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ABSTRACT

This report examines the relative merits of three types of bonds available in Pennsylvania for financing school buildings. These types are: (1) general obligation (GO) -- issued by the school board with or without the assent of electors, (2) municipal authorities created by local municipalities -- authorized to issue bonds to finance building projects, and (3) bonds issued by the State Public School Building Authority (SPSBA). According to the report, under certain conditions such as high financial rating, low debt service, and favorable voter approval, the GO bond usually bears a slightly lower interest rate than the authority bonds. When the financial rating of the school district is poor, the use of SPSBA bonds would probably, according to the author, save the district interest. Costs of some actual issues of the three types of bonds are compared. (JF)

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Financing Pennsylvania School Buildings

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Summary of Financing
Pennsylvania School Buildings

The question of whether general obligation bonds are less expensive than authority bonds is a complex problem. Under certain conditions such as a high financial rating, low debt service and favorable voter approval, the GO bond usually bears a slightly lower interest rate than authority bonds. When the financial rating of the school district is poor, the use of State Public School Building Authority bonds would probably save the district interest.

The bond issues in the school construction report were used to compare the cost of the three types of bonds. The dates of the five GO bonds were used to identify local authority and SPSBA bonds. Only one date was identical with the local authority and near the date of the SPSBA issues. In this instance, the financial ratings were all comparatively high, although the GO issue was one financial rating step lower than the local authority issue. The evidence indicates that the GO bond issue would be slightly less expensive than the local authority if both were rated the same.

Each of the three types of financing has an advantage under certain conditions. A complete analysis of each school district's financial rating, debt service, tax structure, and long-range building requirements would be necessary before a decision could be made on the type of financing which would be most advantageous. This is an area where the Bureau of School Construction could render valuable advice if school districts were required to consult this bureau before the preliminary plans are developed.

One hundred and twenty-seven school districts have GO bonding capacity with approval of the electorate of $4,500,000 or higher as of July 1, 1970. Twenty-five bond issues have recently been refunded at a lower interest rate with an average savings of 14.69 per cent of the original bond issue.

Types of Bonds Used to Finance School Buildings

A decision facing most school districts is one of determining the type of financing most beneficial to use in financing school building projects.

Choices open to school districts for issuing bonds are the use of:

1. General obligation bonds which are issued by a vote of the school board with and without the assent of the electors in accordance with limitations provided.
2. Municipal authorities which are created by local municipalities or the school board and are authorized to issue bonds to finance building projects. The authority leases the building to the school district.
3. State Public School Building Authority which is an authority created by the legislature with the authority to construct, improve, maintain and operate buildings for public school and educational broadcasting facilities and furnishing and equipping the same for use as a part of the public school system of Pennsylvania. The SPSBA is also authorized to construct, improve, maintain and operate community college buildings.

Legal Provisions for Issuing Bonds

General Obligation Bonds

Section 632[1] The board of school directors of any school district of the first, first class A, second, third or fourth class, without the

[1] School Laws of Pennsylvania, January 1971

assent of the electors, may issue bonds on its own authority in an amount not to exceed five per cent of the last assessed valuation of property taxable for school purposes.

Section 2967[1] The debt of a school district may be authorized to be increased by the school board, by issuing general obligation bonds, with the assent of a majority of the electors voting on the question submitted at a public election held in the municipality, to an amount not exceeding 15 per cent of the assessed valuation.

Sinking fund balances of bond issues and outstanding taxes are deducted when arriving at the five or 15 per cent figure.

Section 3186[1] Municipal authorities were authorized by the legislature for the purpose of acquiring, holding, constructing, improving, maintaining and operating, owning and leasing either as a lessor or lessee projects of the following kind and character, buildings to be devoted wholly or partially for public uses, including public school buildings, and for revenue producing purposes a great variety of other facilities.

