The Fiscal Impact of the MPCP in Milwaukee and Wisconsin, 1993-2008

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Introduction

Throughout the history of publicly-funded voucher programs – enacted and proposed – the impact on taxpayers has been a recurring issue. As the nation's longest-running program, the Milwaukee Parental Choice Program (MPCP) provides an important case study. The fiscal impact of Milwaukee's program has evolved in very significant ways over its 18-year history, both in size (as the program grew) and in its allocation among different groups of taxpayers – Milwaukee property taxpayers, non-Milwaukee property taxpayers, and Wisconsin state taxpayers. This report closely examines the features of the MPCP funding formula, and its interaction with the state's regular district funding formula over the program's history to better understand the impact on taxpayers.[2]

The fiscal impact of vouchers can be broken down into two distinct questions: (i) the amount of public funds potentially freed up by the transfer of students from district schools to voucher schools; and (ii) the allocation of those funds among various taxpayers by the funding formulas.

With regard to the first question, the MPCP has long featured a voucher that is significantly below the per pupil revenues in the Milwaukee Public Schools (MPS). This difference provides significant potential taxpayer savings, much like those that would be generated by voluntary enrollment shifts from high-spending to low-spending districts. The magnitude of these potential savings depends on the enrollments, and the number of voucher-users who would have attended MPS in their absence.

These variables are examined in the first part of this report to estimate the net impact of the MPCP over the life of the program, compared to likely scenarios had the MPCP never existed. The size of the net impact is somewhat sensitive to assumptions, but for most likely scenarios the net impact is positive taxpayer savings.

The second question is whether the funding system is structured to deliver these potential savings to the taxpayers, and, if so, which ones – state taxpayers, Milwaukee property taxpayers, or property taxpayers in other districts? The answer depends on both the state's district funding formula and the voucher funding formula.

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[1] I would like to acknowledge the very helpful comments of Anneliese Dickman, Andrew Rotherham, Andrew Reschovsky, and George Mitchell. An advance copy of this report was reviewed by the Wisconsin Legislative Fiscal Bureau and the Wisconsin Department of Public Instruction. I greatly benefited from discussion at my presentation to the SCDP Research Advisory Board. John Witte provided helpful advice and a set of enrollment data. Finally, I received excellent research assistance from Jeff Dean.

[2] The term "impact on taxpayers" should be construed broadly to include either actual taxes paid or redirection of tax money to/from other public expenditures to offset the impact on general funds.

The Wisconsin school funding system is largely driven by enrollment, a fact that should, in principle, make it highly compatible with a system of school choice, where "the dollar follows the child." In addition, the savings from enrollment shifts to districts with lower expenditures are automatically shared by property taxpayers across the state. It is a system that could, at least in principle, be adapted for funding of the voucher program, with comparable results. However, Wisconsin chose not to follow the natural template of the general funding formula when it decided how to fund the MPCP.

Instead, the state has adopted a series of voucher funding formulas, each of which has allocated the potential savings in a somewhat different fashion. One constant issue, however, has been that none of the savings are shared by the property taxpayers of Milwaukee – their taxes have been consistently raised by the formula. Rather, the savings generated by the MPCP have generally accrued to property taxpayers outside of Milwaukee and/or to state taxpayers. This "funding flaw" (as it is commonly referred to) has been generally recognized among policy-makers and interest groups in Wisconsin. Various modifications to the formula over the years have attempted to ameliorate this adverse impact, and further reforms have been proposed (most recently in the budget deliberations for the FY08-09 biennium), but the problem has persisted and grown with the size of the program.

The second part of this report provides an analytical dissection of the funding formulas over the life of the MPCP, to help estimate and understand the allocation of the MPCP's net impact among the various classes of taxpayers. This analysis explains why the funding formula changes adopted thus far have not eliminated the problem. Concluding remarks suggest possible lessons from the MPCP funding history.

Previous Analyses of the MPCP Fiscal Impact

Debates over the fiscal impact of the MPCP have gone through various phases over the program's history.[3] Initially, the public and scholarly debates focused on the size of the voucher and/or MPCP school expenditures, compared to per pupil expenditures in MPS. At issue here was the relative efficiency of the private and public schools.

Although it is possible to compare per pupil expenditures, the relative efficiency ultimately rests on the educational results that different schools obtain from their expenditures. This report does not consider educational results – that is the subject of the SCDP's longitudinal analysis of MPCP performance. Instead, this report considers the separate question of the impact on taxpayers of the MPCP, independent of the educational results, so it cannot and does not address the issue of relative efficiency.

The most important work to date on the impact of the MPCP on taxpayers has been undertaken by the Wisconsin Legislative Fiscal Bureau (LFB). The LFB is statutorily charged with providing information to legislators on budget matters, including school

[3] See Appendix A for a selected review of this literature.

funding formulas.[4] Specifically, LFB has conducted periodic analyses, at the request of legislators and other public officials, of the fiscal impact of the MPCP on taxpayers, in and outside of Milwaukee.[5] The question addressed by the LFB analyses is closely related, but not identical to the question asked in this report. Instead of asking "what is the fiscal impact compared to likely scenarios had the MPCP never existed," the LFB analyses respond to queries about the likely impact "if the program were eliminated."

The LFB analyses imply that for each voucher student who would otherwise enroll in MPS, the public funds spent on the voucher are less than the funds that would otherwise be spent from property taxes and state taxes. Consequently, if all MPCP students would otherwise attend MPS, the net fiscal impact of eliminating the MPCP on state and local public funds taken together would be adverse. For FY07, the impact implied by LFB estimates would have been $54.1 million.

LFB also analyzes the impact under the assumptions that 75%, 50%, 25% or 0% of MPCP students would otherwise attend MPS if the program were eliminated. Under the 75% assumption, the net adverse impact is smaller ($12.9 million), and for the assumptions of 50% or less, the net impact is estimated to be a public saving.

The LFB analyses also show that the allocation of the net impact is very uneven. Under all scenarios, the MPS levy would decline with the elimination of the voucher program, and under most scenarios the levies in the rest of the state (taken together) would rise.[6]

In general contours, the findings of this report are consistent with LFB's analyses, despite some minor differences in methodology. Later sections of this report will include a comparison. This report's main contribution is to provide a detailed analysis of how Wisconsin's funding formulas came to spread the potential savings from the MPCP so unevenly among the state's taxpayers.

MPCP Voucher and Expenditures vs. MPS Revenues and Expenditures

The basic data on which all analyses of the MPCP's fiscal impact rest are the size of the voucher and one measure or another of MPS per pupil expenditures or revenues. Figure 1 depicts the voucher and various such measures for MPS. The period depicted begins with the initial year of the MPCP, FY91.

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[4] It regularly produces information papers on these formulas (timed to the biennial budget), cited below.

[5] Among these analyses are those dated September 27, 2001 for Representative Antonio Riley, January 21, 2005 for Representative John Gard, January 23, 2006 for Milwaukee Mayor Tom Barrett, and January 14, 2008 for Representative Michael Huebsch.

[6] The size of these impacts depends on whether it is assumed that the general fund appropriation for MPCP would be redirected to general school aids, since that feeds back through the state funding formulas to local property tax relief. LFB provides estimates under both assumptions.

The maximum voucher began at $2,446 and rose steadily to $6,501 in FY07, which is unchanged in FY08, as shown with the solid red line.[7] If a voucher school's per pupil operating and debt service expenditures are lower, then the voucher is restricted to that. The red dotted line depicts the average voucher, reflecting that restriction, for the years those data are available on-line. Since this is within a few percent of the maximum voucher, and these data are only available with a lag, the remainder of this report will refer only to the maximum voucher. Finally, the dashed red line depicts the average MPCP operating and debt service expenditures, based on audited reports.

