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DOCUMENT REVIEWED:	**"School Choice by the Numbers: The Fiscal Effect of School Choice Programs 1990 – 2006"**
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Summary of Review

This review considers the recently released study by Susan Aud of the Milton & Rose D. Friedman Foundation, concerning the fiscal effects of school vouchers policies. Aud calculates the simple difference between, on the one hand, state and local government spending on students attending traditional public schools, and, on the other, the government spending on children opting for vouchers to private schools. Aud finds a cumulative savings of $444 million over a 15-year period nationwide. Aud's analysis does confirm an obvious point: if state and local governments subsidize vouchers at a lower rate than public schooling, then, all other things being equal, state and local expenditures will decrease.

Aud argues in particular that vouchers offer a win-win scenario for local school districts, suggesting that districts losing students to vouchers may simultaneously increase spending per pupil on those left behind while, at the same time, decreasing spending overall. This review concludes that Aud's assumption of increased per- pupil spending by school districts might be true, but the assumption of decreased total budget likely is not. Further, even if state and local governments were, in fact, able to reduce instructional expenses by $444 million over 15 years, this was merely a drop in the bucket – she describes a savings of less than 1/100th of one percent of annual public school spending, or about 60 cents per child per year.

Review

I. INTRODUCTION

Educational vouchers continue to stimulate political debate and to spawn research and advocacy papers on the part of think tanks, despite the limited nature of this policy option in public elementary and secondary education in the United States. A recent report by Susan Aud, published by the Milton & Rose D. Friedman Foundation, indicates that since 1999-2000 there has been relatively large growth nationally in the use of publicly financed vouchers, with enrollments increasing from around 10,000 to more than 100,000 by 2005-06 according to estimates provided in Table 1 in Aud's report.[1] While this is a ten-fold increase, the overall number is very small; 100,000 students represents a paltry 0.2 percent of 2005 U.S. public school and enrollment (over 48 million) and just 1.58% of estimated private school enrollment.[2]

That said, in a few circumstances where more aggressive and well-funded voucher programs have been implemented and have been in place for some time, substantial portions of children have migrated into them. By 2004, voucher enrollment in the city of Milwaukee exceeded 13% of public school enrollment and has increased since. In Cleveland, the voucher share had reached just over 8% by 2004.[3]

Overall, these numbers paint a picture of a policy with only small import in terms of shares of children affected and dollars expended. Yet voucher policies nonetheless have potential importance on two other levels: the ideological level of individual liberty and opposition to government-run schools, and the financial level of taxpayer expenditures. The Aud report and this review expressly address only this last level.

II. FINDINGS AND CONCLUSIONS OF THE REPORT

The Friedman report summarizes and evaluates both voucher programs and individual and corporate tax credit programs across 11 different states. Table 1 provides a list of those states and programs addressed.

Voucher programs — as Aud implicitly defines them — are those where public tax dollars are made available to students and families to subsidize tuition at private schools. Only private school attendance qualifies under this school choice definition; Aud and the Friedman Foundation tend to dismiss those cases where parents choose to apply their vouchers to other public rather than private schools, on the implicit assumption that doing so would be inefficient.

Individual and corporate tax credit scholarship programs establish funds to provide voucher-like "scholarships" for defined groups of students, where individuals or corporations (depending on the state) may receive income tax credits for contributions to the scholarship fund. In effect, these programs enable taxpayers to divert their money to independent non-profit entities that provide scholarships rather than contributing that money to state government coffers.[4]

Table 1
Voucher and tax credit programs summarized by Aud (2007)

States	Type of Program	Financial Analysis Provided
Vermont & Maine	Non-operating districts with private school tuition option	N
Wisconsin	Milwaukee Vouchers (State/Local)	Y
Arizona	Individual and corporate tax credit, disabled student & foster child vouchers	Y
Florida	Corporate tax credit, A+ voucher, McKay voucher	Y
Pennsylvania	Corporate tax credit scholarships	Y
Washington, DC.	Vouchers	Y
Ohio	Cleveland vouchers, Autism vouchers, EdChoice vouchers	Y
Utah	Vouchers (Parent choice & Carson Smith)	N
Rhode Island	Corporate Tax Credit	N
Iowa	Individual Tax Credit	N

The difference between traditional, government-funded vouchers and recently emerging tax credit policies is largely an operational one. Voucher policies use revenue collected by states through taxation to subsidize private schooling; by contrast, tax credit programs allow individuals and corporations to send their money around government to scholarship-managing agencies. For simplicity's sake, in this review the two are treated the same and referred to collectively as "vouchers."

