DOCUMENT RESUME

ED 376 608 EA 026 325

AUTHOR Edlefson, Carla
TITLE Deficit Financing of Schools? The Impact of Statutory Change on School District Borrowing Behavior.
PUB DATE Apr 94
NOTE 32p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 4-8, 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Budgeting; Budgets; Discriminant Analysis; Educational Economics; *Educational Finance; Elementary Secondary Education; Financial Exigency; *Fiscal Capacity; Property Taxes; School District Spending; *School District Wealth; State Aid; *State School District Relationship
IDENTIFIERS *Ohio

ABSTRACT

In the 70s and 80s, Ohio relaxed its balanced-budget laws to give school districts more options for borrowing over the end of the fiscal year. Two provisions that permit districts to borrow against next year's revenues in order to balance the current year's budget include the Emergency School Advancement program and the Spending Reserve. This paper presents findings of a study that assessed the impact of the liberalized statutes on school-district budgeting behavior. Discriminant analysis was conducted on data that were obtained from the Ohio Department of Education on all 611 K-12 districts. The data did not support the hypothesis that relative poverty of the tax base, nor pressures from at-risk programs to spend, were causes of Spending Reserve use before 1990. Most of the districts using the Spending Reserve before 1990 did so to smooth out their incoming cash, and districts that began using it during or after 1990 did so because of insufficient revenues. A troubling economic sign is that a few districts are chronically fiscally stressed and continue to borrow. Morever, use of the two provisions is on the increase. A potential financial crisis exists if neither revenue increases nor spending cuts can be realized. The state education department should consider monitoring Spending-Reserve districts more closely. Contains 17 endnotes, 5 tables of data, and 1 exhibit with predictor variables. (LMI)

DEFICIT FINANCING OF SCHOOLS? THE IMPACT OF STATUTORY CHANGE ON SCHOOL DISTRICT BORROWING BEHAVIOR

Carla Edlefson
Department of Educational
Policy and Leadership
The Ohio State University

Presented at the Annual Meeting of the
American Educational Research Association
New Orleans, LA
April 4, 1994

The widely-debated problem of the federal budget deficit has been a focus of recent attention in Washington. In general, however, state and local governments, including school districts, must balance expenditures with revenues each year. The notion of a balanced budget is a strongly-held value in American politics; it signifies accountability and control over government.[1] When government moves away from the principle of a balanced annual budget, it is a departure from tradition and worthy of study.

This paper reports research that is part of a study to assess the impact in one state, Ohio, of legislation liberalizing statutes that require school districts to balance their operating budgets each year. Ohio's laws about balanced budgets probably have been traditionally more strict than those of many states. However, Ohio liberalized its balanced-budget laws in the 1970's and '80's to provide districts with more options for borrowing over the end of the fiscal year. These relatively recent changes present an opportunity to study school district responses to changes in state policy regarding balanced budgets. The purpose of this study is to assess the impact of this liberalization trend on school district budgeting behavior, to try to determine whether changes should be made in state policy.

At least one other state, Minnesota, has also recently loosened the legal standard for balancing school district budgets, and one commentator has raised the caution flag.[2] In early 1994, Illinois' state superintendent reported that 70 percent of that state's school districts had expenditures that exceeded revenues.[3] As of June 30, 1993, Ohio school districts owed

$219 million in principal and interest for loans made through just one of the borrowing options, the Emergency School Advancement program.[4]

Districts too deeply in financial difficulties often must be "bailed out" by the state. Thus use of borrowing to balance a district's annual operating budget is not simply a matter of local discretion, but should be of concern to all those who are interested in fair and efficient use of state tax dollars.

OHIO'S BORROWING LAWS

School districts have several means of borrowing for current operation under Ohio law.[5] Some provisions permit borrowing against anticipated new money, notably from newly-approved millage that will not generate revenue until the following tax year. But the two provisions of interest here permit borrowing against next year's revenues in order to balance this year's budget, with no new money anticipated. These two provisions are 1) the Emergency School Advancement program; and 2) the Spending Reserve.

EMERGENCY SCHOOL ADVANCEMENT

Ohio's General Assembly created the Emergency School Advancement (ESA) program during the late 1970's in response to political embarrassment caused by school districts that closed their doors at the end of the year when they ran out of money. The fiscal year for schools was the calendar year. Thus, districts could close late in the calendar year, make up the days after January 1, and still meet the state requirement for the minimum number of days in the school year. Districts used this tactic as leverage to try to obtain voter approval of additional property tax millage. In 1978, the legislature

prohibited school closings and required districts to borrow money through the ESA program from a state loan fund.[6] Beginning in fiscal 1990, the law was changed to abolish the state loan fund, and districts now borrow from private lenders.