[Insert Figure 1: MPCP voucher & expenditures vs. MPS revenues & expenditures]

The per pupil expenditure figures for MPS are depicted with the green lines. The total expenditure per pupil rose from $6,222 in FY91 to $11,885 in FY06 (the most recent year available), depicted with the dotted-and-dashed line.[8] These figures include capital and other expenditures as well as instructional and support expenditures. Since FY00, Wisconsin's Department of Public Instruction (DPI) has calculated a measure of current expenditure, which "attempts to identify overall instructional and instructional support service costs" by excluding transportation, capital and debt service, and food and community service expenditures. This measure of current expenditure rose from $7,808 in FY00 to $10,332 in FY06, depicted with the solid green line. Thus, MPS current expenditures per pupil have exceeded MPCP operating and debt service expenditures (the dashed red line) by an amount rising from about $2,700 in FY00 to about $3,500 in FY06.

We now turn to two MPS revenue measures, depicted with the blue lines. Since FY00, DPI has calculated a figure for total revenue per pupil, a figure which includes Federal, state, property tax, and other local revenues. It has risen from $9,227 in FY00 to $12,385 in FY06, as depicted with the dashed blue line. This figure is now almost double the MPCP voucher, in part because it includes revenues available for capital and other non-comparable expenditures, but also because it includes Federal and other revenue sources not available for the MPCP.

The final measure depicted is the MPS per pupil revenue limit. As discussed in more detail in subsequent sections of this report, the revenue limit covers the main source of state aid to MPS and MPS property taxes. It does not include Federal revenues, as well as some other revenues, notably categorical state aid for special education and low-income students. For the purposes of analyzing the impact of the MPCP on state and

[7] Prior to FY00, the maximum voucher was equal to the per pupil equalization aid for Milwaukee. From FY00-FY03, the voucher was set at the previous year's value, incremented by the change in the per pupil revenue limit (determined statewide, as discussed below). Since FY04, the voucher has been set at the previous year's value, incremented by the statewide percent change in general school aid.

[8] The specific series depicted is "Complete Annual School Cost" (CASC) per member from FY91-FY99, and "Total District Cost" (TDC) per member from FY00-FY06, since the DPI switched measures in FY00. In general, these are not strictly comparable before and after FY00 (as indicated by the dotted vs. dashed portion of the line), but for Milwaukee, the data do not exhibit a large discontinuity in that year.

local taxpayers in Wisconsin, this is more appropriate than the previously discussed measures, and it is the measure that will be used in the remainder of this report. It has risen steadily from $5,804 in FY94 (the year Wisconsin established revenue limits) to $8,833 in FY07 and $9,141 for FY08,[9] as depicted by the solid blue line. The difference between the MPS revenue limit and the MPCP voucher was generally around $2,000 from FY97-03, but has drifted up over the last few years to $2,332 in FY07 and $2,640 in FY08.[10]

This difference between the MPS revenue limit and the MPCP voucher is key to the analysis below, since it represents the potential taxpayer savings for each student in the MPCP who would otherwise attend MPS. The LFB analyses imply a larger estimate of this potential savings. The magnitude of the savings for each such voucher student has not been featured in public discussions of the LFB analysis, but it can be readily calculated from the data in the LFB tables.

In its most recent analysis (January 14, 2008), for FY07, the LFB estimates that if all 17,000 voucher students returned to MPS, the revenue limit would rise by $164.6 million (when fully phased in). This represents an effect of $9,682 for each student, which is $850 higher than the MPS revenue limit.[11] This implies a savings from each MPCP student of $3,181 instead of the $2,332 figure given above. Similar estimates are implied by the LFB analyses for FY05 and FY06, as depicted in Figure 1, by the purple line fragment. Thus, compared to LFB estimates, this report uses lower figures for potential taxpayer savings from each MPCP student who would have otherwise attended MPS.[12]

Enrollment

The other variables needed to calculate the net fiscal impact of the voucher program are enrollment in the MPCP and the number of voucher students who would have enrolled in the public schools. MPCP enrollments are depicted in Figure 2. Notable points on the diagram include the program's expansion to religious schools in FY99, and the expansion

[9] DPI's October 23, 2007 estimate.

[10] In percentage terms, the voucher has fluctuated in a narrow band, 71-74% of MPS' revenue limit since FY98.

[11] LFB's calculations under the alternative assumptions of 75%, 50% and 25% enrollment of MPCP students in MPS all give the same estimate for per pupil impact on revenue limits as the 100% estimate given above. That is, the total impact on revenue limits is linear in the number of students. This is also true for LFB's FY06 and FY05 estimates (January 23, 2006 and January 21, 2005).

[12] In communications with LFB it was determined that the main difference is in the timing of the simulated phase-in. The state's revenue limit formula uses a three-year rolling average of enrollments. This report assumes the phase-in is completed by the year in question, as is appropriate for an analysis of the scenario where MPCP had never existed. Since LFB is examining a different scenario, the elimination of MPCP, the phase-in begins in the year in question and is not completed until three years later. This accounts for the vast majority of the difference in the two estimates.

of the program's cap in FY07. In all, after modest beginnings over the first eight years of the program, MPCP enrollments have expanded over the last decade from about 1,500 in FY98 to about 17,000 in FY07 and an estimated 18,500 in FY08.[13]

[Insert Figure 2: MPCP enrollment]

We now need to estimate the number of MPCP students who would have attended public schools, had the MPCP never existed. There are a few kinds of evidence to consider. By way of comparison, national survey data indicate the percentage of all children from low-income families who attend private schools is about 5%.[14]

A better estimate can be derived from research conducted on other voucher programs, with random assignment. These programs, like Milwaukee's, are limited to low-income families – families that would find it difficult to pay tuition without a voucher for a sustained number of years. The studies give the percent attending private schools among those who lose the lottery, for comparison with those who win. The research literature here is thin, but indicates a possible rate of 10-15% who would still attend private schools without the voucher after one year, dropping to under 5% by year three.[15] A midrange estimate from this literature, 10%, is the main one used in this report.

In evaluating this estimate, or any other one, it is important to consider the trends that were underway in Milwaukee private schooling when the MPCP began. Enrollments were declining, particularly among Catholic schools. John Witte traces the decline in private enrollments to the late '60s, interrupted by a short-term increase beginning in 1978, due to involuntary busing.[16] In 1987, a group of Milwaukee business leaders under the auspices of the Archdiocese of Milwaukee organized to address the decline in the

[13] These are in full-time equivalents (FTE's), the measure used for MPCP funding. FTE's are a bit lower than headcounts, since four-year-old kindergarteners and summer school students count as less than one FTE.

[14] The figure is 4.1% for household income under $25,000 in 2003, and 8.2% for income in the range of $25,000-$50,000. (National Household Educational Survey, Parent and Family Involvement in Education, 2003, NCES) The MPCP eligibility requirement is 175% of poverty threshold, which in 2003 would have been $32,918 for a household of four.