Aud provides financial analyses of five states — Florida, Ohio (Cleveland), Wisconsin (Milwaukee), Arizona, Pennsylvania — plus Washington, DC., excluding some because of their newness and lack of data or for other reasons provided.[5] The financial analyses set forth in this new report are relatively straightforward and transparent, but they are also, as discussed below, significantly mischaracterized. In short, Aud's approach is to compare the per pupil cost of public financing (state and local) for a student attending a public school to the public financing of a student using a voucher to attend a private school. Her analyses of savings assume that if the second is less than the first, then savings is achieved.

There is a superficial logic to this approach. It seems relatively straightforward that if government chooses to allocate a lower per-pupil rate of subsidy for private schooling than for traditional public schooling, then for each child who takes the private school subsidy, cumulative government expenditures on school subsidies may decline, assuming that children currently opting out of the public system for private or home-schooling will decline or be barred from access to the private school subsidy. As discussed below, however, this reduction in total government expenditures on elementary and secondary schooling does not guarantee that government — state or local — spends less overall, or that the actual cost of operating the system is less.

The report's conclusions are concisely summed up in the report's final paragraph on page 36 (emphasis added):

> Overall, these twelve school choice programs have saved a total of nearly half a billion dollars. Because voucher and scholarship amounts are typically well below state formula funding per student in the public school system, state budgets have saved a total of $22 million. In addition, the migration of students from public schools to private schools has allowed districts to reduce their instructional spending levels, spreading their local and federal revenue over fewer students. School choice allows students to attend the schools

> of their choice at a lower cost than they would incur in the public school system, contrary to the dire fiscal speculations of its critics.

Aud suggests broadly that savings are achieved, but she is short on the specifics of defining precisely who — government, taxpayers, students or teachers — are the beneficiaries of those savings. A general theme appears to be that everyone saves and everyone wins.

Regarding state governments, Aud assumes that money not spent on elementary and secondary schooling, because of the voucher differential she describes, is money saved. It is money that can be spent elsewhere within or outside of the education budget, or perhaps returned to taxpayers. Aud does not explore these possibilities.

Regarding local school districts, Aud argues that public school districts are able to (a) increase their per pupil instructional budgets while (b) decreasing their total budgets. That is, children who remain in the districts are not harmed by reduction of funding but rather benefit from increased per- pupil funding. Further, state and local taxpayers may benefit from an overall reduction in district spending — a win-win scenario.

The Report's Rationale for its evidence and conclusions

The above-quoted concluding paragraph from the Friedman report includes several statements not supported by the analyses provided. As noted, the author's analysis simply evaluates the difference in state and local allotment for vouchers versus state and local allotment for traditional public schools; it fails to develop this analysis in a way that would support the report's broader policy conclusions.

Aud does acknowledge that differences in state funding approaches complicate whether and how potential savings are realized. For example, Aud discusses the state funding systems in Pennsylvania and Milwaukee. She explains that because Pennsylvania's school finance system is not enrollment sensitive, but rather is based on prior spending, school districts losing students to vouchers retain their revenues, leading to increased per-pupil spending on those students who remain. By contrast, Aud shows that the Milwaukee voucher program in recent years has required the district to transfer not only state funding, but also local funding to private schools to finance vouchers. In Pennsylvania, school districts are basically held harmless with regard to state funding and thus seem in a position to increase their per-pupil spending even while reducing their local budgets. In Milwaukee, the current policy requires school district money to help pay for the vouchers, so these benefits would not accrue.

In short, one might expect contrary effects of the two plans. The Pennsylvania system would lead to steady increases in total funding for school districts while enrollments decline, or at least grow more slowly because of voucher attrition, thus leading to increased budgets per pupil for remaining children. In Milwaukee, one might expect that if the total transfer via vouchers of state and local funding per pupil matches the district's current per-pupil spending, that per-pupil spending for children remaining in the district would remain constant.

But school finance and public budgeting rarely yield such transparent results. Aud herself falls into this trap. In her concluding paragraph and at other points throughout the report, Aud notes that districts have been "allowed" to reduce their instructional spending levels as a result of vouchers. No

actual analysis on this point is provided in the report. Aud makes no effort to show that districts such as Milwaukee and those in Pennsylvania have realized savings for taxpayers by actually reducing their total budgets while holding harmless per-pupil spending on those who remain in the district.

Table 2 briefly explores whether Milwaukee and Cleveland each did, in fact, accomplish Aud's win-win scenario between 2000 and 2004 while voucher enrollments grew quite substantially and while both districts experienced declining enrollment.