An authority created by a school district or school districts has only the power to acquire, hold, construct, improve, maintain, operate and lease public school buildings and other school projects acquired, constructed or improved for public school purposes.

Municipal authorities are limited to issuing bonds with a maximum maturity date not longer than 40 years from the date of issue. The bonds are series bonds with or without coupons, interest not to exceed six per cent payable annually.

[1]School Laws of Pennsylvania, January 1971

On October 19, 1969 the legislature enacted Act 101 which authorized an interest rate not to exceed seven per cent on all bonds issued by authorities and school districts. Act 165 in 1970 removed the statutory interest limit on all bonds issued by authorities and school districts until June 30, 1971. Act 24 in 1971 extended this provision until June 30, 1972.

Cost Comparison of Three Types of Bonds

Many factors affect the cost of issuing a GO bond by the school board, a municipal bond by a municipal or local school authority or an authority bond by the SPSBA.

The financial rating of the bonds by Moody's Investment Service or Standard and Poor's will affect the interest rate. In the case of GO bonds and municipal authorities the financial condition including the debt service, assessed value, tax rates, state aid and other such factors of the school district involved will affect the rating given the bonds.

The SPSBA bonds are rated by Standard and Poor's. All the districts participating in a particular issue are combined for the analysis. In addition, the experience of the SPSBA in paying off all bonds on schedule has been excellent and this results in a more favorable rating.

Other factors influencing the rate of interest are the size of the bond issue, the date of the bond bid, the current market conditions such as a period of rising or falling interest generally, and the number of issues being offered on a given date. A nationally known bond will receive a lower interest rate than a bond issue not well known. The tax exempt provision for public bond issues also produces a lower interest rate.

In comparing the last of the three types of bond issues, an attempt was made to locate bond issues with the same rating, the same date and the same amount.

Bond counsel from a national firm indicated that the date of the issue had more influence than the size of a bond issue which exceeded $1,000,000. A review of the bonds issued by the three methods was made to locate bond issues which could be compared.

The small number of GO bonds (five) limited the comparison to those dates. Identical dates were found for a GO bond issue of $2,750,000 and a municipal authority bond issue of $4,890,000 bid on December 1, 1969.

No SPSBA bonds were bid on that date. The nearest dates were November 18, 1969, and March 17, 1970. Net interest rates of the three types of bonds are compared in the following table:

TABLE I

Type of Bond Issue	Net Interest Rate	Date of Bid	Amount of Bond	Number of Years	Rating	By
GO	6.379	12-1-69	$ 2,750,000	20	Baa	Moody
Local Authority	6.361	12-1-69	4,890,000	20	A-1	Moody
SPSBA	6.997 and6.996	11-18-69	52,680,000	38	AA	Standard and Poor's
SPSBA	6.838	3-17-70	29,855,000	38	AA	Standard and Poor's

The average Dow Jones bond indexes for 40 bonds for the dates of the bond issues were as follows:

November 18, 1969	70.57 + .04
December 1, 1969	69.55 - .09
March 17, 1970	69.53 + .20

This indicates a slight variation in the bond market. Since the bond market was fairly stable, either the added length of the bond issue, the greater amounts of the bond issue or the fact that it was an SPSBA issue was a factor in the higher interest rate.

It is a known fact that the longer a bond is issued, the higher the interest rate. The SPSBA bonds in Table I are for 38 years; thus, this greatly accounts for a higher interest rate of those bonds. The AA Standard and Poor's rating for the SPSBA bonds indicates a high financial rating and is at least comparable to the "A" Moody rating so the rating should have not adversely affected the SPSBA bonds.

The Moody investment service indicated the average yield for the week of July 15, 1971, for municipal bonds for the various ratings was:

Rating	Per Cent of Yield
Aaa	5.70
Aa	5.85
A	6.20
Baa	6.60

This would indicate that a higher rated bond resulted in a savings in interest. Only five GO bond issues were available for comparison. However, one can conclude that on December 1, 1969, a GO bond issue of a district with a good credit rating of one grade lower had almost the same net interest as local authority bonds with one rating higher and less net interest than SPSBA bonds with two ratings higher.