[15] For example, in the Federally funded DC voucher experiment, after one year 80% of winners attended private school and 11% of losers, which translates into an estimate of 14% (11/80) of voucher-users who would have attended private schools anyway. Corresponding estimates among three relatively small privately-funded voucher programs (NYC, Ohio, DC) range from 5% to 23%, with a weighted average of 11%. After a second year, the average drops to 9%, and after a third year it drops to 4%. See Patrick Wolf, Babette Gutmann, Michael Puma, Lou Rizzo, Nada Eissa, and Marsha Silverberg. *Evaluation of the DC Opportunity Scholarship Program: Impacts After One Year*. U.S. Department of Education, Institute of Education Sciences. Washington, DC: U.S. Government Printing Office, 2007, NCEE 2007-4009, pp. 36-38, and William G. Howell and Paul E. Peterson, with Patrick J. Wolf and David E. Campbell, *The Education Gap: Vouchers and Urban Schools*, revised edition, Brookings Institution Press, Washington, D.C., 2002, p. 45.

[16] John F. Witte, *The Market Approach to Education*, Princeton University Press, 2000, pp. 40-41.

Catholic schools. Later known as Partners Advancing Values in Education (PAVE), the group began offering scholarships for low-income children during the early years of the MPCP, when that program was restricted to non-sectarian schools. These scholarships grew in anticipation of the expansion of the MPCP to religious schools. When the court ruling allowed that expansion to occur, PAVE scholarships were cut back.[17]

Figure 3 depicts enrollment in Milwaukee's private schools. Specifically, the top curve (blue) represents total private enrollment data from DPI, a curve that continued to decline prior to the MPCP expansion, and has risen since then. The other two curves net out, respectively, MPCP enrollments and PAVE scholarships as well.[18] Since many of the PAVE scholarships prior to the MPCP's expansion were intended to facilitate that expansion, it may be helpful to net them out to get a better idea of the timing in the underlying trends. Specifically, the purple and red curves depict the hypothetical trends in private enrollments, if none of the MPCP students would have otherwise attended private schools, with or without the PAVE students. These data suggest that the trend on these curves after the MPCP's expansion (FY99) was consistent with the trend prior to expansion. However, the DPI data are not readily available prior to FY93, so these data cannot be directly compared with earlier trends, before the MPCP began.

[Insert Figure 3: Milwaukee Non-Public Enrollment, FY93-08]

To go back earlier in time, Professor John Witte provided a longer series of private enrollments in Milwaukee, from FY60-FY97. These data are from a different source and with a slightly different definition, but the series can be spliced together with the more recent DPI data, by considering differences relative to FY93.[19] Taking both series and netting out the MPCP and PAVE figures, we have the baseline curve (solid) depicted in Figure 4.[20] As discussed above, Witte found that private enrollments showed a long-term decline, temporarily interrupted by the busing experience, but resuming its downward path prior to the MPCP. The data depicted here suggest that the baseline trend after the MPCP is consistent with these long-term trends. Figure 4 also shows trends

[17] Paul E. Peterson, with Nathan Torinus and Brad Smith, "School Choice in Milwaukee Fifteen Years Later," in Paul T. Hill, ed., *Charter Schools Against the Odds: An Assessment of the Koret Task Force on K-12 Education*, Hoover Press, 2006, p. 79.

[18] The PAVE data depicted on the dotted portion of the curve (after PAVE shrunk in FY99) are the author's estimates, based on financial reports.

[19] These data appear in Witte (2000), Figure 3.4, p. 42. For the period from FY80, the Witte data are those gathered by MPS pursuant to Wisconsin law that requires an annual child census. The features of that census result in higher figures for private education among Milwaukee families than the DPI figures on Milwaukee private schools. The census data have also been affected by significant changes in methodology in recent years, so when DPI data are available, they appear to be preferable. However, the trends in these data are what is important, and they are comparable between data sets.

[20] Excluding MPCP only (leaving in PAVE) results in a similar curve, with similar long-term trends, but with the difference in FY99 as depicted in Figure 3, when the PAVE scholarships were cut back with the expansion of MPCP.

under alternative assumptions on the percentage of MPCP and PAVE students who otherwise would still have attended private schools. The 10% assumption drawn from the voucher lottery literature yields a curve that is similarly consistent with the long-term trends. Higher percentages, also depicted, would imply a significant slowdown or even a reversal of the downward trends.

[Insert Figure 4: Milwaukee Private Enrollment Trends, FY61-08]

Of course, we have no way of knowing for sure whether the pre-MPCP trends would have continued, slowed, or reversed. They could even have accelerated, if, for example, the decline in demand for private schools led to further school closings instead of just more empty seats. No two cities are strictly comparable, but Chicago may provide an illustrative example of a case where the decline in urban private education seems to have accelerated during this period, in the absence of a large-scale voucher program. Figure 5, based on data from the U.S. Department of Education, indicates that Chicago's private enrollments showed no trend from FY90-96, but then dropped 29% from FY96-06 (the most recent year available).[21]

[Insert Figure 5: Enrollment Trends in Chicago]

To summarize, the estimate drawn from voucher lottery studies, that 10% of voucher students would have attended private schools had the MPCP not existed, is consistent with private enrollment trends in Milwaukee and elsewhere. Other estimates may also be consistent, and net impact estimates will be provided below under alternative assumptions. Some estimates, however, may be safely ruled out, if they imply non-credible alternative trends in private enrollments.[22]

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[21] These data are from the Private Schools Universe Survey (PSS) conducted every two years since FY90 by the U.S. Department of Education's National Center for Education Statistics (NCES).

[22] Other pieces of evidence were considered. For example, during part of the MPCP program, data were collected on prior year attendance. In general, the program was not open to students already in private schools, but in FY99, the year the Wisconsin court ruled that the MPCP could expand to include religious schools, private students in grades K-3 were allowed to enter. In that year the DPI estimated there were about 4500 first-time MPCP enrollees, of whom 2300 had been K-3 private students, 1400 came from MPS and 800 had either just started school or were of unknown prior status (March 22, 1999 Memorandum from Charlie Toulmin, Administrator of MPCP, to John R. Kalwitz, President City of Milwaukee Common Council, on Financial Impact of MPCP). There are a number of difficulties in trying to infer from these data an estimate of the steady state number of non-switching voucher students, but the main problem is that the 2,300 K-3 non-switchers were almost all enrolled in these schools under privately-funded scholarships created in anticipation of a favorable court ruling on the program expansion (Peterson (2006), p. 79; Sammis B. White, Peter Maier, John Stott and Christine Cramer, "PAVE's Annual Report on Research: Fifth Year," Center for Urban Initiatives at the University of Wisconsin-Milwaukee, 1998, p. 5; Communication from Dan McKinley, President and CEO PAVE, January 5, 2008.) For a different view of the FY99 expansion and also the FY07 expansion, see Public Policy Forum, "Research Brief," Volume 95, No. 1, February 2007.

Another figure that was considered is found in the SCDP Baseline Report for the MPCP Longitudinal Educational Growth Study (LEGS), issued simultaneously with this report. The LEGS report includes a Parental Survey that gauges satisfaction with the MPCP and MPS. One question found that "51 percent of

Finally, a distinction exists between the assumption that 90% would have attended public schools and that 90% would have attended MPS. It may well be the case that a significant portion would have attended other public schools in Wisconsin, either by relocation or through Wisconsin's inter-district transfer program, or through charter school enrollments. As will be shown below, however, this would have only a minor effect on the analysis of the fiscal impact of the MPCP.

MPCP parents said that they would enroll their child in a private school next year and pay tuition if a school voucher was no longer available." This might or might not be an accurate prediction of the one-year behavior upon elimination of the MPCP, given that students are already in these schools, but it does not address the likely long-term impact of eliminating the MPCP or the likely path that would have obtained had the MPCP never existed – the question addressed by this study.