The procedures required in order to participate in the ESA program involve inspection of expenditures vs. revenues by the Auditor of State, review of programs by the Department of Education, and final approval by The Controlling Board, which is a joint legislature-administration committee that oversees state expenditures. Frequent or large borrowers under the ESA program are also subject to a kind of state receivership, in which all expenditures and contracts must be approved by the State Superintendent.

The repayment mechanism for the ESA is through a deduction from the district's monthly state subsidy payment, which is sent directly to the lender. Loans are repaid over two years; however, recently the law was amended to allow districts up to ten years to repay an ESA loan.

SPENDING RESERVE

A second deficit financing option, the Spending Reserve, allows districts to borrow an amount equal to a portion of their projected business personal property tax revenues. Under this provision of the law, notes are repaid in the same calendar year in which they are issued, but in the next fiscal year. For example, the district may borrow in January, in the middle of one fiscal year, and repay in the fall of the same calendar year, after a new fiscal year begins in July.

The original purpose of the Spending Reserve law stemmed from the fact that revenues from personal property taxes, which are assessed on a calendar

year basis, typically come in to a district in two unequal settlements: the smaller one in spring and the larger one in the fall. Spending Reserve borrowing began in 1986, when the legislature changed the school district fiscal year to coincide with the state's fiscal year, July to June. Spending Reserve borrowing was created to smooth the transition to the new fiscal year, especially for those districts that received a large portion of their operating revenues from the fall settlement of the personal property tax. The original Spending Reserve statute had a time line for phase-out, but that was later repealed. The Spending Reserve now seems to be on the books permanently. State controls on use of the Spending Reserve are much less stringent than they are for the use of the ESA.

DISTRICTS THAT BORROW VS. DISTRICTS THAT DO NOT

The first question of interest for this study was whether districts that borrow to balance their operating budgets exhibit different characteristics than districts that do not borrow. Of special interest were characteristics that translate into factors commonly used in the state subsidy formula, eg. relative wealth, size, effort, and educational need.

DATA

The study used data obtained from the Ohio Department of Education on all 611 Ohio K-12 school districts. The original set of 26 predictor variables included measurements of various components of local property tax base, local income wealth, local effort, local revenue, revenue from state aid, spending, and student characteristics. For each of the variables, values were obtained at two points in time, before and after 1990. Data on each district's borrowing history included a) the number of years Spending Reserve

approval was obtained in 1986 through 1989; b) years of Spending Reserve approval in 1990 through 1993; c) the number of years of borrowing through the ESA in 1979 through 1989; and d) the number of years of ESA borrowing in 1990 through 1993.

DATA ANALYSIS

Discriminant analysis was used to determine whether or not the 26 predictor variables could differentiate between districts that borrowed and those that did not.

Group 1 was made up of districts that did not borrow during the time period.

Group 2 was made up of districts that used either the ESA, the Spending Reserve,[7] or both, at least once during the time period.

Since a number of the variables were intercorrelated--for example, assessed valuation per pupil was highly correlated with real property tax revenues per pupil--variables with the greatest discriminating power were retained, and variables that were redundant were eliminated, using stepwise entry of variables. The final model was based on 8 variables: INC, average income; TADM, total enrollment; ADMCHG, change in enrollment; DROP, dropout rate; EM1, millage on residential and agricultural property; PRSPP, business personal property tax revenues per pupil; TSAL, average teacher salary; and PUPADM, the ratio of students to administrators (see Exhibit 1).

Two discriminant analyses were performed. The first analysis used the before-1990 values of the variables, and the groups were determined by whether or not districts borrowed at least once in FY1979 through FY1989. The second analysis used the 1990-and-after values of the predictor variables, and the

groups were determined by whether or not districts borrowed at least once in FY1990 through FY1993. Results of these discriminant analyses are shown in Table 1.

FINDINGS

As Table 1 shows, the function derived from the before-1990 data produced a canonical correlation of .2421 (1.0 is the maximum possible canonical correlation), with the groups explaining only 5.9% of the variance (.2421 squared = .059).[8] The function derived from the 1990-and-after data produced a canonical correlation of .2363, with the groups explaining only 5.6% of the variance. The Eigenvalues associated with the functions were quite small, .0623 and .0591, indicating that the model achieved a very modest level of success in discriminating between the groups. The centroids, which are the group means on the functions, are not far apart; only about one-half of one standard deviation separates the two groups in each of the time periods. (see Table 1).