The SPSBA recommends to local school districts with good credit rating and sufficient bonding capacity that they use GO bonds since those districts can obtain lower interest rates on a given date for GO bonds.

Under existing conditions where the type of financing is largely by local authority or SPSBA, a school district which has sufficient borrowing capacity and a high financial rating can save money by using GO bonds instead of authority bonds. Savings in using GO bonds are as follows:

1. GO bonds do not require the establishment and operation of a new organization to issue the bonds. The school board authorizes the issues and the trustee (bank) handles the sinking fund and pays the bond holders for the coupons and the face amount at maturity. Usually interest is earned on the sinking fund which further reduces the cost.
2. A lower net interest rate is usually bid on GO bonds than on authority bonds when the credit rating of the school district is relatively high.
3. Usually shorter terms are established for GO bonds which save interest.
4. There are added costs to authority-type bonds which are not applicable to GO bonds.

SPSBA bonds provide a valuable method of financing school buildings for certain school districts. Provisions of SPSBA bonds are:

1. Local school districts may elect the length of the bond issue up to a maximum of 40 years. This provides flexibility in selecting the length of the bond issue. Different maturing dates can be bid in the same SPSBA issue.

2. The intermingling of all districts participating in an SPSBA bond issue results in a higher bond rating than if the less financially able districts were rated separately. To date no less than an "AA" Standard and Poor's rating has been assigned to SPSBA bonds.

3. An added cost to SPSBA bonds is the extra charge to local districts of a service fee on a sliding scale:

$1,000,000	–	3 per cent
Next 1,000,000	–	2 and 1/2 per cent
Next 1,000,000	–	2 per cent
Additional Amount	–	1/2 of 1 per cent

This amount is a one time charge when the issue is bid. The following services are provided by the SPSBA for this charge:

a. Field inspectors are assigned which eliminates the need for a local clerk of the works on a building project.

b. All payments to the contractors are made.

c. Bids are received for all the prime contracts. These costs are capitalized in the cost of the project.

d. Specifications and bids for furniture and equipment are written. Bids are reviewed with representatives of the local school districts.

e. Upon completion of the project, the chief inspector checks the building with a local school representative to determine if the building is built according to the specifications. Ten per cent is withheld from all contractors until this approval is given. The SPSBA may and does retire bonds early with the 120 per cent coverage required on their bond issues.

Local authorities have additional administrative costs not shared by GO bonds.

1. A check with the Comptroller's Office, Bureau of School Accounting and State Subsidies, revealed that administrative costs of local authorities range from $100 to $5,000 per year with the most frequent amount being $1,000. This is not reimbursable and represents an added cost plus interest for the life of the bond issue.
2. Local authority issues usually carry the same financial rating as GO bonds would carry. This means that the net interest should be very close on a given date for either type of bond.

General Obligation Capacity of School Districts

The latest financial data available on the GO bonding capacity of all local school districts was that of July 1, 1970.

A computer print-out gave the balance of GO bonding capacity for all Pennsylvania school districts as of July 1, 1970, with the vote of the electorate (15 per cent of assessed value). A total of 127 or 19 per cent of the school districts have sufficient GO bonding capacity to finance school building projects of $4,500,000 or higher. A total of 542 school districts or 81 per cent have less than $4,500,000 GO bonding capacity. These districts must use local authorities or the SPSBA for buildings which cost more than $4,500,000.

The districts with the greatest GO bonding capacity as of July 1, 1970, were as follows:

TABLE II

District	Bonding Capacity
Philadelphia	$330,695,800
Pittsburgh	144,165,000*
Erie	55,594,810
Allentown	36,083,740
Bethlehem Area	29,905,940
Lower Merion	28,738,380
Harrisburg City	23,833,090
Abington	18,805,500

*$50 million unissued GO bonds were authorized in 1966. Their issuance expected to begin in 1971 for a building program.