Potential Taxpayer Gains from the MPCP

The difference between the state and local revenues allocated to a student in public school and the MPCP voucher represents the potential taxpayer gains from each student who chooses to switch from public schools to the MPCP. If all voucher students would otherwise have attended public schools, then the total potential gains to the taxpayers simply equals the number of voucher students multiplied by the per pupil difference between the revenue limit and the voucher. However, for any voucher student who would have attended a private school anyway, the cost of the voucher is a net drain on public funds, offsetting the gains from those who switch. The net gain (or loss) depends on the percent of such voucher students, discussed in the previous section.

Specifically, the basic equation is:

Net Impact =
(public revenue/pupil × reduction in public enrollment)
- (voucher × MPCP enrollment)

The figures for the voucher and the MPCP enrollment are known, but, as we have seen, there have been different figures used for the per pupil effect of the MPCP on public revenues, and of course the reduction in public enrollment is subject to estimate. Table 1 presents the estimated net impact for FY07 under varying assumptions. The two columns correspond to the per pupil impact on MPS revenues, as implied by the LFB estimate ($9,682) and using the FY07 MPS revenue limit ($8,833), respectively. The rows correspond to different assumptions regarding the percent of MPCP students that would have attended MPS, had the MPCP never existed.

[Insert Table 1]

The estimated net impact is somewhat sensitive to assumptions, ranging from a high of $54.1 million to negative $5.4 million.[23] For most likely scenarios the net impact is positive, i.e. taxpayer savings. The figure of $24.6 million is based on the FY07 MPS revenue limit and the assumption that 90% of MPCP enrollees would have otherwise attended MPS (as discussed in the previous section).

The 90% assumption can be more broadly construed as the percent of MPCP enrollees who would have attended public schools, either MPS or some other school as discussed above, without any major effect on the estimate of net impact. For example, if we assume that 70% would have attended MPS and 20% would have attended other public schools, and if we take the state's average revenue limit ($9,149 in FY07) for the other public schools, then the net impact would be $25.7 million instead of $24.6 million, a minor difference.

[23]The break-even point in the right-hand column is where 73.6% of voucher-users are non-switchers, the ratio of the voucher to per pupil revenues, $6,501/$8,833.

Figure 6 presents the estimated net impact over the life of the program, using the MPS revenue limit and the 90% assumption. Prior to the program's expansion in FY99, the net gains were under $2.4 million, but as the program's enrollment grew the net impact grew to an estimated $24.6 million in FY07 and $31.9 million in FY08.

[Insert Figure 6]

We now turn, in the remainder of this report, to the question of how these potential gains are allocated among various groups of taxpayers. This requires a close examination of Wisconsin's funding formulas, both for school districts and for the MPCP.

The General (non-MPCP) Wisconsin School Funding Formulas[24]

Wisconsin has two interlocked formulas that drive regular school funding – the revenue limit and equalization aid formulas. The first key feature of this system is that a district's available revenues rise and fall with enrollment – the system is enrollment-sensitive in the long run. The second key feature is that the state provides a portion of each district's "shared costs" according to property values, while the rest is provided by the local levy. The third key feature is that the aid formula automatically adjusts to exhaust the state appropriation, with corresponding adjustments to local property taxes across the state. This means that any funds freed up by enrollment shifts from high-spending to low-spending districts automatically generate property tax relief shared across the state.

To get a bit more analytical, Wisconsin's school funding formulas are driven by three key variables for each of the state's 425 school districts – per pupil revenues, enrollment, and per pupil property values – together with the total school aid appropriation of the state legislature. The basic structure is as follows:

(1) Each district's per pupil revenues, from state and local sources together, is set at the previous year's level, plus a state-specified increment.
(2) Multiplying the specified per pupil revenue by district enrollment yields the total revenue (state plus local) permitted for each district.
(3) Summing across districts, the statewide revenue limit is split between statewide school aid, determined by the legislature, and local property taxes.
(4) Within the overall split, the split for each district is determined by a formula based on per pupil spending and per pupil property values.

The long run response of a shift in enrollment from one district to another, holding everything else constant, is that state aid is reallocated by the full amount of per pupil

[24] See "State Financing of K-12 Education in Wisconsin: Overview" September 26, 2007, Legislative Fiscal Bureau, www.legis.state.wi.us/lfb.

spending.[25] That is, although districts vary widely in their average state aid per student (since property wealth varies), their marginal state aid per student is essentially 100% of per pupil revenues. To a first approximation, therefore, nothing else changes upon a shift in enrollment: there is no effect on per pupil spending in either the sending or receiving district, nor is there any effect on property taxation in either district. If enrollment shifts between districts with different per pupil expenditures, the impact on total spending is automatically absorbed by a change in property taxes, spread across the state.

In the more detailed discussion that follows (and in Appendix B), there will be modifications to the simplified version presented above. However, this basic structure will provide the framework from which to evaluate the fiscal impact of the MPCP in the sections to follow. We now turn to a more formal analysis of the two main formulas that drive the funding system: Revenue Limits and Equalization Aid.

Revenue Limit[26]

Since 1993, Wisconsin's Revenue Limit statute has set a maximum figure for each school district's revenues from state and local sources.[27] Basically, the statute takes each district's previous per pupil revenues, increases it by an annual increment set in statute, and then multiplies that by enrollment to determine the revenue limit.

For policy analysis below, it will be helpful to introduce a few simple equations. Formally, if we define p_{iT} as the per pupil revenue limit in district i and year T and E_{iT} as enrollment, the total revenue limit R_{iT} is determined by two equations:

$$(1) \qquad p_{iT} = p_{i0} + \sum_{t=1}^{T} \Delta p_t$$

$$(2) \qquad R_{iT} = p_{iT} \cdot E_{iT}$$

Here, each district's per pupil revenue increases over time from its base year level p_{i0} (the FY93 revenues per pupil), by an annual statewide increment Δp_t which is set in statute with annual inflation adjustments (Δp_t = \$257 in FY07).[28] For Milwaukee, the revenue

[25] This response is phased in over a three-year period, because the enrollment measure that drives the revenue limit formula is a three-year rolling average (see further discussion in Appendix B). The term "long run" here, and throughout the text, is meant to remind the reader that the impact is not immediate.

[26] See "Local Government Expenditure and Revenue Limits," January 2007, Wisconsin Legislative Fiscal Bureau Informational Paper 12. www.legis.state.wi.us/lfb/Informationalpapers/12.pdf

[27] Some revenues are excluded from this limit, notably the various forms of categorical state aid, as well as local non-tax revenues.

[28] The determination of the annual increments has changed since 1993. Under current statute, dating to 1997, the annual increments increase by inflation each year. This is not the same as increasing the per pupil revenue limit itself by inflation. For example, if inflation is zero, the per pupil revenue limit will still increase by the previous year's increment. From FY98 to FY07, this method yielded a cumulative increase

limit was $8,833 per pupil in FY07; for the state's median district p was $9,085.[29] For each district, the result is multiplied by enrollment to give the annual revenue limit.

The key point here is that equation (1) is independent of shifts in enrollment: a district's per pupil revenue depends only on its base-year level, and a series of statewide increments.[30] Consequently, the effect of any policy change on the district's revenue limit works solely through enrollment, holding p constant. If we consider a policy that shifts 10,000 students from one district to another over the period from year *0* to year *T*, then the revenue limit in the sending district is reduced by 10,000 times that district's p_{iT}, while the revenue limit in the receiving district is raised by 10,000 times its p_{jT} .

