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Funding School Renovation: Qualified Zone Academy Bonds vs. Traditional Tax-Exempt Bonds

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Summary

This report outlines the$1.6 billion Qualified Zone Academy Bond (QZAB) program and provides estimates of the implicit borrower subsidy and the estimated federal revenue loss arising from the tax credits it provides. QZABs are debt instruments that local education agencies sell to finance school renovation and modernization. The interest on these bonds is paid by the federal government through tax credits to the bond-holder. The bond-holders are allowed to apply the credits to their federal corporate income tax or alternative minimum tax liability. The current QZAB program is more expensive to the federal government than traditional tax-exempt bonds. The Joint Committee on Taxation estimates the federal revenue loss to be $649 million through 2009, almost three times the cost of traditional tax-exempt debt. In addition to subsidy and revenue loss estimates, this report briefly reviews H.R. 1076 and Chapter 2 of S. 7, both of which include 1) a QZAB program expansion and 2) additional tax credit bond capacity for school construction. This report will be updated as legislative events merit.

Introduction and Background

In a June 2000 report, the National Center for Education Statistics projected that the nation's schools needed about $127 billion to repair or upgrade facilities to good overall condition.[1] To encourage more school renovation and repair, Congress passed legislation in 1997, P.L. 105-34, that lowers the cost of borrowing for some school districts through

[1] U.S. Department of Education, *Condition of America's Public School Facilities: 1999,* Office of Educational Research and Improvement, National Center for Education Statistics, Statistical Analysis Report 2000-032, June 2000. The sampling error on the estimate is ±$7.2 billion.

debt instruments called Qualified Zone Academy Bonds or QZABs. The QZAB program was extended for two additional years in 1999 by P.L 106-170.[2]

Specifically, the zone academy (typically a state education authority or a local school district) receives a zero interest rate loan for school renovation and the lender is allowed a tax credit against federal income taxes. The 1997 legislation limited the volume of such debt to $400 million annually for 1998 and 1999. The program was extended in 1999 with another $400 million for both 2000 and 2001 for a total of $1.6 billion over the four-year life of the program. Following is a brief overview of the zone academy program.

QZAB. A QZAB is a bond issued by a state or local government, containing provisions requiring that:

1) 95% of the proceeds be used for the purpose of renovating, providing equipment to, developing course materials for use at, or training teachers and other school personnel in a *qualified zone academy*, and

2) private entities promise to contribute to the *qualified zone academy* certain equipment, technical assistance or training, employee services, or other property or services with a value equal to at least 10% of the bond proceeds.[3]

Qualified Zone Academy. A school qualifies as a zone academy if:

1) the school is a public school that provides education and training below the college level,

2) the school operates a special academic program in cooperation with businesses to enhance the academic curriculum and increase graduation and employment rates, and

3) either (a) the school is located in an empowerment zone or enterprise community (including empowerment zones designated or authorized to be designated under the Act), or (b) it is reasonably expected that at least 35% of the students at the school will be eligible for free or reduced-cost lunches under the school lunch program established under the National School Lunch Act.[4]

QZAB Capacity. The states, which allocate bond capacity to the local academies, can carry forward any unused bond capacity within certain time limits. The allocation to the states is made on the basis of their portion of individuals below the poverty line. The

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[2] For a more extensive review of QZABs see CRS Report RS20606, *Qualified Zone Academy Bonds: A Description of Tax Credit Bonds*, by Steven Maguire.

[3] U.S. Congress, Joint Committee on Taxation, *General Explanation of Tax Legislation Enacted in 1997*, Joint Committee Print, part 2, 105th Congress, 1st session. (Washington: GPO, 1997), pp. 40-41.

[4] Ibid.

1998 and 1999 QZAB allocations must be made by December 31 of 2001 and 2002 respectively; the 2000 and 2001 allocations must be used by December 31, 2002 and 2003 respectively. QZAB buyers–limited to banks, insurance companies, and corporations actively engaged in the business of lending money–are allowed to claim an annual federal tax credit for the life of the bond.

QZAB Term and Credit Rate. The maximum term "shall be the term which the Secretary [of Treasury] estimates will result in the present value of the obligation to repay the principal on the bond being equal to 50% of the face amount of the bond."[5] The term has fluctuated between 12 and 14 years because fluctuating interest rates change the present value estimate.