It shows that the regionally and inflation-adjusted instructional budget per enrolled pupil in Milwaukee was $4,797 in 2000, and the potential Milwaukee public schools budget if vouchered children came back (but their voucher funds did not), was $4,457 per pupil. That is, Milwaukee's instructional budget in 2000 was sufficient to provide $4,457 per pupil, including those who weren't enrolled in Milwaukee public schools. By 2004, Milwaukee public schools' enrollment declined, and voucher students increased, but the public school system budget had still increased sufficiently to reabsorb the vouchered students (without their vouchers) and suffer only a 1.3%, inflation-adjusted decline in instructional spending per pupil. Even with the lost funds (state and local) due to vouchers, the instructional budget per enrolled and non-enrolled (voucher) students remained relatively constant. It did not decline substantially, but also did not grow. For pupils remaining enrolled in the district, Milwaukee did experience a 3.76% inflation-adjusted increase in per pupil instructional spending.

In Cleveland, where the city school system is not required to pass along locally raised revenues, budget growth adjusted for inflation was much greater, at 21% for those remaining in the district and still 16% if voucher recipients returned without their vouchers. Indeed, we do not know the extent that Cleveland or Milwaukee's budgets might have grown had they not been subject to voucher-related declining enrollment. The contrast between Cleveland and Milwaukee may be indicative of the requirement that Milwaukee pass along locally raised resources in addition to losing state aid. It is difficult to make much of this contrast at this point, however. A substantial portion of the difference is, in fact, likely associated with the larger decline in enrollment in Cleveland and the relatively slow pace at which school districts' budgets adjust to enrollment declines.

These two cases provide relatively strong support for Aud's otherwise unsubstantiated conclusion that vouchers do not necessarily lead to substantial reduction of resources for children left behind. These cases do not support the win-win scenario that asserts vouchers can increase per-pupil spending for those who remain in public schools while decreasing total school budgets, however. Neither Cleveland nor Milwaukee decreased their total budgets. Aud's suggestion that they were "allowed" to do so may be correct. But savings were not in fact realized in the way that Aud implies that they were in her conclusions.

Notably, the analysis in Table 2 overlooks the distinct possibility that while exiting voucher students may be from relatively low-income families, they may also be from higher-income families than those left behind in a given district or given school. That is, the net effects to the school districts of out-migration may include increased poverty concentration. If this is the case, then the value of the education dollar in those districts — toward improving educational outcomes — could decline significantly.[6]

Table 2
Changes in Total Budgets and Per Pupil Budgets in Cleveland and Milwaukee[7]

Year		Milwaukee	Cleveland	
2000	Instructional Budget	$521,740,980	$340,406,992	
	Enrolled Pupils	99,729	76,559	
	Voucher Pupils	7,596	3,407	*
	Budget per Enrolled Pupil	$5,232	$4,446	
	Budget per All Pupils	$4,861	$4,257	
	NCES CWI	1.09	1.04	
	Adj. Budget per Enrolled Pupil	$4,797	$4,261	
	Adj. Budget per All Pupils	$4,457	$4,079	
2004	Instructional Budget	$609,401,019	$428,628,987	
	Enrolled Pupils	97,359	69,655	
	Voucher Pupils	12,778	5,887	*
	Budget per Enrolled Pupil	$6,259	$6,154	
	Budget per All Pupils	$5,533	$5,674	
	NCES CWI	1.26	1.20	
	Adj. Budget per Enrolled Pupil	$4,977	$5,138	
	Adj. Budget per All Pupils	$4,400	$4,737	
Change	% Increase per Enrolled Pupil	3.76%	20.59%	
	% Increase per All Pupils	-1.30%	16.14%	

*Includes both public and private school students who received vouchers, as listed by Aud.

As noted above, Aud acknowledges that, for Pennsylvania, the existing state school finance system promotes similar budget growth regardless of enrollment. That is, school districts losing students to vouchers retain their state and local revenues.

Finally, Aud's concluding paragraph argues that "school choice allows students to attend the schools of their choice at a lower cost than they would incur in the public school system" (emphasis added). Again, it may be reasonable to argue that increasing the government subsidy for private schooling to more than $0 but less than the subsidy rate for traditional public schooling can lead to reduction of government expenditures.[8] But expenditures and costs are not the same thing. In fact, noticeably absent in the Aud report is any definition of "cost." Typically, cost savings are defined in terms of achieving similar or better quality of outcome or output at lower investment. Cost necessarily assumes a level of product quality. Further, when one accounts for the cost of producing a product of specific quality, one must account for all resources that went into production of that product, not just the small portion that was government subsidized.

Let's assume public school option A and private school option B produce similar levels of student outcomes, after controlling for differences in student population. Assume the full public subsidy rate for the public school is $6,000 per pupil, but that the public rate of subsidy for the private school is $3,000, perhaps just passing along to the private school the state share of public subsidy.

One might erroneously assume that option B was twice as cost-effective or efficient. In all likelihood, however, the private school in question actually spent more than $3,000 per pupil in achieving those outcomes. One must make a full accounting of what was actually spent, from all revenue streams, to evaluate cost effectiveness. Aud's concluding paragraph suggests that "School choice allows students to attend the schools of their choice at a lower cost than they would incur in the public school system." But, Aud's analysis can only be considered to address governmental contributions; it does not address cost in terms of maintaining current outcomes nor in terms of

all resources allocated to education in voucher receiving institutions.