As of July 1, 1970, 119 districts had a GO bonding capacity of $4.5 million to $16.5 million, which was distributed as follows:

TABLE III

Number of Districts	Bonding Capacity as of July 1, 1970
1	$15,500,000 - $16,499,000
5	14,500,000 - 15,499,000
3	13,500,000 - 14,499,000
8	12,500,000 - 13,499,000
5	11,500,000 - 12,499,000
9	10,500,000 - 11,499,000
10	9,500,000 - 10,499,000
6	8,500,000 - 9,499,000
8	7,500,000 - 8,499,000
14	6,500,000 - 7,499,000
21	5,500,000 - 6,499,000
29	4,500,000 - 5,499,000

Philadelphia is now permitted to issue five per cent of the assessed value with the vote of the school board and 15 per cent of the assessed value with the vote of the electorate under provisions provided in the state constitution in 1968. Pittsburgh had the authority under the Municipal Borrowing Law.

Philadelphia used the SPSBA when the six per cent ceiling interest rate prevented them from receiving bids on GO bonds.

Refinancing Bond Issues

Since the interest rate on municipal authority bonds reached a high of 7 1/2 to 8 per cent when bonds were originally sold, many school districts are refunding bond issues to take advantage of the lower interest rates to save money for the state and local school districts. By this process a savings of one to five years' annual payments may result.

An analysis of 25 reissued bond issues resulted in an amount which represented a 14.69 per cent average savings of the original issue. Some of the bonds were refunded as early as five months later. Table IV reflects the duplicated costs for local counsel, bond counsel and bond discounts (payments to the brokerage house handling the issue which resulted).

The savings result from the lower interest rate and the certificate of deposits which earn interest on the money laid aside for the redemption of the original bonds when they can be redeemed. This usually ranges from five to 10 years.

In all cases the amount of the reissued bond is greater than the original issue. This provides sufficient additional revenue to provide the savings and to cover the overlapping interest payments of the two issues.

If the trustee (banks) would accept the certificates of deposits as collateral, the reissued bonds would not have to be large enough to cover this overlapping interest.

Previous to 1960 the Pennsylvania Department of Education had a bond and local counsel discount schedule with a suggested amount for each. In 1960 the Attorney General's ruling indicated the state authorities had no right to regulate the fees charged. Since that time the rates have risen to the figures in Table IV. Perhaps the present Attorney General could review this ruling and new amounts could be developed which would result in savings to the local districts since such fees are not reimbursable by the state. Such fees are contained in the total issue which is used to calculate the percentage of the lease reimbursable. When the total bond issue is increased to cover these costs, the percentage reimbursable[2] to the local district decreases. Thus, the local school district pays the higher fees originally and receives a slightly less percentage as a result of the higher bond issue required. Over the life of the bond issue these expenses double and triple by the time the bond issue is redeemed.

[2]Total reimbursable cost divided by net bond issue determines per cent of project reimbursable. The annual rental multiplied by this percentage times the aid ratio gives the actual reimbursements.