The credit is equal to the credit rate set by the Department of Treasury multiplied by the face value of the bond. Because the credit is included in taxable income, investors require an after-tax yield equivalent to that of taxable bonds. For this reason, the Treasury establishes the credit rate based upon the average yield of a mix of high grade-corporate bond yields with maturities of 10 years or more.

Analysis of the Current QZAB Program

Three General Types of Bonds. Many different types of bonds are available to investors. This discussion and analysis is limited to three general categories. One, the QZABs described above; two, bonds whose interest payment is included in taxable income (taxable bonds); and, three, bonds whose interest payment is **not** included in taxable federal income (tax-exempt bonds). The potential federal revenue effect of the three bonds is presented in Table 1. The most expensive bond in terms of federal revenue foregone is the QZAB. Taxable bonds are the least expensive because they do not generate a federal revenue loss.

The three types of bonds in Table 1 have a face value of $100 and an after-tax return of 4.875%. The difference between the taxable bond interest rate and the tax-exempt bond interest rate is calculated to maintain equivalent after-tax returns. In theory, the after-tax return of the two investments should converge, all else equal.

The second column (b) represents the amount a borrower must pay for use of loaned funds.[6] Clearly, the QZAB, where the federal government pays for the zone academy's use of the borrowed funds, is the most advantageous to the borrower. The lender is indifferent among the three because the after-tax return is fixed at $4.875 dollars for every $100 borrowed.

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[5] 26 U.S.C. 1397E. The term of the bond is equal to the following: $\log(2)/\log(1+r)$. The variable r is the "discount rate of the average annual interest rate of the tax-exempt obligations having a term of 10 years or more which are issued during the month."

[6] Not mentioned in this report are the gains to tax-exempt bondholders in marginal income tax brackets *above* the market clearing rate. The after-tax equivalency between tax-exempt debt and taxable debt depends upon the marginal tax rate, which we implicitly assume is constant. However, if a taxpayer holding tax-exempt debt is in a marginal tax bracket greater than the rate which determines the market clearing rate, the subsidy is actually greater because the investor would have accepted a lower tax-exempt bond return.

Column (d) reports the taxable interest income multiplied by the corporate taxpayer's tax rate (35% in our example).[7] Both the **taxable bond** interest and the **QZAB** tax credit are included in taxable income, thus both generate federal revenue. However, the QZAB also provides a tax credit and creates a revenue loss equal to the tax credit rate multiplied by the bond face value. As reported in column (e), the tax credit (which is based upon the taxable bond interest rate) results in a net revenue loss equal to the interest rate on tax-exempt bonds (2.625% ! 7.50%= ! 4.875%). The 2.625% is the additional federal revenue from inclusion of the credit in income and the 7.5% is the tax credit allowance. On July 26, 2001, the QZAB rate was 6.99% and the term was 13 years.

Table 1. Calculating the Implicit Subsidy to a Hypothetical QZAB Borrower

(Values are in Dollars per $100 of Bond Proceeds Assuming a Corporate Taxpayer is in the 35% Marginal Tax Bracket)

(a)	(b)	(c)	(d)	(e)	(f)
Type of Bond	Borrower Pays	Lender Receives	Taxes Paid by Lender	Federal Tax Revenue from Bond	Implicit Subsidy to Borrower
Taxable	7.500	7.500	2.625	2.625	0.000
Tax-exempt	4.875	4.875	0.000	0.000	2.625
QZABs[a]	0.000	7.500	2.625	-4.875	7.500

a. This estimate assumes the bond holder qualifies and has tax liability.

Column (f) represents the implicit federal subsidy to the borrower. The subsidy is measured by the percentage points *below* the taxable bond interest rate (arising from the favorable tax treatment) that the borrower paid for the use of funds. Generally, there is not a tax advantage to holding taxable bonds. With tax-exempt debt, the subsidy is the difference between taxable and tax-exempt bond interest rates, or 2.625% in our example. And finally, for QZABs, because there is little or no interest cost to the borrower, the subsidy is equal to the taxable bond interest rate.