Thus, discriminant analysis using variables like those normally factored into the school finance formula simply was not very successful in separating the borrowers from the non-borrowers. That is, the data do not support the notion that relative poverty of the tax base or educational need of the students caused districts to borrow. The amount of local control enjoyed by Ohio school districts over their budgets and their negotiated agreements with employees, as well as their local political traditions and attitudes about deficit spending, and perhaps the sophistication of their financial managers, were probably more important than the relative wealth or poverty of either their students or their property tax base.

USE OF THE SPENDING RESERVE AND ESA

Table 2 shows that 146 districts, or about 24% of Ohio's 611 K-12 school districts have obtained ESA loans at least once since 1979. Of those, 90, or 62% were in ESA only one year. Only 26 districts have gone through the ESA process three years or more, and 22 of the 26 have been subject to state monitoring.[9]

Table 2 also shows that since FY 1986, 322 districts, or about half of all Ohio K-12 school districts, have obtained approval to use the Spending Reserve borrowing authority. Of those, 113, or 35%, obtained Spending Reserve approval for only one year, and another 66, or 20% obtained approval for two years. About 44% of those obtaining Spending Reserve authority did so for 3 or more years, and 47 districts obtained Spending Reserve authority for six or more years. Of those 47, 21 have also used the ESA program in one or more years.

There could be many reasons for the discriminant analysis' failure to differentiate between districts that borrow and districts that do not. One reason might be that the wrong predictor variables were selected. Another reason might be that different districts use ESA and the Spending Reserve for different purposes. Some of the categories of usage might be the following:

Hedge against uncertainty. Not all districts that obtain borrowing authority actually use it. Ohio law requires that school boards pass an appropriations resolution in October, and appropriations must not exceed projected revenues. Districts may use projected proceeds from borrowing to balance their October resolutions. However, if expenditures are less than anticipated, if a levy passes, or if revenues are otherwise higher than projected, the borrowing authority is not needed and is not used.

Transition. The majority of districts who have used ESA or Spending Reserve have used it only once or twice. Presumably this borrowing authority has helped them make a transition through a tight financial period to a better financial or political time, when, for example, they were able to pass a millage levy. Seventy-nine districts obtained Spending Reserve authority in fiscal years 1986-89, but not after that. They presumably used the Spending Reserve to help smooth the transition to the new fiscal year.

Routine. A few districts have routinely obtained Spending Reserve authority, but have not used ESA. Presumably they are unable or unwilling to increase the local property tax to get out of continually borrowing from next year's revenues, but they are not so fiscally stressed as to have to use the ESA process.

Chronic Fiscal Stress. A few districts have been in both the Spending Reserve and the ESA programs for multiple years. These districts seem to have chronic fiscal problems. Despite being subject to tight state controls on their spending, these chronically-stressed districts continue to struggle financially. Borrowing costs may be consuming a large portion of their educational dollars, and no long-term solution is in sight. In perhaps the most extreme case, one district in northeast Ohio has been in the ESA and state monitoring programs seven out of the last 16 years and obtained Spending Reserve authority all eight years that it was available. In fiscal 1991, 12.6% of this district's total receipts and beginning cash balances came from borrowing, and 11.9% of the district's expenditures went for repaying loans and interest. In fiscal 1992, 16.4% of funds came from borrowing, and 17.9% of the district's expenditures were given over to repayment of debt.[10]

EFFECT OF A POLICY CHANGE

The Spending Reserve was originally enacted for the purpose of helping districts make a transition to a new fiscal year. However, once that transition was made, school administrators asked the legislature to allow them to continue to use the Spending Reserve, and the legislature agreed. The second research question of interest was whether there was a difference in the characteristics of districts that used the Spending Reserve before 1990 and those that began using in 1990 or after. For example, districts that used the Spending Reserve before 1990 but not after 1990 might have used it only to make the transition to the new fiscal year. However, when the phase-out section of that law was repealed in 1989, some districts may have begun using or continued to use the Spending Reserve for other reasons; ie. to avoid or delay an increase in local taxes, or to avoid or delay using the ESA program.

Earlier Ohio studies by Lee, Smith, and Berny[11] analyzed characteristics of districts that were "fiscally stressed," as indicated by use of the ESA. These studies were conducted before the enactment of the Spending Reserve provision. Both Lee and Smith were interested in finding statistical indicators that could assist local school administrators to anticipate financial difficulties in time to take steps to avoid them. Like the present study, Berny's research was aimed at improving state school finance policy, but he analyzed data only from the rural districts. His indicator of fiscal stress was whether or not the district closed down (before the passage of the ESA laws).