Private substitutes for public schooling in Vermont provide a useful example. Vermont's program allows towns not operating their own schools, to make formal agreements with available local private independent schools as well as other public school districts. Towns are then expected to raise sufficient property tax revenues that, coupled with state aid, will be used to pay full tuition for students.[9] If the private independent school wishes to charge more than the average of public unified high schools, the decision to accept or not the higher tuition charge is put to town voters.

In Vermont, four private independent secondary schools serve students from several towns. Regarding the Vermont tuitioning model, Aud notes:

> We could calculate the difference between the existing tuition rates at public schools and private schools if we had the necessary data, and call that the fiscal impact of the program. However, since we lack the necessary data for such an analysis, and the towns are paying tuition to schools of choice either way, it is appropriate to treat town tuitioning as revenue neutral (p. 30).

In fact, review of readily available data on 2007-08 tuition levels for Vermont secondary schools suggests otherwise. State average "Announced Tuition" for 2007-08 was $10,394 at the secondary school level (announced tuition rates are effectively the payment rates for inter-district transfer of students, including students attending private and public schools). Table 3 presents the rates for the independent schools receiving tuitioned students from non-operating districts (secondary school level):

Table 3
Announced tuition at private providers of secondary education in Vermont 2007-08

Secondary School	Town	Tuition
Burr & Burton Academy	Manchester	$11,770
Lyndon Institute	Lyndon Center	$11,880
St. Johnsbury Academy	St. Johnsbury	$12,250
Thetford Academy	**Thetford**	$13,224

Data Source:
http://education.vermont.gov/new/pdfdoc/data/announced/announced_08_030107.pdf

In each case, private independent providers of secondary education under Vermont's tuitioning model charge above state average.[10] That said, the private schools may provide a superior product at that price, such that cost, per se, is neutral or even positive.[11]

Further, tuition alone does not reflect the full cost of operations in the private independent schools. For tax year 2006, Burr and Burton Academy collected $8,583,696 in tuition and fees but had current expenditures of approximately $10,054,212, and total revenue of more than $14 million. That is, even at this predominantly tuition- (voucher-) funded institution, tuition covered about 85% of annual expense, leaving 15% to be covered by other sources of revenue. Notably, tuition made up only about 61% of total revenue.[12]

While public schools are also relying increasingly on private cash and in-kind contributions to support annual operations,[13] private independent schools typically rely more heavily on such contributions. Catholic and other church-dependent schools rely on private contributions through the church or diocese to aid in subsidizing the full cost of schooling. Increased migration of students to private schooling may increase the necessity for private philanthropic contributions to elementary and secondary education in the form of direct support to private independent and private religious schools. In this regard, contributions to tax-exempt scholarship pro-

grams may compete with direct contributions to churches and private schools. These issues get to the "cost" of the voucher systems, even though they are not included in the governmental expenditure calculations included in the Aud report.

Also, Aud's Ohio savings are built on an assumption that low-income students who opted out of public school prior to voucher availability should have limited access to vouchers. Aud does not clearly express an opinion on this matter, though full inclusion of those already in private schools would cut into her estimated total savings. Aud's calculations reflect current policy in Cleveland, which, if Aud's findings are correctly understood, continues to only partially finance vouchers for potentially qualified students previously enrolled in private school. Fully financing these students would reduce Aud's savings estimate.

Table 4 summarizes the total public school and private school enrollments for each jurisdiction. It then presents private school enrollments of children below the 100% of poverty level and below the reduced-price lunch threshold (185% of poverty level). Data are from the American Community Survey of 2005, from the U.S. Census Bureau.[14] The children in poverty or below the 185% threshold who reported attending private schools in the Census data are not necessarily the same children receiving scholarships.

Within the city limits of Cleveland, approximately 7,551 children between the ages of 5 and 17 are assumed to fall below 185% of poverty level. Currently, vouchers are awarded to 5,675 children, or 76% of 7,551. In Milwaukee the number of voucher recipients exceeds estimated numbers of children below 185% poverty.[15] The same is true in terms of raw numbers of voucher recipients in Arizona. But in Pennsylvania, Florida and the District of Columbia a smaller share are currently receiving vouchers. This suggests that there remains substantial capacity for increased voucher expenditures. Because these three voucher programs appear to be eligible for people who already attend private school — not just those who transfer it from public schools — it would seem likely that the presence of low-income children currently attending private schools has little influence on Aud's analysis. Such data might, however, be relevant for policymakers wishing to estimate the costs of implementing voucher programs.

