

These mixed results probably explain the confusion and controversy over public subsidy programs. When a program is flexible enough to meet the needs of a heterogeneous group of clients, the circumstances and program outcomes show great variation. For example, in the five UDAG case studies we examined in depth, one plant admitted they probably would have made the investment even without UDAG funding. Three firms presented

convincing papers and arguments that they could not have expanded without assistance. For two of these firms, the availability of the capital was as important as the interest subsidy and repayment grace period. The fourth received a non-repayable grant, an arrangement that no longer exists under current program guidelines. In the fifth case, the company was committed to making the investment, but the town's UDAG grant lowered start-up costs in that location and was ultimately the reason the town was chosen over other equally acceptable but less distressed sites.

Several conclusions can be drawn. First, there is evidence viable firms exist that cannot obtain capital from private markets and government programs can reach these firms. The on-site case studies indicate one reason firms are excluded from the capital markets is an already high debt-equity ratio and the lack of collateral. In the three cases where the firms were excluded from the private market, the firms have proved to be profitable 5 years later and are making timely payments on their UDAG loans. Secondly, the evidence supports the argument that the primary seekers of government assistance are marginal firms, at least in the case of UDAG. The more competitive an industry, the more likely plants in that industry will receive a UDAG grant. Thirdly, there is no evidence that rural UDAG loans favor capital-intensive over labor-intensive operations, as some have criticized. Finally, while we found evidence that some UDAG recipients would have made the investment in the absence of UDAG funding, these plants were a minority. Alterations in the UDAG selection process may have reduced this share further since the 1978-83 period studied here.

## End Notes

[1] Based on data from the U.S. Department of Housing and Urban Development's Grant Agreement Data Base.

[2] This assumes the size of the award stays constant over time.

[3] Community Development Block Grants are a federal program, but the money is spent by local discretion.

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## Appendix A

### Data for the Regressions

| Variables | Source | Calculation |
|---|---|---|
| Share of Rural Employment in Industry i | Unpublished Data from the Bureau of Economic Analysis | Rural employment in industry i/total rural manufacturing employment |
| Industry Growth in Rural Areas | Unpublished Data from the Bureau of Economic Analysis | The 1979 to 1982 rate of rural employment growth in industry i. |
| Concentration Ratio | Census of Manufactures, Table 5, pp. 7-51 to 7-50. | The percent of industry i's output produced by the four largest companies |
| Capital/Labor in 1984 | Annual Survey of Manufactures, Table 2, pp. 4-6 to 4-65, and Table 2, pp. 1-8 to 1-24 1983-84. | Value of Depreciable Capital/Number of Production Workers |
| Number of Grants by Industry | HUD grant agreement data base. | |
| Number of Loans by Industry | HUD grant agreement data base. | |

Appendix B
Range of Values for Dependent and Independent Variables

| Variables | Minimum | Maximum |
|---|---|---|
| Share of Rural Employment in Industry i (%) | 0 | 4.4(SIC 232,Mens Furn.) |
| Industry Growth in Rural Areas (%) | -75.(SIC 266, Building Paper | 557.1 (SIC 277,Greeting Cards) |
| Concentration Ratio | 7.0 (SIC 307,Plastic Products, Misc.) | 92.8 (SIC 210,Tobacco) |
| Capital/Labor | 2.02 (SIC 226,Textiles) | 533.3 (SIC 291,Petroleum) |
| Number of Grants by Industry | 0 | 22 (SIC 307, Plastic Products, Misc.) |
| Number of Loans | 0 | 17 (SIC 307, Plastic Products, Misc.) |