The present study began with the assumption that fiscal stress, defined as insufficient tax base to meet educational needs, might be a cause of borrowing, but perhaps not the only one. Fiscal stress probably is a cause of

ESA borrowing. Districts generally avoid using the ESA if they can, because of the stringent state oversight and the negative publicity that often results. Thus if a district uses ESA, it has exhausted other options.

Fiscal stress probably was not a cause of Spending Reserve borrowing for those districts that used it before 1990 to make the transition to the new fiscal year. However, reasons for using the Spending Reserve probably changed, once the fiscal year transition was complete.

Some have argued that borrowing, especially ESA borrowing, indicates an inadequate or unequal state funding system.[12] They argue that districts that are poor in terms of tax base and/or have high-needs students, but are not sufficiently supported through the state aid formula, end up borrowing to balance their budgets. If, in addition to the ESA, the Spending Reserve is also being used to balance the budgets of fiscally stressed districts, it would represent a change in the purpose of the Spending Reserve, and further state oversight might be warranted. If use of the Spending Reserve is related to factors that are represented in the school funding formula; ie. property tax base or student needs, then perhaps the formula needs adjustment. On the other hand, if the Spending Reserve is used by districts that are not fiscally stressed, no particular policy concern is warranted. It may be that Spending Reserve is simply a tool for managing cash flow for better use of tax dollars.

DATA ANALYSIS

Discriminant analysis was used to determine the characteristics of school districts that used the Spending Reserve before 1990 vs. those that began using the Spending Reserve in 1990 and after. Use of the Spending Reserve means that the district obtained state department of education

permission to borrow, and that the district's budget included the Spending Reserve in its estimates of revenues. It does not necessarily mean that the district actually borrowed under this provision.[13] Two groups of districts were selected for analysis.

Group 1 consisted of the districts that used the Spending Reserve at least once before 1990, but did not use it in 1990 or after;

Group 2 was made up of the districts that first began using the Spending Reserve in 1990 or after.

Unlike the analysis of borrowers vs. non-borrowers described in the preceding section, in this analysis, the two borrowing programs were separated. Spending Reserve usage determined the groups (analogous to the dependent variable), while measures of ESA usage (ESAB90 and ESA90A in Exhibit 1) were predictor variables (analogous to independent variables) representing fiscal stress.

Group 1 contained 79 districts and Group 2 contained 124. Only about one-third of all districts were included in the analysis, because the purpose was to learn whether and how usage of the Spending Reserve changed after 1990. In order to insure that the "before" and "after" groups were as distinct as possible, 289 districts that never used the Spending Reserve were eliminated from the analysis, as were 119 districts that used Spending Reserve both before and after 1990.

The discriminant analysis used stepwise entry of variables to determine whether or not the 26 predictor variables could be used to differentiate the two groups. Variables with the greatest discriminating power were retained, and variables that were redundant were eliminated. The final model was based on 6 variables: STAPC, percent of operating revenues from state sources;

TSAL, average teachers' salary; PRSPP, per pupil revenue from business personal property tax; DROP, dropout rate; ESAB90, number of years using ESA before 1990; and ESA90A, number of years using ESA in 1990 and after (see Exhibit 1).

A number of kinds of variables were not useful in distinguishing between the two groups; size of the district, tax effort (millage), personal income, enrollment growth or decline, and real property tax base had little or no discriminating power.

FINDINGS: SPENDING RESERVE BEFORE AND AFTER 1990

Two discriminant functions were derived; one using pre-1990 values of the six predictor variables; one using post-1990 values. The two groups, 1) users of Spending Reserve before 1990, and 2) users of Spending Reserve in 1990 and after, were the same for both analyses. The results of the two discriminant analyses are shown in Table 3. This model again achieved only modest results, although it was more successful than the model described in the previous section, which attempted to discriminate all borrowers from all non-borrowers. As Table 3 shows, the Eigenvalues were small, and the model explained 11.5 percent (before 1990) and 10.8 percent (1990 and after) of the variance between the groups.

The standardized canonical discriminant function coefficients and group centroids are shown in Table 4. Use of the ESA borrowing program was the best predictor of use of the Spending Reserve. Group 1, districts using Spending Reserve before 1990, were more likely to have used ESA before 1990 than Group 2 districts. Group 2, districts using Spending Reserve 1990 and

after, were more likely to have used ESA in 1990 and after than Group 1 districts.