Table 4
Current (2005) Private School Enrollments by Poverty Group in Voucher Contexts

State/District	Total Public Enrolled	Total Private Enrolled	
Pennsylvania	1,647,026	320,795	
Florida	2,425,440	365,666	
Arizona	980,472	74,279	
District of Columbia	62,320	12,582	
Cleveland	66,210	15,174	
Milwaukee	95,019	22,326	
	Private <100% Poverty	Private <185% Poverty	Currently Vouchered (2005)
Pennsylvania	26,622	62,048	27,261
Florida	24,567	64,165	27,146
Arizona	7,633	18,874	21,146
District of Columbia	1,410	2,939	1,027
Cleveland	3,794	7,511	5,675
Milwaukee	3,796	10,306	14,427

Aud's key point in her report is that "Overall, these twelve school choice programs have saved a total of nearly half a billion dollars" (emphasis added). Calculated as a simple net difference between what state and local government might have spent on traditional public schools versus what they supposedly spent on private school subsidies, and setting aside concerns about Aud's specific assumptions and calculations, it is rea-

sonable to draw such a conclusion. However, the conclusion should be rephrased to point out that state and local governments have had the opportunity to reduce their expenditures by this amount or improve their services. Aud presents no evidence that they have done so.

Further, as discussed at the end of this review, half-a-billion dollars in elementary and secondary education spending over a 15-year period amounts to nickels and dimes for any given state or district. American public schools serve 50 million children. Spread evenly over the 15 years, $444 million would be $29.6 million per year, or 60 cents per child per year. Aud fails entirely to put these dollars in context, leaving readers, intentionally or unintentionally, with the mistaken impression that she has discovered a major source of savings.

III. THE REPORT'S USE OF RESEARCH LITERATURE

The Aud report makes scant use of existing research literature on vouchers or tuition tax credits, and of the works cited that might be considered scholarly research all three were working papers or reports that were not yet published in scholarly journals.[16] The report does not include a discussion of literature concerning educational quality; it focuses exclusively on government expenditures regardless of quality.[17]

Aud's presentation would have benefited from a more thorough review of the introductory literature on public budgeting and finance, as well as on state and local government spending behavior in general and on public schooling in particular. Specifically, what is greatly needed in this new analysis is more careful application of terminology, differentiating cost from expenditure, and an understanding of the relationship between tuition charges, costs and expenditures in public and not-for-profit finance.

Aud makes direct use of only one specific source in her analyses. She relies on Brasington's *School Choice and the Flight to Private Schools*[18] as a basis for estimating the numbers of children who likely migrated from public to private schools *because of* an available subsidy in Pennsylvania and Arizona. Aud applies Brasington's price elasticity of demand for private schooling (0.32), which was derived using Ohio data. She uses the elasticity to estimate the number of children likely to migrate from public to private schooling as voucher levels increase. She notes:

> We estimate the percentage of participants who would probably have attended a public school prior to receiving a scholarship using an estimate of the price elasticity of demand for a private school education (p. 18).

There are a multitude of potential technical problems that arise from attempting to estimate choice behavior in Arizona or Pennsylvania based on a model of choice behavior estimated to (derived from) Ohio data. Perhaps most importantly, the location and supply of private schools are different (key variables in Brasington's models). If Aud's use of Brasington's elasticity understates numbers who would have stayed in public schools, her savings estimates will be overstated. Because recent (2005) private school enrollment rates are double in Ohio what they are in Arizona, it is reasonable to conclude that the supply density of private schooling in Ohio greater than in Arizona.[19]

Brasington also specifically finds a smaller price elasticity for poor than for wealthy households, a fact Aud does not mention. In sorting out differences between rich and poor households under an assumption of vouchers being available to both, Brasington notes:

> vouchers are often presumed to help poor students have better educational opportunities at private schools, but it is the rich who would most likely redeem school vouchers. (p.28)

Finally, Brasington himself concludes that "a voucher system or a tuition tax credit that makes private schools more affordable will not cause a mass exodus from public schools, at least not immediately," because public and private schooling are not, for many families, the same product – they are only moderately weak substitutes for one another (p. 18).

IV. Review of the Report's Methodologies

There are few specifics to review in the relatively straightforward methodologies applied in this report. Most concerns regarding the report's analyses are broad and conceptual. In fact, since the analyses are so limited, only one of Aud's findings or conclusions can actually be supported by those analyses: that net state and local government spending might be less if state and local governments allocate less for vouchers than for traditional public schools. This is hardly a surprising finding. The remainder of Aud's conjecture regarding this finding is simply not validated by her analyses.