Table 2 presents the estimated potential federal revenue loss, in nominal dollars, of the present QZAB program through 2009. The Joint Committee on Taxation (JCT) published estimates of the revenue loss for each QZAB bill (P.L. 105-34 and P.L. 106-170) and the total revenue loss presented in the last column is the sum of the two estimates. The 1997 estimates (for P.L. 105-34) for 2008 and 2009 were not reported.

The estimates are in nominal dollars and thus do not account for the time value of money. Generally, the loans for construction today will be repaid (through credits) in later

[7] If the marginal tax rate were lower, the federal loss from QZABs would be larger. A lower marginal tax rate generates less revenue from inclusion of the credit in taxable income though the credit is a fixed rate regardless of marginal tax rate.

years with "cheaper" dollars. The revenue loss relative to the construction cost is overstated for this reason.

Table 2. Estimated Federal Revenue Loss Generated by QZABs
(in millions of dollars)

Year	P.L. 105-34 August 5, 1997 (H.R. 2014)[a]	P.L. 106-170 December 17, 1999 (H.R. 1180)[b]	Total Estimated QZAB Revenue Loss
1998	$8	--	$8
1999	$27	--	$27
2000	$43	$3	$46
2001	$47	$11	$58
2002	$47	$20	$67
2003	$47	$28	$75
2004	$47	$30	$77
2005	$47	$30	$77
2006	$47	$30	$77
2007	$47	$30	$77
2008	--	$30	$30
2009	--	$30	$30
Total	$407	$242	$649

[a] U.S. Congress, Joint Committee on Taxation, *General Explanation of Tax Legislation Enacted in 1997*, joint committee print, part 2, 105th Cong., 1st sess. (Washington: GPO, 1997), p. 515.

[b] U.S. Congress, Joint Committee on Taxation, *Estimated Budget Effects of the Revenue Provisions Included in the Conference Agreement for H.R. 1180*, JCX-86-99, 106th Congress, 1st session (Washington: GPO, 1999), p. 1.

H.R. 1076 and Chapter 2 of S. 7

The purpose of H.R. 1076 and Chapter 2 of S. 7 is to renovate and modernize schools. Both proposals include school construction bonds whose proceeds would be used for "the construction, rehabilitation, or repair of a public school facility or for the

acquisition of land on which such a facility is to be constructed..."[8] These new bonds, modeled after QZABs, would not be more than 15 years in term and the national limit would be $11 billion each for 2002 and 2003. Of the $22 billion, 60% would be allocated to states based upon their school-age population and the remaining 40% to the 125 school districts with the largest number of low-income children. In addition, Indian or Tribal schools would be allocated $200 million annually for 2002 and 2003 which would be administered by the Department of the Interior.

The legislation would also expand QZAB spending to include *new* construction, remove the restrictions on the holders of modernization bonds, and extend the initiative to 2002 and 2003 with another $1.4 billion in debt capacity for each year.

Summary

The QZAB program represents a shift in the burden of financing the renovation of qualified institutions from state and local taxpayers to federal taxpayers. For every dollar of spending on school infrastructure through the QZAB program, the implicit subsidy of federal taxpayers, and benefit to borrowers, appears to be almost three times[9] as much as an alternative financing mechanism: traditional tax-exempt municipal bonds. And, as indicated by Table 2, the Joint Committee on Taxation has estimated the federal revenue loss to be about $649 million through 2009. However, the federal revenue loss for the entire program is probably greater (in nominal dollars) than this estimate because the bonds are outstanding for 12 or 13 years, or well beyond 2009. For example, QZABs issued in 1998 will not expire until 2010 and those issued in 2001 may not expire until 2014. Alternatively, the time value of money does attenuate the potential *real*, i.e. inflation adjusted, revenue loss from the QZAB program.

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[8] Sec. 1400G(a)(1) of S. 7 and 1400L(a)(1) of H.R. 1076 both state that 95% of the proceeds must be used for the stated purpose.

[9] The implicit subsidy for tax-exempt bonds is the difference between its interest rate and the interest rate on taxable bonds (2.625% in our example). For tax credit bonds, it is the taxable bond interest rate (7.5% in our example).