Group 1 districts were less dependent on state aid (STAPC), had lower dropout rates (DROP), received more dollars per pupil from business personal property taxes (PRSPP), and had higher average teacher salaries (TSAL). Thus, users of the Spending Reserve before 1990 were wealthy, had few at-risk students, and spent more, relative to those districts that would use the Spending Reserve in 1990 and after. In the function derived from the 1990-and-after data, teacher salary (TSAL) and dropout rate (DROP) were less important factors, while revenues from business personal property taxes (PRSPP) and reliance on state aid (STAPC) were more important. Group 2, the districts using Spending Reserve 1990 and after, had lower personal property revenues per pupil and were more reliant on state aid than Group 1 districts.

In the classification step of the discriminant analysis, prior probability of group membership was set to equal the proportions of cases actually falling into each group--39% in Group 1 and 61% in Group 2. The discriminant function derived from before-1990 data correctly classified 66% of the districts, and the discriminant function derived from 1990-and-after data correctly classified 64%. The largest errors occurred in erroneous placement of districts into Group 2, Spending Reserve use 1990 and after, when they in fact belonged in Group 1. This suggests that Group 1 contained some districts with relatively low property wealth, relative low salaries and relatively high dropout rates, and some that used ESA in 1990 and after.

THE SPENDING RESERVE AND FISCAL STRESS

Most of the Ohio districts that used the Spending Reserve before 1990 (Group 1) were not fiscally stressed. A simple crosstabs analysis shows that 18 of the 79 districts in Group 1, or about 23%, also used the ESA. If use of ESA indicates fiscal stress, 77% of Group 1 were not fiscally stressed. In fact, they tended to have a wealthy tax base, as measured by business personal property tax revenues; and high levels of spending, as measured by average teacher salary; as well as low drop out rates, when compared to districts that began using the Spending Reserve in 1990 or after. That is, the data do not support the notion that relative poverty of the tax base, nor pressures to spend from many at-risk students, were the causes of Spending Reserve use before 1990. Since these are the kinds of factors that are used in calculating the state subsidy formula, it appears that the state aid formula, and its flaws, were not a major contributor to Spending Reserve use before 1990.

Once again, local control and local management decisions were probably more important than the relative wealth or poverty of the property tax base or the educational needs of the students. Also, many districts using the Spending Reserve before 1990 probably restricted its use to the original legislative intent: to help smooth the transition to a new fiscal year.

Eighty-four, or 68%, of the 124 school districts who began using the Spending Reserve after 1990 (Group 2) have yet to use ESA, compared to 77% of Group 1 districts. By that definition, more Group 2 districts were fiscally stressed than were Group 1 districts. Still, only one-third of Group 2 districts were ever fiscally stressed, as indicated by use of ESA.

THE SPENDING RESERVE AND STATE SUBSIDIES

However, districts that began using the Spending Reserve after 1990 had different characteristics than school districts who had used it before 1990. In 1990 and after, the extent to which the district relied on state aid became more important. This variable, STAPC, or percent of revenue from state sources, reflects both a relatively poor property tax base, which would qualify the district for more state equalization aid, and a student population with high needs, which would qualify the district for additional categorical aid. It also reflects tax effort, which is a determinant of local revenue. This is probably why the millage variables were not powerful enough to remain in the discriminant model.

In the 1990-and-after data, STAPC is a stronger predictor variable (see Table 4). One of the reasons for this may be that from fiscal years 1986 through 1990, state aid in Ohio increased an average of 5.9% per year. But from fiscal 1990 through 1993, state aid increased an average of only 2.6% per year. Thus districts that were most dependent on state aid felt more of a financial squeeze after 1990.[14] The data in Table 5 illustrate an inverse relationship between the number of districts using ESA or the Spending Reserve and the increase in state aid. FY1992 was the year when state aid was cut, and also the year when the highest number of districts used the borrowing programs.

Districts using the Spending Reserve are required to have business personal property revenues against which to borrow, and Group 1 had relatively high personal property revenues. However, a comparison of the coefficients in Table 4 shows that business personal property revenues (PRSPP) were more important in 1990 and after than they were before 1990, but Group 2 had <u>lower</u>

personal property revenues than Group 1. This finding supports the hypothesis that most of the districts using the Spending Reserve before 1990 were using it to smooth out their incoming cash, while districts that began using the Spending Reserve in 1990 and after were using it because of insufficient revenues.

DOES BORROWING LEAD TO MORE BORROWING?