Nonetheless a few seemingly trivial points are in order. First and foremost, it is relatively meaningless to discuss public expenditures, and education spending in particular, using only aggregate terms — millions and billions of dollars. Shares of total expenditures and total revenues, as well as per-capita or per-pupil reporting, are standard. That is, it would be useful to point out to the reader that $444 million is in fact 60 cents per child per year, or that $444 million is less than 0.1 percent of total education spending in a single year.

Second, as previously mentioned, Aud's decision to apply Brasington's price elasticity (derived from Ohio data) to estimate private school migration in Arizona and Pennsylvania in isolation seems questionable at best, violating the principle of *ceteris paribus* — or "all else equal." It is standard in more rigorous peer-reviewed economic research to attempt to address important differences in between the context that gave rise to the original estimate and the context to which the author is applying that estimate.

Finally, it seems somewhat odd, though arguably a matter of taste, that no attempt was made to adjust government expenditures for inflation. In fact, by inflating forward past years' savings to current year values, Aud could have increased her savings estimate.

V. Review of the Validity of the Findings And Conclusions

Aud's conclusion of a potential net difference in government expenditures (if she had, in fact, characterized it as such) might be validly drawn from her analysis. The bigger question is whether this conclusion is in any way meaningful. Again, government can choose to spend less on product B than product A. And, if government buys more of product B in place of product A, government will have spent less. This analysis provides a very limited view; it tells us nothing about either 1) whether product A and product B are perfect substitutes, or 2) if the reason that product B is cheaper is because some-

one else has paid part of the price — in this instance, church and private individual subsidies to private schools, which have their own tax benefits attached.

The following three issues are important to consider when evaluating the importance or relevance of Aud's analyses:

1. *Cost savings versus government expenditure reduction*

The relatively transparent analyses that Aud puts forth as "cost savings" might be more appropriately reframed as offering something like "*potential reductions to state and local government expenditures that might be realized by use of partial-cost tuition subsidies for private schooling.*"

In short, the conclusions drawn from the analyses could be improved substantially by improving the precision with which certain terms are used. Most notably, it is entirely inappropriate, given the analyses conducted, to imply that costs have been reduced for anyone. The report provides no measure of schooling outcome quality changes under the various programs evaluated. The report also makes the oversimplified assumption that the estimated net differences in formula appropriations will in fact be realized as savings. In fact, although the analyses suggest the possibility that state and local governments may find ways to reduce their obligation to spend on elementary and secondary schooling, potentially transferring a portion of that obligation to others, total public expenditures on elementary and secondary education may not be reduced, as discussed in the next subsection.

Overall, the report should have used a Cost-Benefit framework, in which one takes full account of the costs — government subsidized and privately subsidized — of providing education via traditional public schools or via vouchers to private schools. One must also consider the effects or benefits of policy alternatives. That is, are we getting equal or better quality at the same or lower cost? Are we getting better quality but at higher cost? Or, are we getting lower quality at higher total cost?

2. *Is there a net change in aggregate public expenditures on elementary and secondary schooling?*

Though not a central thesis, the Aud report implies on several occasions the existence of a net cost reduction from providing a reduced-rate government subsidy for private schooling. Yet Aud herself acknowledges the likelihood of a net expenditure increase under Pennsylvania's school finance system, and analyses in this review now indicate a net expenditure increase in Cleveland and Milwaukee, as well as higher average tuition rates for students tuitioned to private independent secondary schools compared with public secondary schools in Vermont.

Further, if we assume that (a) school districts do not reduce their own budgets by the full amount that costs are reduced by exiting students, (b) states do not reduce their total spending by the full amount that costs are reduced by students subsidized at the lower rate, and (c) the increased migration of students to private schools necessitates an increase in philanthropic contributions to churches and private independent schools, then the net change in total public contribution to elementary and secondary education will be positive and perhaps quite large. That is, the general public will be spending more to educate the same number of children. Assuming commensurate increases in quality, this option may be desirable. If not, this option is inefficient, although it might

still be preferred by those who favor the liberty of school choice over efficiency.

3. *In context, how much money are we really talking about?*

Finally, and perhaps most importantly, this review ends where it started, on the overall scope of importance of the issue at hand. Aud boldly highlights the significance of her finding that educational vouchers have saved the American public $444 million over a period of about 15 years, $22 million of which was saved by states. However, in 2004-05 alone, current expenditures for elementary and secondary school in the United States were approximately $425 billion. Aud's $444 million is about 1/10 of one percent of the amount spent on direct allocations to elementary and secondary schools in 2004-05 alone. If this is divided by 15, we come up with less than 1/100th of a percent – or 60 cents per child.