Equalization Aid and Local Levy[31]

We now examine how Wisconsin's formulas split the funding of total revenue between state aid and the local levy. Equalization aid is the state's main form of school aid. It constitutes 98% of "General School Aid" for the state as a whole and 93% for Milwaukee.[32] The total amount of equalization aid is determined by legislative appropriation,[33] and the distribution of that total is governed by a formula based primarily on district property values per pupil. Specifically, the distribution formula contains a parameter that is calibrated each year to generate total equalization aid that exhausts the state appropriation. In this way, the legislature's appropriation decision effectively decides the aggregate split between state and local school revenues, while property values apportion that split across districts.

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in per pupil revenue that exceeded the cumulative rate of inflation (2.5% compounded) for the vast majority of districts (all those with per pupil revenue below $8,420 in FY98).

[29] To reiterate, the revenue limit does not include such categorical aids as special education reimbursements and "SAGE" grants (Student Achievement Guarantee in Education, for schools with high proportions of low-income pupils). Milwaukee would tend to receive an above-average portion of these funds, as well as of Federal funds, which are also not covered by revenue limits.

[30] Unmodified, this system would freeze differentials in per pupil revenues among districts. However, there is also a statewide minimum that is regularly raised to compress differentials ($8,400 in FY07; $8,700 in FY08; $9,000 in FY09). This modification does not affect p_{iT}'s independence of enrollment. Another feature that induces a bit of district variation in Δp_t is discussed in Appendix B.

[31] See "State Aid to School Districts," January 2007, Wisconsin Legislative Fiscal Bureau Informational Paper 27, www.legis.state.wi.us/lfb/Informationalpapers/27.pdf .

[32] General School Aid is the concept that enters the Revenue Limit, for determination of local levies. For more detail, see Appendix B.

[33] From FY97 to FY03, state law specified that two-thirds of statewide school revenues should be provided by the state (including categorical aid, and also a school levy credit). Since FY03 the state share has been at the legislature's discretion, although the state's implicit policy is to hew closely to the two-thirds rule.

The formula aims to equalize tax rates among districts with equal per pupil spending. It does so through the concept of a state-guaranteed property tax base per pupil, such that differences in the property tax base are offset by the aid formula.[34] The aid formula can be daunting in appearance, and can easily be misinterpreted, but with a bit of patience it can be correctly understood with regard to its central feature for present purposes: the extent to which aid flows from one district to another as enrollment shifts.

The usual presentation calculates equalization aid, A, in three components, each of which is a share of the corresponding "tier" of "shared costs." "Shared costs" is similar to the concept used in revenue limits,[35] and we shall use the same notation, $p \cdot E$. (Here and below, we suppress subscripts i and t, for district and time, except where needed.)

Shared costs are broken down into three tiers $p^1 \cdot E$, $(p^2-p^1) \cdot E$, and $(p-p^2) \cdot E$. By statute, p^1 is set at \$1,000 and p^2 is set at 90% of the prior year's statewide average for shared cost per pupil (p^2 = \$8,251 in FY07). The local levy's share of each tier of spending is v/v^h, where v is the district's property values per pupil (prior year), while v^1, v^2, and v^3, are cutoff points for guaranteed property values per pupil. This means the state shares of these tiers are $(1-v/v^h)$, $h=1,2,3$.[36] Putting this all together, the equation for state aid is:

$$(3) \qquad A = \left(1 - \frac{v}{v^1}\right) \cdot p^1 E + \left(1 - \frac{v}{v^2}\right) \cdot \left(p^2 - p^1\right) E + \left(1 - \frac{v}{v^3}\right) \cdot \left(p - p^2\right) E \, .$$

The parameter v^1 is set by statute at \$1,930,000 (since FY03) and v^3 is set at the prior year's statewide average of property values per pupil (\$483,015 for use in FY07). The remaining parameter, v^2, is not set in statute, but varies with the legislative decision on total appropriation – the value of this parameter is set to exhaust the appropriation on the aid determined by the formula (\$1,292,558 in FY07).

When the formula is built up in this fashion, it can lead one to conclude that aid is proportional to enrollment, so that when enrollment shifts, aid shifts by the aid per pupil. However, this is incorrect. The reason is that v, property values per pupil, also changes with enrollment. To see this, write $v = V/E$, where V is total property values, and then simplify (3):

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[34] Andrew Reschovsky has pointed out that the vast majority of equalization aid per pupil is distributed in a particularly simple fashion, as the difference between a fixed spending figure (p^2 discussed below) and a fixed tax rate on each district's per pupil property values. Only a small portion of spending – the portion exceeding p^2 – is truly governed by the guaranteed tax base formula. See Andrew Reschovsky, "Reforming Wisconsin's School Funding Formula", November 28, 2007, State Capitol, Madison.

[35] See Appendix B for discussion of differences.

[36] The state shares can be negative at one or more tiers. However, there is a state hold harmless guaranteeing that each district will at least receive the primary tier aid. There is also a hold harmless that primary tier aid is non-negative. These hold harmless provisions have not affected Milwaukee.

$$(4) \qquad A = pE - \left(\frac{p^1}{v^1} + \frac{p^2 - p^1}{v^2} + \frac{p - p^2}{v^3} \right) \cdot V \ .$$

The expression now shows that to a first approximation (holding v^2 constant for the moment) a district's equalization aid varies with enrollment by the full per pupil spending, p, rather than just the per pupil aid. That is, under the Wisconsin formula, $\Delta A/\Delta E = p > A/E$: the marginal aid exceeds the average aid per pupil.

Now turn to the local levy, which is that portion of shared cost not provided by the state. It is given in the second term above:[37]

$$(5) \qquad L = \left(\frac{p^1}{v^1} + \frac{p^2 - p^1}{v^2} + \frac{p - p^2}{v^3} \right) \cdot V \ .$$

Finally, note that v^2 is determined by the requirement that district aid allotments, A_i, exhaust the state appropriation, S:

$$(6) \qquad S = \sum A_i = \sum p_i E_i - \sum \left(\frac{p^1}{v^1} + \frac{p^2 - p^1}{v^2} + \frac{p_i - p^2}{v^3} \right) \cdot V_i \ .$$

The equations above are intended to capture the essence of the funding formulas that are central to policy analysis. [38] Omitted details are certainly important to district fiscal authorities managing their yearly budgets, but their inclusion above would impede understanding of the logic of the policy impacts. Appendix B discusses a number of these details and why their omission does not have a material effect on our analysis.

The Fiscal Impact of Enrollment Shifts

Consider a shift of enrollment, ΔE, from district j to district k. Suppose further that $p_j > p_k$: enrollment shifts from a higher-spending to lower-spending district. Then revenue limits go down in district j and up, but by a smaller amount, in district k. The direct effect of this shift is to move aid from district j to k by the full amount of the change in the revenue limits. This leaves some aid left over, $(p_j - p_k) \cdot \Delta E$, to spread across all

[37] A portion of the levy is defrayed by the state, under the School Levy Tax Credit. The amount of the credit is determined legislatively and apportioned among the municipalities, prior to sending out property tax bills. In 2006, an appropriation of $593 M reduced school property taxes by an average of 15.2%.