There is some evidence that once a district borrows it may be likely to continue to borrow. The coefficients in Table 4 for ESAB90, use of the ESA borrowing program before 1990, and for ESA90A, use of the ESA in 1990 and after, were the strongest discriminating variables in both analyses and the most important for discriminating between the districts that borrowed through the Spending Reserve and those that did not.

Simple crosstabs analysis of all 611 Ohio districts showed that districts using the Spending Reserve before 1990 were twice as likely as others to use the Spending Reserve after 1990 and twice as likely to use the after 1990. If a district used either the ESA or Spending Reserve once, the probability of using one of them again was .69. If a district used the ESA or Spending Reserve twice, the probability of using them again was .72. Thus past borrowing may lead to future borrowing, and the Ohio Department of Education is probably justified in monitoring closely the districts that use the borrowing provisions.

POLICY IMPLICATIONS

The major policy implication of this study is that in years when the state does not increase subsidies to school districts, those districts that

most depend on state revenues are likely to borrow. The Spending Reserve has created a means for Ohio districts to balance their budgets with fewer spending cuts, if they have business personal property taxes against which to borrow. Thus, the Spending Reserve buys time for both the state and the local district until the political and/or economic conditions permit an increase in revenues. But the potential is there for financial crisis if neither revenue increases nor spending cuts can be realized. Since the Spending Reserve districts are not subject to as much state oversight as the ESA districts, the financial crisis may be hard to predict or prevent. The state education department should probably consider monitoring Spending Reserve districts more closely.

About 40% of all Ohio K-12 school districts have never used the spending reserve or ESA provisions of law that allow them to borrow over the end of the fiscal year. Half of the districts that have used ESA or the spending reserve have used them only once or twice, as a hedge against uncertainty or as a tool to make a transition to better financial and political times. For the most part, these relatively new borrowing provisions seem to be providing needed flexibility to some Ohio school districts, who occasionally use these tools to stabilize their finances so that they can maintain an acceptable level of educational programs.

However, there are some troubling signs. First, there are a few districts that are chronically fiscally stressed, who are being carried along by borrowing across fiscal years. Included in this group of districts are the urban districts of Cleveland, Cincinnati, Dayton, and Warren, but also included are some suburban and rural districts. The numbers of districts are small, but since some of them have large enrollments, a significant number of

students could be affected. Twenty-eight districts met one or more of these criteria:

1. used both ESA and the Spending Reserve both before and after 1990 (17 districts);
2. used ESA four or more years (nine percent of districts that have used ESA);
3. used ESA and Spending Reserve a total of nine or more times (five percent of districts that used either).

The governor proposed and the legislature appropriated some special "equity" funds to very low wealth districts beginning in fiscal 1993. Of these 28 districts with chronic fiscal stress, 17 did not qualify for the equity funds in FY1993 and four more received less than $100,000 from this source. Only five of the 28 districts received more equity funds in FY1993 than they borrowed through the ESA program in that year. Thus, very few of the chronically stressed districts are likely to be helped by the equity funds. This study's findings would suggest that the reason the equity fund does not help the chronically stressed districts very much is because fiscal stress is not caused by low wealth.

It seems likely that the costs of borrowing are robbing from instructional expenditures in some of these districts. If so, policies to provide additional subsidy, to consolidate, or otherwise to reorganize such districts should be considered. Urban districts probably require special financial policies, and it may be time for Ohio to re-examine those policies as well.

A second sign of possible trouble is that the use of the spending reserve and ESA seems to be increasing. As Table 5 shows, use of both the

Spending Reserve and the ESA has increased since 1990. In addition, several districts have borrowed very large amounts through the extended payback option of the ESA. Cleveland is currently paying back $90.6 million in principal and interest over six years, borrowed through the ESA; Cincinnati is paying back $96 million. Their operating budgets are about $400 million per year.

Finally, in 1994 Ohio's governor appointed a blue ribbon commission to study changes in the state's tax structure. Changing or eliminating the business personal property tax could be one of the commission's recommendations. If the personal property tax is changed, changes in the Spending Reserve law will be necessary. Data on its usage will be valuable as those policy decisions are made.

FURTHER RESEARCH

A number of avenues for further research are evident. One set of investigations could involve trying to develop a means of categorizing districts into the reasons for borrowing hypothesized in this paper: hedge against uncertainty, transition, routine, or chronically fiscally stressed. Case studies of individual districts might be done to determine whether there is a progression from modest to more extensive borrowing, and if so, what some of the causes might be. Other questions requiring data from individual district financial records are: a) have interest costs been growing as a portion of district budgets; b) is there any impact on collective bargaining when the Spending Reserve is first included in the district's estimated revenues; and c) when do borrowing costs become so burdensome that further state intervention might be warranted?