TABLE IV

INFORMATION ON TWENTY-FIVE REFUNDED SCHOOL BOND ISSUES

I.O. No.	Amount of Bond Issue	Date of Bond Issue	Rate	Term Yrs.	Bond Discount	Legal Fees: Bond Counsel	Legal Fees: Local Counsel	Refunding Bond Issue	Increase in Bonds Refunded	Date of Refunding Issue	Bond Discount	Legal Fees	Refunding Rate	Savings	Yearly Rent Payment	Per cent Savings
2635	$ 3,300,000	8/15/70	6.890	15	$ 83,768	$27,000	$ —	$ 4,200,000	$ 900,000	6/1/71	$ 84,000	$27,000	4.899	$ 366,462	$ 344,800	11.10
2767	4,100,000	6/1/70	6.805	14	110,700	15,000	20,000	5,375,000	1,275,000	5/1/71	118,250	32,000	4.730	411,072	484,384	10.02
275-R	3,370,000	9/15/70	6.560	20	75,825	23,000	--	4,365,700	995,700	5/1/71	89,482	23,000	4.000	310,126	300,000	9.20
2823 2824	2,793,200	9/15/70	6.377	20	64,055	26,000	--	3,655,000	861,800	5/15/71	73,100	23,000	4.813	414,282	245,760	14.83
2937	13,500,000	1/15/71	5.817	26	270,000	20,000	20,000	17,685,000	4,185,000	5/1/71	256,432	47,000	5.156	1,029,111	1,020,030	7.62
944 2780	4,110,000	9/1/70	6.332	14 1/2	90,420	15,000	9,000	5,295,000	1,185,000	4/1/71	99,546	24,000	4.631	313,829	444,250	7.63
2830	1,770,000	9/15/70	6.284	20	39,825	11,500	5,000	2,265,000	495,000	4/1/71	9,672	20,000	5.019	160,315	144,150	9.05
2790	6,350,000	12/1/70	6.688	20	143,010	19,500	19,500	8,555,000	2,205,000	4/1/71	171,000	39,000	4.365	694,770	572,800	10.94
2079	7,490,000	8/15/70	6.784	15	205,975	18,000	18,000	9,475,000	1,985,000	3/15/71	96,000	27,000	4.475	887,626	793,060	11.85
2814	2,365,000	12/1/70	6.410	20	53,212	11,300	11,300	3,135,000	770,000	3/15/71	18,810	20,270	4.807	411,271	214,000	17.38
2308	4,744,000	12/1/69	6.520	19 1/2	103,840	15,750	7,000	5,965,000	1,221,000	3/15/71	57,677	22,000	4.409	873,071	429,236	18.40
2016 2017	6,700,000	12/1/70	6.865	21	170,850	30,000	--	8,780,000	2,080,000	3/1/71	868,000	28,000	4.908	1,496,724	659,252	22.33
2400-R	6,950,000	11/1/70	6.500	25	139,000	17,000	17,000	9,070,000	2,120,000	4/1/71	172,330	28,750	4.784	1,245,694	446,684	17.92
2099	3,890,000	4/1/68	5.496	30	58,350	10,000	10,000	5,150,000	1,260,000	9/1/68	92,700	24,000	4.682	949,927	262,504	24.41
2513	2,500,000	7/1/68	4.733	20	47,500	8,500	17,500	3,160,000	660,000	10/1/68	48,980	20,000	4.351	326,239	194,205	13.04
2700	2,535,000	4/1/70	6.900	20	63,375	11,000	22,000	3,881,000	1,346,000	10/1/71	93,144	27,500	5.322	314,460	293,000	12.40
86-R 2775-R	6,300,000	6/15/70	6.917	20 1/2	163,800	17,000	17,000	9,435,000	3,135,000	11/1/71	207,570	34,000	5.293	947,240	571,350	16.03
1884-R	2,024,500	10/1/70	7.505	30	54,540	9,500	9,500	2,970,000	945,500	10/1/71	65,340	18,940	6.080	503,115	164,000	24.85
2155-R	7,580,000	10/15/70	6.928	23	189,500	30,000	--	9,720,000	2,140,000	11/15/71	204,120	30,000	5.765	1,303,564	633,500	17.19
2850	2,165,000	2/15/70	6.736	20	49,795	15,000	--	2,885,000	720,000	11/15/71	63,470	18,000	5.440	314,435	196,840	14.52
2653	3,820,000	10/15/70	6.880	25	89,300	27,000	--	4,900,000	1,080,000	11/15/71	98,000	27,000	5.496	838,374	317,828	21.95
2133 2499 2777	2,324,500	7/1/70	6.929	20	58,000	22,834	--	3,540,000	1,215,500	11/1/71	88,400	22,500	5.490	280,346	213,525	12.06
2289 3005	5,830,000	6/1/70	6.915	20	145,875	13,250	13,250	8,755,000	2,925,000	11/15/71	175,100	32,000	5.429	659,368	289,630	11.31
1742	2,141,000	6/1/70	6.935	20 3/4	53,500	12,500	12,500	3,345,000	1,204,000	11/15/71	73,480	25,500	5.264	307,086	203,153	14.34
2148-R	12,250,000	10/1/70	6.863	25	293,880	20,950	20,950	15,665,000	3,415,000	11/15/71	328,965	40,000	5.726	2,063,306	1,017,623	16.84