[38] There are a few other features of (4)-(5) that bear observation. Equation (5) shows the specified tax *rate*, L/V, equals the parenthesized term. Every element of that term is the same across districts, except p, so the tax rate is equalized across all districts with equal per pupil revenues. Districts with higher p will have higher specified tax rates. (A complication is introduced by the hold harmless provisions, omitted from (4)-(5). These provisions reduce the specified tax rate for districts with particularly high property values.) On the aid side, equation (4) can be used to show that for districts with the same property values per pupil, the one with higher p will have higher aid per pupil, if the property value per pupil is below the state average ($v < v^3$), and lower aid per pupil if property values exceed the state average ($v > v^3$).

districts. The aid formula accomplishes this by raising v^2, changing the overall split between levies and aid. Specifically, it can be shown that each district's levy drops by a portion of the aid that is freed up, $(p_j - p_k)\cdot\Delta E$, and its share of that is equal to its share of total property values.[39] Consequently, each district's aid is adjusted upward by that amount, on top of the original change in aid from the change in the revenue limit.

For example, suppose 17,000 students shifted out of Milwaukee, with p_M=*$8,833* (the figure for FY07) to some other district with p_x=*$6,501*. The results are summarized in Table 2. Milwaukee's revenue limit would decline by $8,833 × 17,000 = $150.2 M and the other district's revenue limit would rise by $6,501 × 17,000 = $110.5 M. As a first pass, aid would change by the same amounts. However, this would free up $39.6 M of aid. If the appropriation is unchanged, that $39.6 M is spread across districts in the form of reduced levies and correspondingly higher aid.

[Insert Table 2]

Milwaukee's share of the $39.6 M would be 6.1% of the total, $2.4 M, since its property values comprise 6.1% of the state's total. Consequently, Milwaukee's levies would drop by $2.4 M and its drop in aid would thus be mitigated to $147.7 M = $150.2 M - $2.4 M. Suppose the district receiving these 17,000 students has a negligible share of the state's property values, so its levies would remain unchanged and its aid would rise by the full $110.5 M rise in the revenue limit. For all other districts taken together, local levies would drop by $37.2 M = $39.6 M - $2.4 M, and aid would rise by the same amount.

To summarize: there is no impact on per pupil revenues for students who remain in their districts, and spending is reduced on those students who shift districts. The result is a saving to taxpayers. Since the state appropriation is unchanged, there is no impact on state taxpayers: the savings are all passed on to local taxpayers, spread across the state. These impacts, summarized in the bottom of Table 2, must sum to zero.

Fiscal Impact of a Voucher System Under General (non-MPCP) Funding Formulas

Suppose now that District X, above, is not a public school district, but is, instead, the set of private schools that accept vouchers, of $6,501 (the FY07 MPCP voucher). This virtual district has no residents, property values, or levy. Instead of aid, it receives vouchers, funded by the state. If all 17,000 voucher students would have otherwise attended MPS, then the fiscal impacts would be the same as above. The net benefit of $39.6 M (depicted earlier in Table 1) is spread among property taxpayers in Milwaukee and across the state.

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[39] Proof: From (6), $\Delta\left(\frac{1}{v^2}\right) = -\frac{(p_j - p_k)\Delta E}{(p^2 - p^1)(\sum V_i)}$

$$\Delta L_i = \Delta\left(\frac{p^1}{v^1} + \frac{p^2 - p^1}{v^2} + \frac{p_i - p^2}{v^3}\right)\cdot V_i = (p^2 - p^1)\Delta\left(\frac{1}{v^2}\right)\cdot V_i = -(p_j - p_k)\Delta E\cdot(V_i / \sum V_i)$$

Now consider our assumption that only 90% of the 17,000 voucher students would have attended MPS, and 10% would have attended private schools anyway. As we saw in Table 1, the net benefits to taxpayers are reduced to $24.6 M for FY07. Table 3 provides detail.[40] The smaller net benefit is represented by the smaller effect on Milwaukee's revenue limit ($135.1 million vs. $150.2 million in Table 2). The allocation of the net benefit is in the local levy column, as before, with corresponding effects on the state aid column. The bottom half of Table 3 introduces a new party to the fiscal impact analysis – parents of voucher students who would have attended private school anyway. These parents receive about a third of the savings from the reduced expenditures on students who leave MPS, and the other two-thirds goes to taxpayers. Figure 7 extends these results back to FY94 and forward to FY08, to show how the potential gains depicted in Figure 6 could have been allocated under the general funding formulas.[41]

[Insert Table 3]

[Insert Figure 7]

In Table 3 and Figure 7, it was assumed that the total state appropriation for aid and vouchers together is unchanged from the aid-alone appropriation. That is, the state aid appropriation is reduced by the full amount of the vouchers ($110.5 M in FY07). It is difficult to assess the validity of this assumption or any alternative assumption, since it depends on a counterfactual, "what would the appropriation have been, absent the voucher program?" This is a political economy question, rather than one of strict fiscal analysis. One might argue that, in principle, it should not matter to legislators whether the appropriation for children in Milwaukee is directed to MPS or to voucher schools attended by students who would otherwise attend MPS. If so, the total appropriation would be constant and the analyses above would be correct.

Alternatively, suppose voucher expenditures "don't count" politically, so the total aid appropriation does not drop dollar-for-dollar when students leave for voucher schools. More specifically, suppose the aid appropriation is determined by the 2/3 rule that was in statute for FY97-03, and has roughly guided policy since then. That is, aid drops by 2/3 of the reduction in the Milwaukee revenue limit and property taxes statewide drop by the other 1/3.[42] If the cut in aid is less than the state's voucher expenditures, then there is an increase in the state tax burden (or a drain on other state expenditures). Table 4 depicts the impact for FY07. The net difference from Table 3 is greater property tax relief across

[40] The equations underlying Table 3 and Figure 7 below are provided in Appendix C, along with equations for other tables and figures below.

[41] This assumes Milwaukee's share of property values is unchanged.

[42] The 2/3 rule includes other funds besides general school aid and school property taxes, specifically categorical aid, expenditures on residential schools and also the school levy credit. As a result, general school aid is less than 2/3 of the sum of general school aid and school property taxes. However, it is still the case that the change in general school aid is 2/3 of the change in the sum of general school aid and school property tax (i.e. 2/3 of the change in the revenue limit).

the state, funded by state taxpayers. Figure 8 shows how the potential gains would have been allocated over time under this alternative assumption regarding state appropriations.

[Insert Table 4]

[Insert Figure 8]

To summarize:
(1) The voucher program frees up funds, since students are willing to accept a voucher of smaller size than the per pupil revenues in MPS. Some of that is offset by the provision of vouchers to students who would have attended private school anyway, but most plausible estimates indicate this is only a partial offset.

(2) The question addressed by the funding system is the disposition of freed-up funds.

(3) The regular Wisconsin funding formula is one where enrollment changes lead to corresponding shifts in aid, and where the local levies adjust to ensure that aid exhausts the state appropriation. Had this formula been used to fund the voucher program, the result would have been a reduction in local property taxes, across the state.

(4) To the extent that the state would have chosen to increase the total appropriation (i.e. reducing aid by less than the voucher amount), there would have been an adverse impact on state taxpayers, matched by further reduction in local property taxes. The 2/3 rule would have typically had this effect, during most of the MPCP history.

Fiscal Impact of the Voucher System Under the MPCP Funding Formulas[43]

The previous section analyzed the hypothetical fiscal impact of the MPCP vouchers, had they been implemented under the state's general formulas for revenue limits and equalization aid. This provides a benchmark with which to compare the actual formulas used by Wisconsin to fund the MPCP. These formulas have gone through a few distinct periods, with different mechanisms for allocating the potential gains among the various parties. Throughout the history of the program, however, one constant has been the very uneven fiscal impact. As the program has grown, it has become more important to understand the nature of the funding formulas, how they have evolved in attempts to deal with uneven impacts, and why those attempts have not fully succeeded.