An obvious area for further research is a comparison of Ohio's laws regarding balanced budgets with those of other states. This comparison seems key to any analysis aimed at developing best state policy of oversight of financially troubled districts.

EXHIBIT 1

PREDICTOR VARIABLES

ADMCHG, change in average daily membership. In the before-1990 data, ADMCHG measures the district's enrollment change between FY1981 and FY1988. In the 1990-and-after data, it measures enrollment change from FY86 to FY93. Enrollment decline has been found to lead to financial stress in a number of previous studies.[15]

DROP, dropout rate. Ohio calculates the dropout rate by dividing the number of dropouts in a year by that year's enrollment in grades 7 through 12. DROP as a measure of student at-riskness was a better predictor than the percent of enrollment coming from ADC families.

EM1, effective millage on class 1 property. Class 1 property is residential and agricultural, excluding rental property. Effective millage is calculated by dividing taxes charged and payable by the total assessed valuation for this class.

ESAB90, number of years using ESA before 1990. ESAB90 is a count of the years that actual borrowing, not just approval, occurred.

ESA90A, number of years using ESA in 1990 and after. ESA90A is also the number of years of actual borrowing.

INC, average income per state personal income tax return. Personal income is a measure of wealth, the district's financial ability to support educational programs.

EXHIBIT 1, continued

PRSPP, revenue from business personal property tax, per pupil. Business tax base is the portion of the property tax base that tends to make the difference between the poor and the rich districts in Ohio.[16] This measure was chosen, because in order to use the Spending Reserve, districts must have sufficient personal property tax revenues against which to borrow.

PUPADM, pupil-administrator ratio. The ratio of pupils to administrators is a measure of spending level. The higher the ratio, the lower the relative spending for administration.

STAPC, percent of operating revenues from state sources. This is primarily a measure of wealth; the higher the wealth, the lower the STAPC. However, this measure also reflects the proportion of high-need students in a district, since more state categorical aid is given for them. Conceptually, it is distinct from wealth, in that it indicates a vulnerability to state aid changes from year to year.

TADM, total average daily membership. Ohio uses ADM as its measure of enrollment for state subsidy purposes. This is a measure of the district's size.

TSAL, average teacher salary. Previous studies have found personnel costs to be more closely related to borrowing than other measures of spending.[17]

****

Table 1
RESULTS OF DISCRIMINANT ANALYSES
BORROWERS VS. NON-BORROWERS

	Eigen-value	Canonical correlation	Percent of Total Variance
FIRST DISCRIMINANT ANALYSIS BORROWING BEFORE 1990	.0623	.2421	5.9%
SECOND DISCRIMINANT ANALYSIS BORROWING 1990 AND AFTER	.0591	.2363	5.6%

****

Group Centroids	Before 1990	1990 and After
Group 1 no borrowing	-.19815	-.21138
Group 2 used ESA and/or SR	.31318	.27886

Table 2
NUMBER OF DISTRICTS IN SPENDING RESERVE AND ESA PROGRAMS
BY NUMBER OF YEARS IN PROGRAMS

N of Years	1	2	3	4	5	6	7	8	Total
Borrowed Through ESA 1979-1983	90	30	13	8	1	1	3	0	146
Monitored by State	3	16	7	8	5	1	1	0	41
Spending Reserve Approved 1986-1993	113	66	49	34	13	14	18	15	322

SOURCE: Ohio Department of Education

Table 3
RESULTS OF DISCRIMINANT ANALYSES
SPENDING RESERVE USERS, BEFORE AND AFTER 1990

Eigen-value	Canonical correlation	Percent of Total Variance
FIRST DISCRIMINANT ANALYSIS BEFORE 1990 DATA		
.1294	.3384	11.5%
SECOND DISCRIMINANT ANALYSIS 1990 AND AFTER DATA		
.1209	.3285	10.8%

****

Table 4
STANDARDIZED CANONICAL DISCRIMINANT COEFFICIENTS AND GROUP CENTROIDS SPENDING RESERVE USERS, BEFORE AND AFTER 1990

	Before 1990	1990 and After
Standardized Coefficients		
ESAB90	.61133	.60465
ESA90A	-.56320	-.47448
TSAL	.55800	.29726
DROP	-.42204	-.09234
PRSPP	.16318	.27082
STAPC	-.06039	-.36710
Group Centroids		
Group 1 SR before 1990	.44839	.43629
Group 2 SR 1990 and after	-.28567	-.27444