Table 5
Voucher Savings Relative to Direct Current Expenditures on K-12 Schools in 2004-05

State or jurisdiction	Total Current Expenditures 2004-05	Estimated 2004-05 Voucher Savings	Voucher %
Arizona	6,451,870,327	$3,745,854	0.06%
District of Columbia	1,023,952,459	$2,203,942	0.22%
Florida	19,042,877,250	$52,255,112	0.27%
Ohio	17,167,865,841	$13,307,155	0.08%
Pennsylvania	18,711,099,728	$55,792,388	0.30%
Wisconsin*	8,435,358,679	$38,582,847	0.46%

*Assuming no change to local share (given the actual change to local share, the voucher percentage is zero).

Even within the contexts evaluated, the net-differenced hypothetical savings reported by Aud are very small. Table 5 summarizes the estimated 2004-05 voucher-related savings compared to total current state and local expenditures in the contexts evaluated by Aud. Excluding the negative local impact which eliminates entirely the potential positive spending effects of the Milwaukee voucher program in 2004-05, voucher savings would approach ½ of 1% for Wisconsin. No other program evaluated even approaches ½ of 1% for 2004-05. Ohio and Arizona programs "save" less than 1/10 of 1%.

VI. USEFULNESS OF THE REPORT FOR GUIDANCE OF POLICY AND PRACTICE

It seems unlikely that the Aud report will have much resonance with policymakers in particular, given that most state policymakers are familiar with their own state budget contexts. These policymakers will realize that the figures of millions of dollars in savings accrued over fifteen years actually amount, on average, to less than a rounding error in many states and well less than regular monthly changes in state revenue estimates. In contrast, figures in the hundreds of millions may be more shocking to the average citizen, who might more likely relate Aud's $444 million to a large *Powerball* jackpot than to a mere 0.1 percent of government expenditures on public schooling in a given year.

The evidence Aud presents does not make a sufficient case to informed policymakers for the positive fiscal impact of vouchers and tuition tax credits. In fact, it suggests quite the opposite: that fiscal gains are trivial at best. Further, any reduction in government subsidy is not equivalent to an actual reduction in cost or even a reduction in total expenditures. Instead, it could fairly be characterized as amounting to a transfer of responsibility. Such transfers might reasonably be argued on philosophical grounds, rather than on economic ones. Accordingly, policymakers will still need to make decisions about whether or not to support vouchers and tax credits based on their ideological values and preferences.

NOTES & REFERENCES

[1] Aud, S. (2007). *School Choice by the Numbers: The Fiscal Effect of School Choice Programs 1990 – 2006*. The Milton & Rose D. Friedman Foundation. P. 11.

[2] National Center for Education Statistics (2006, June). Digest of Education Statistics: 2005. (NCES 2006-030) Washington., D.C.: author. Retrieved May 15, 2007, from http://nces.ed.gov/programs/digest/d05/tables/dt05_002.asp.

[3] This number includes voucher recipients from public schools and those previously attending private schools.

[4] Cost benefit analyses of these mechanisms are warranted - comparing the increased resources generated by states into these special revenue funds as a result of exempting only a portion of the contribution, and increased costs of managing the special revenue funds rather than collecting the additional general revenue. Such analyses may exist, but extensive review was beyond the scope of work herein. Further, taxpayers already have the option of making tax deductible charitable contributions directly to churches which subsidize religious private schools or directly to independent private schools.

[5] Aud includes in her discussion, though not in her fiscal analysis, tuitioning programs that have existed in Vermont and Maine for well over a century. These programs exist where local jurisdictions have chosen not to invest in the infrastructure of their own public schools, usually secondary schools, and instead rely on tuitioning agreements often with private independent schools as well as nearby public districts. Over time, in most of these cases, these private schools have effectively become the private providers of public schooling for a handful of communities. One might also classify these communities as non-operating school districts for some grade levels. The communities collect tax revenue and use a portion of that revenue for secondary school tuition which may be used at the assumed primary private provider or nearby public schools.

[6] A substantial body of recent research on marginal costs associated with poverty concentration shows that a 1% increase in subsidized lunch rates in an urban core school district may be associated with a .6% to over 1% increase in costs of achieving constant outcomes. As such, if out-migration of voucher students led to a more than 4% increase in poverty rates among those left behind in Milwaukee, those left behind would in fact experience a net reduction in available resources. For summaries of estimates of these marginal costs, see Bruce D. Baker (2006) Evaluating the Reliability, Validity and Usefulness of Education Cost Studies. *Journal of Education Finance*.

[7] Instructional spending data from the U.S. Census Bureau's Fiscal Survey of Local Governments (F-33) Elementary and Secondary Education Finances. Retrieved May 15, 2007 from http://www.census.gov/govs/www/school.html.

Enrollment data from the National Center for Education Statistics, Common Core of Data, Local Education Agency Universe Survey. Retrieved May 15, 2007 from http://www.nces.ed.gov/ccd/pubagency.asp.

National Center for Education Statistics, Comparable Wage Index used for inflation and regional cost adjustment. Retrieved May 15, 2007 from http://www.nces.ed.gov/edfin/prodsurv/data.asp.