Figure 9 summarizes the allocation of MPCP's net fiscal impact over the life of the program. Since its inception, the MPCP has been funded in a fashion that has adversely impacted Milwaukee taxpayers, but since FY00, it has benefited non-Milwaukee property taxpayers and state taxpayers. Figure 9 is based on the 90% assumption discussed above,

[43] See Wisconsin Legislative Fiscal Bureau, Information Paper 29, "Milwaukee Parental Choice Program," January 2007.

but the same general pattern holds for widely varying assumptions on the percent of voucher students who would have attended MPS.[44]

The analysis below explains how the funding mechanisms worked over each period and why they resulted in the patterns depicted in Figure 9. The goal here is to understand why these patterns contrast so markedly with the alternatives offered by the regular funding formula, depicted in Figures 7 and 8.

[Insert Figure 9]

MPCP Funding Formula Prior to FY00

The key feature of the funding formula prior to FY00 was that voucher enrollees were counted as part of MPS' enrollment, for purposes of calculating both revenue limits and equalization aid. The voucher amount was set equal to MPS' average equalization aid per pupil and that amount was deducted from MPS' aid, to fund the vouchers. Finally, Milwaukee was allowed to replace the aid deduction by increases to its local levy, "and to a great extent did so."[45]

This was a simple system, but it had a striking implication. Even though the voucher was set below the MPS per pupil revenue limit, which would have reduced total public funding of education under the regular formula, that did not occur. Since Milwaukee was authorized to raise the local levy to offset the aid deduction, the revenues available for MPS did not fall, despite the transfer of students and funds to voucher schools. Thus, instead of reducing total public funding of education, this system increased it. The fiscal impact was negative on taxpayers and positive on students remaining in MPS, by raising per pupil spending.[46]

Specifically, an enrollment shift from MPS to the voucher schools had no effect on the revenue limit, since it included the voucher students during this period. Indeed, to the extent that some voucher students would not have attended MPS anyway, the MPCP actually increased MPS' revenue limit, since it included all voucher students. Thus,

[44] For example, the general pattern still holds even for the assumption of 70%, which, as Table 1 shows, implies a negative net benefit. That is, under this assumption, there is still a sizeable net benefit for non-Milwaukee property taxpayers and state taxpayers, but not as large as the adverse impact on Milwaukee. The various LFB reports also find the same general pattern of benefits to non-Milwaukee property taxpayers and adverse effect on Milwaukee for a wide range of the assumed percentage.

[45] "MPCP Facts and Figures for 1998-1999," Wisconsin Department of Public Instruction.

[46] It might be argued that at the outset of MPCP the number of voucher students was small enough that MPS fixed costs remained fixed, so per pupil costs rose. By FY99, however, the number of voucher students was 5,761, a number that would seem to be large enough that many fixed costs become variable. Certainly the school level fixed costs for MPS would not pertain since MPCP attained the size of a large district. Approximately 95 percent of all school districts in Wisconsin have fewer students than MPCP did in FY99; only five districts, including Milwaukee, have more students than MPCP has today.

Milwaukee not only received funding for students who were no longer in their schools; it also received funding for at least a few students who would never have been in MPS.

Table 5 presents the fiscal impact of the MPCP using FY99 data, assuming 90% of that year's 5,761 voucher students would have otherwise attended MPS. The other 576 students were new to Milwaukee's enrollment figures, raising the revenue limit, and the state's total by $6,852 per pupil (MPS' per pupil revenue limit), or $3.9 M. The main impact on local property taxes is the rise in Milwaukee's levy to fund the vouchers, $28.2 million. There was a slight additional effect, since one-third of the statewide rise in revenue limits would have been funded by higher property taxes across the state.[47] The other two-thirds ($2.6 million) would have come out of state funds, under the 2/3 rule.

[Insert Table 5]

The bottom half of Table 5 summarizes the fiscal impacts. The net potential fiscal benefit was $7.3 million (as depicted previously in Figure 6). This represents the $10.1 million in public funds potentially freed up by educating children with lower-cost vouchers, offset by the $2.8 million paid to parents of voucher students who it is assumed would have attended private schools anyway. However, these potential savings were more than outweighed by the extra $39.5 M that was spent on the children who stayed in district. This represents the $6,852 per pupil revenue provided to MPS for each of the 5,761 voucher students who were not in MPS, thereby raising the per pupil expenditures on those who remained. These extra expenditures (net of the potential savings) were funded primarily by higher Milwaukee property taxes, with a smaller amount coming from other property taxes and state funds.

To summarize, the funding system prior to FY00 provided a completely different disposition of the funds freed up by lower-cost vouchers than would have been provided by the regular funding system analyzed earlier. Specifically:

(1) Instead of applying potential savings to reduced property taxes across the state, the system *raised* property taxes in Milwaukee, and spent it, together with the savings from lower vouchers, on higher per pupil spending for the remaining MPS students. These effects are seen in Figure 9 for the period FY94-99. The positive impact on MPS per pupil spending is depicted by the green bars, and the adverse impact on Milwaukee property taxes is depicted by the blue bars in the negative portion of the graph.

(2) In addition, to the extent that vouchers went to students who would have been in private school anyway, this led to increased property taxes across the state and a greater demand on state tax revenues. However, the amounts were relatively small, as depicted in Figure 9 by the slivers of maroon and tan over the period FY94-99.

[47] During this period statute required the State Superintendent to ensure that no district's aid (outside of Milwaukee) was reduced as a result of the program. However, that would have required the state to estimate a counterfactual, the number of private stayers. Presumably, the state met its legal requirement by interpreting the impact in such a way as to exclude these effects.

MPCP Funding FY00-FY01

In 1999, a major change was enacted: voucher enrollees would no longer be counted as part of MPS enrollment. This was a major step toward integrating the voucher program into Wisconsin's underlying enrollment-sensitive funding formula. It eliminated the extra spending on students remaining in MPS. However, vestiges of the previous formula remained, and other complications were added.

Specifically, the previous practice of deducting district aid to fund the vouchers persisted, but only half the cost of the vouchers was deducted from MPS aid and the other half from the rest of the state's districts (proportionate to their aid). As before, any district's aid deduction for MPCP could be offset by an increase in the local levy, since the *net* aid is deducted from the revenue limit to determine the allowed levy.

It is worth emphasizing here the overall significance of these changes before considering the other complications below. Since voucher students were removed from MPS enrollment counts, the state no longer provided MPS with aid for them. This was certainly a move toward rationalizing the funding mechanism. However, the state continued to deduct voucher money from the remaining aid allocation. To be sure, the deduction was cut in half, but the rationale behind any deduction would seem to have disappeared with the removal of voucher students from the MPS aid determination in the first place. Finally, MPS was allowed to replace the aid deduction by raising the property tax, so the net result was to perpetuate the adverse effect of the MPCP on Milwaukee taxpayers, albeit in attenuated form.

We also have to consider the two-thirds rule that was in effect. The exclusion of voucher students from MPS enrollment counts reduced shared costs, so statewide property taxes would be reduced by one-third of this amount and statewide aid would be reduced by two-thirds of it.[48] However, for the purpose of determining statewide shared costs, the local levy augmentation for MPCP was included.[49] In effect, this added the voucher costs to statewide shared costs so that under the 2/3 rule this would help offset the reduction in the state's total aid appropriation that would otherwise follow from excluding MPCP enrollment counts from MPS.