Table 5

NUMBERS OF DISTRICTS USING THE EMERGENCY SCHOOL ADVANCEMENT LOAN PROGRAM AND THE SPENDING RESERVE, BY FISCAL YEAR, 1986-1993

YEAR	--------NUMBER OF DISTRICTS*--------		
	ESA Obtained Loans	Spending Reserve Approved	Percent increase (decrease) in state aid
FY 86**	8	129	9.4
FY 87	10	114	10.3
FY 88	20	86	2.8
FY 89	19	102	3.1
FY 90***	29	121	5.7
FY 91	26	129	3.8
FY 92	44	151	(0.3)
FY 93	27	125	4.1

* Some of the districts in this table are vocational or county districts.

** Transition year. FY 86 was only six months long.

*** Change in ESA to borrow from private lenders, not state.

Sources: Ohio Department of Education, internal documents, June 18, 1993, and July 1993.

NOTES

1. James D. Savage. Balanced Budgets and American Politics. (Ithaca, NY: Cornell University Press, 1988).

2. Cliff Hoffman, "When the Budget Numbers Don't Add Up," Education Week, 20 January, 1993, 24.

3. "More Illinois Districts Close to Financial Trouble," Education Week, 2 March 1994, p.4.

4. Ohio Department of Education. "Emergency School Advancement Loan Quarterly Report" (Columbus, 30 June 1993, photocopy).

5. See Carla Edlefson, "Borrowing Behavior in Ohio School Districts: On the Road to Deficit Financing?"(College of Education, Ohio State University, Columbus, September 1993, photocopy).

6. Walter G. Hack, Carla Edlefson, & Rodney T. Ogawa, "Fiscal Accountability: The Challenge of Formulating Responsive Policy," In K. Forbis Jordan & Nelda Cambron-McCabe (Eds.), Perspectives in State School Support Programs. (Cambridge, MA: Ballinger, 1981), 251-279.

7. A limitation of this study is that the data do not separate districts that obtained Spending Reserve authority, but never actually needed to borrow the money, from those districts that actually borrowed. However, Ohio Department of Education officials believe that the greatest majority of districts that obtained the authority did use it. Data that do make this separation possible will be collected for future analysis.

8. William R. Klecka, "Discriminant Analysis," In Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, & Dale H. Bent (Eds.), Statistical Package for the Social Sciences, Second Edition. (New York, McGraw-Hill, 1975) p. 442.

9. If the amount of an ESA loan is greater than 7% of the district's general operating fund, and the district has had a previous ESA loan, the district must be subject to monitoring by the state department of education. This monitoring includes state approval of every contract, appropriation, and spending plan for three years.

10. Source: Forms SM-1 submitted to the Ohio Department of Education, January 1992 and January 1993.

11. Robert A. Lee, "Financial and Staffing Ratio Analysis: Predicting Financial Distress in School Districts," Journal of Education Finance 9, (fall 1983): 256-263; Curtis A. Smith, "Forecasting school district fiscal health" (Ph.D. diss., Ohio State University, 1985), abstract in Dissertation Abstracts International, 46 (1986): 2884A; Charles A. Berny, "Selected Variables as Discriminators Between Financially Troubled and Non-Troubled Rural Ohio School Districts," Journal of Education Finance 7, (spring 1982): 473-483.

12. See, for example, William L. Phillis, "Testimony before the House Finance Committee, Patrick Sweeney, Chairman" (Ohio Department of Education, Columbus, March 19, 1991, photocopy).

13. Because the variables measuring Spending Reserve use include some districts that obtained borrowing authority but did not actually borrow, the results of the study may be slightly biased toward the finding that districts using the Spending Reserve were not fiscally stressed. However, it is likely that the great majority of districts did borrow.

14. Data obtained from Ohio Department of Education.

15. For example, see Todd E. Easton, "Enrollment Changes and School Finance," Journal of Education Finance 19 (summer 1993): 69-80; James G. Cibulka, "Response to Enrollment Loss and Financial Decline In Urban School Systems," Peabody Journal of Education 60, no.2 (winter 1982): 64-78.

16. See for example Howard B. Fleeter, "Equity, Adequacy, and Reliability in Ohio Education Finance: Research Report Submitted to the Governor's Education Management Council" (School of Public Policy and Management, Ohio State University, Columbus, November 1992, photocopy), 18-21.

17. See Lee, 1983.