[8] So too would choosing not to subsidize at all the education of those who would use private resources to gain access to private school education if subsidies did not exist.

[9] **Title 16, Section 824 High School tuition**

(a)Tuition for high school pupils shall be paid by the school district in which the pupil is a resident. (b) Except as otherwise provided for technical students, the district shall pay the full tuition

charged its pupils attending a public high school in Vermont or an adjoining state, or a public or independent school in Vermont functioning as an approved area technical center, or an independent school meeting school quality standards. However, if a payment made to a public high school or an independent school meeting school quality standards is three percent more or less than the calculated net cost per secondary pupil in the receiving school district for the year of attendance then the district shall be reimbursed, credited, or refunded pursuant to section 836 of this title, unless otherwise agreed to by the boards of both the receiving and sending districts or independent schools. (c) For students in grades 7 and 8, the district shall pay an amount not to exceed the average announced tuition of Vermont union high schools for students in grades 7 and 8 for the year of attendance for its pupils enrolled in an approved independent school not functioning as a Vermont area technical center, or any higher amount approved by the electorate at an annual or special meeting warned for that purpose. For students in grades 9-12, the district shall pay an amount not to exceed the average announced tuition of Vermont union high schools for students in grades 9-12 for the year of attendance for its pupils enrolled in an approved independent school not functioning as a Vermont area technical center, or **any higher amount approved by the electorate at an annual or special meeting warned for that purpose.**

[10] Notably, a fairer approach might be to identify the nearest neighboring secondary schools to each of these schools and compare their tuition and perhaps integrate transportation cost changes into the analysis. Such detail was beyond the scope of this critique.

[11] Readers may not be surprised to learn that Vermont independent schools have costs in excess of average comparable public school costs. More surprising is data indicating that Catholic school per pupil costs (as opposed to Catholic school tuition) may not be lower than public school costs. In a 2004 cost analysis of 4 Kansas City area Catholic high schools, Michael Sullivan found that average per pupil cost were just over $6,000, while the average operating expenditures for Kansas public schools in the Kansas City metro area were actually slightly lower. Sullivan. M. (2004). *Resource Allocation in Catholic High Schools*. Doctoral Dissertation. University of Kansas.

[12] IRS Form 990. Retrieved May 15, 2007 from through www.guidestar.org

[13] See in particular, Downes, T. and Steinman, J. (2006) Alternative Revenue Generation in Vermont Public Schools. Paper presented at the University of Kentucky symposium, "The Buck Starts Where? Paying for Public Services." Retrieved May 15, 2007, from http://www-martin.uky.edu/~web/buckstarts/papers/Downes.pdf

[14] Integrated Public Use Microdata Series; Minnesota Population Center, University of Minnesota. Retrieved May 15, 2007, from www.ipums.org

[15] It is important to understand that the U.S. Census, American Community Survey estimates provided are estimates and not based on a universe population. Further, they are based on resident status within the city limits for Milwaukee and Cleveland, which may not be perfectly contiguous with school district boundaries. Finally, qualifying criteria for the various voucher programs are not necessarily associated with the poverty thresholds presented in the table and this discussion.

[16] Brasington, D.M. (2004, Dec. 6). "School Choice and the Flight to Private Schools: To What Extent Are Public and Private Schools Substitutes?" Louisiana State University Economics Department, Working Paper 2005-02. Retrieved May 15, 2007 from http://www.bus.lsu.edu/economics/papers/pap06_04.pdf

Greene, J. P., Howell, W. J., and Peterson, P. (1997, Sept.). "An evaluation of the Cleveland Scholarship Program." Cambridge: Harvard University, Program on Education Policy and Governance.

Greene, J. P. and Forster, G. (2003, June). "Vouchers for Special Education Students: An Evaluation of Florida's McKay Scholarship Program." New York: Manhattan Institute.

[17] A brief review of the RAND report *What Do We Know About Vouchers and Charter Schools* might have provided a reasonable backdrop, at least where Washington, D.C. and Milwaukee were concerned. In addition, Levin (2002) discusses the importance of evaluating productive efficiency when evaluating vouchers. See Levin, H.M. (2002) A Comprehensive Framework for Evaluating Education Vouchers. *Educational Evaluation and Policy Analysis.* 24 (3) 159-174.

[18] Brasington, D.M. (2004, Dec. 6). "School Choice and the Flight to Private Schools: To What Extent Are Public and Private Schools Substitutes?" Louisiana State University Economics Department, Working Paper 2005-02. Retrieved May 15, 2007 from http://www.bus.lsu.edu/economics/papers/pap06_04.pdf

[19] Based on the American Community Survey 2005 of the U.S. Census, 5 to 17 year olds.

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