APPENDIX A

Explanation of Moody Ratings

Those bonds in the A and Baa groups which Moody believes possess the strongest investment attributes are designated by the symbols A-1 and Baa-1. Other A and Baa bonds comprise the balance of their respective groups.

Aaa	Bonds judged to be the best quality. Smallest degree of investment risk, "Gilt edge." Interest payments are protected by a large or by an exceptional stable margin and principle is secure.
Aa	Bonds judged to be of high quality by all standards. Together with Aaa, they comprise what is generally known as high grade bonds. They are rated below Aaa bonds because margins of protection may not be as large as in Aaa securities, or fluctuation or protective elements may be of greater amplitude or there may be other elements which make the long term risks appear somewhat larger than in Aaa securities.
A	Bonds which are rated A possess many favorable attributes and are to be considered as upper medium grade obligations. Factors giving security to principal and interest are considered adequate, but elements may be present which suggest a susceptibility to impairment sometimes in the future.
Baa	Are considered as medium grade obligations, i.e., they are neither highly protected nor poorly secured. Interest payments and principal security appear adequate for the present, but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.
Ba	Bonds are judged to have speculative elements; their future cannot be considered well assured. Often the protection of interest and principal payments may be very moderate and thereby not well safeguarded during both good and bad times over the future. Uncertainty of position characterizes bonds in this class.
B	Generally lack characteristics of the desirable investment. Assurance of interest and principal payments or of maintenance of other terms of the contract over any long period of time may be small.

Appendix A (Contd.)

Caa	Bonds which are of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.
Ca	Rated bonds represent obligations which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.
C	Bonds are the lowest rated class of bonds and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing.

APPENDIX B

Standard and Poor's Bond Ratings

AAA — Prime--These are obligations of the highest quality. They have the lowest probability of default. In a period of economic stress the issuers will suffer the smallest declines in income and will be least susceptible to autonomous decline. Debt burden is not inordinately high. Revenue structure appears adequate to meet future expenditure needs. Quality of management would not appear to endanger repayment of principal and interest.

AA — High Grade--The investment characteristics of bonds in this group are only slightly less marked than those of the prime quality issues. Bonds rated AA have the second lowest probability of default.

A — Upper Medium Grade--Principal and interest on bonds in this category are regarded as safe. This rating describes the third lowest probability of default. It differs from the two higher ratings because there is some weakness, either in the local economic base, in debt burden, in the balance between revenues and expenditures or in quality of management. Under certain adverse circumstances, any one such weakness might impair the ability of the issuer to meet debt obligations at some future date.

BBB — Medium Grade--This is the lowest investment grade security rating. Under certain adverse conditions, several of the above factors could contribute to a higher default probability. The difference between A and BBB ratings is that the latter shows more than one fundamental weakness, whereas the former shows only one deficiency among the factors considered.

BB — Lower Medium Grade--Bonds in this group have some investment characteristics, but they no longer predominate. For the most part this rating indicates a speculative non-investment grade obligation.

B — Low Grade--Investment characteristics are virtually non-existent and default could be imminent.

D — Defaults--Interest and/or principal in arrears.