The net result is depicted in Table 6, for the FY01 values of the voucher amount, enrollment and per pupil revenues for MPS. The key figure we continue to focus on is the reduction in public spending on voucher students. In FY01, the saving on each of the voucher students who would have attended MPS (90% of 9,238) is $2,049 = $7,375 - $5,326, for a total of $17.0 M. This is partially offset by the $4.9 M that goes to parents of voucher students who would have attended private schools anyway. Unlike the pre-FY00 system, all of these savings go to taxpayers, rather than extra spending on MPS

[48] The LFB analysis of September 27, 2001, cited earlier, does not include the effect of the enrollment shift from MPS. As a result, that analysis finds a net increase in state and local taxes, rather than a decrease.

[49] This was a change from the pre-FY00 period.

students. This follows from the exclusion of voucher students from Milwaukee's revenue limit.

[Insert Table 6]

The benefit to taxpayers is split between state and local according to the 2/3 rule. However, the 1/3 benefit for local taxpayers is allocated quite asymmetrically between Milwaukee and the rest of the state. There are two effects here. First, the local levies for Milwaukee and the rest of the state each rise by one-half the total voucher amount of $49.2 M. However, to restore the 1/3 local share for total revenues, the statewide levies had to be reduced, and shifted to aid, by $53.2 M. But these gains are apportioned by the district's share of property values. Since Milwaukee has far less than one-half the state's property values, this mitigated very little of Milwaukee's local taxpayer share of the voucher costs. The rest of the state (taken together) enjoyed a net reduction in local taxes when all was said and done.

To summarize:
(1) The removal of voucher students from MPS revenue limits allowed the net savings from the voucher program to go to taxpayers instead of the remaining MPS students, as in the pre-FY00 system. In Figure 9, the green bars disappear. They are replaced by maroon and tan bars in the positive portion of the graph, representing net benefits for state taxpayers and especially property taxpayers outside of Milwaukee.

(2) The shift of 50% of the MPCP aid reduction and levy offset away from MPS reduced the adverse effect on Milwaukee property taxpayers, but that adverse effect persisted, as the program grew. The blue bars in the negative portion of Figure 9 shrunk in FY00, but then continued to grow thereafter.

MPCP Funding FY02-FY03

In 2001, the statute dropped the MPCP aid deduction and levy offset for districts other than Milwaukee. It also reduced Milwaukee's deduction from 50% to 45% of the voucher costs (which could still be tacked onto the levy). The other 55% of the voucher costs now came directly from the General Fund.

The 2/3 rule was still in effect, but the MPCP levy hike was no longer counted toward statewide shared costs.[50] Thus, the fall in Milwaukee's revenue limit, due to the enrollment shift, is the only effect of MPCP on the 2/3 rule calculation.

The main effects of these changes are on property taxpayers outside of Milwaukee and state taxpayers. The non-Milwaukee taxpayers lose the previous benefit of almost all the aid increase under the 2/3 rule for the voucher expenses, and, in the aggregate, this

[50] For that reason, the new deduction of 45% was thought to be comparable to the old figure of 50%.

outweighs the fact that they no longer pay half these expenses.[51] Conversely, the state taxpayers gain from not having to increase state aid by 2/3 of the voucher expenses, and this outweighs the fact that they now have to pay 55% of them directly.

To summarize, the net effects of these changes were fairly modest, resulting in a small shift of benefits from non-Milwaukee taxpayers to state taxpayers. This can be seen in Figure 9, where the maroon bar for non-Milwaukee property taxpayers shrinks in FY02, in favor of the tan bar for state taxpayers. Table 7 gives more detail on the impact using FY03 figures.

[Insert Table 7]

MPCP Funding FY04-FY08

The 2/3 rule was dropped in 2003, restoring the legislature's discretion to set the state appropriation. However, as noted above, the 2/3 rule-of-thumb seems to have persisted as a non-binding guide to policy. The state still regularly publishes the statistic, using the measure previously established in law. For FY04-07, the calculated state share ranged from 63.7% to 66.3%. For the purposes of this analysis of MPCP's impact, we assume that in the absence of MPCP the state share would have been 2/3.[52] As Figure 9 shows, under this assumption, the patterns in FY04-07 were simply a continuation of prior patterns, augmented by growth in the program.

Table 8 depicts the effects of MPCP in detail for FY07. The reduction in MPS' revenue limit is $135.1 million, as calculated from the per pupil revenue limit of $8,833 for 90% of the 17,000 voucher students. The voucher expenses are $110.5 million ($6,501 for each of the 17,000 students). This leaves a net taxpayer benefit of $24.6 million. This benefit is generated by the savings of $35.7 million from those students who forgo the MPS per pupil revenues in favor of the lower cost voucher, partially offset by the $11.1 million spent on vouchers for those who would not have been in MPS.

The allocation of the $24.6 million net benefit among taxpayers is as follows. Since the statewide revenue limit drops by $135.1 million, the state aid allocation drops by 2/3 of that, or $90.1 million. This is partially offset by the state general fund's 55% share of the voucher expenditures ($60.8 million), for a net benefit to the state taxpayers of $29.3 million. The other 1/3 of the drop in statewide revenue limit, $45.0 million, goes to property tax relief, of which the vast majority ($42.3 million) accrues to those outside of Milwaukee. Milwaukee's share of this benefit ($2.7 million) is swamped by the MPCP levy hike, which is 45% of the voucher expenditures, resulting in a net adverse impact on Milwaukee property taxpayers of $47.0 million.

[51] Of course, the elimination of the direct payment for MPCP was a quite visible benefit for non-Milwaukee taxpayers, compared to the much less visible adverse impact of the change to the 2/3 rule.

[52] An alternative assumption would have been to take the actual shares, but since these are so close to 2/3 (it was 66.1% in FY07), the results would have been indistinguishable.

It may be informative to compare this with Table 4, which also considered the impact of MPCP under the 2/3 rule, but otherwise run through the general formulas. To recall, instead of funding 55% of the voucher from the general fund and 45% through Milwaukee, Table 4 considered the case where 100% was run through the general fund. The difference between the two funding mechanisms is a pure shift of the burden for 45% of the vouchers from the Milwaukee taxpayers to state taxpayers. One may also recall the mechanism in Table 3, under which, again, the voucher was run through the general fund, but state aid was reduced by the full amount of the voucher expenditures ($110.5 million in this case), instead of the smaller amount ($90.1 million) under the 2/3 rule. As we saw, under that mechanism no set of taxpayers was adversely affected by MPCP.

[Insert Table 8]

The issue of the "funding flaw" – the adverse impact on Milwaukee taxpayers – had been simmering for years, and made its way into the budget debate for FY08-09, with proposals by the Governor and the City of Milwaukee. No formula reform was enacted in this cycle, however. Instead the problem was partially addressed with something of an *ad hoc* fix, by which the state appropriated $9 M of "high poverty aid" in FY08 and $12 M in FY09 to reduce the school property tax burden, primarily of Milwaukee. For FY08, Milwaukee received $7.4 million of this aid, with corresponding property tax relief. This is seen in Figure 9, with the shrinkage of Milwaukee's blue bar, and the corresponding shrinkage of the tan bar representing state taxpayers' benefit.

Conclusions

The potential fiscal benefit of MPCP for Wisconsin taxpayers may be substantial, as families voluntarily choose schools that draw on fewer public resources than are allocated per pupil to MPS. The difference has risen from about $2,000, from FY97 to FY03, to over $2,600 in FY08. Coupled with the dramatic growth in voucher enrollments, the potential savings may now exceed $30 million, as depicted in Figure 6. Categorical programs, excluded from this analysis, offer additional savings. For example, the SAGE program offers conditional grants to Milwaukee (and other districts) of $2,000 per low income student (rising to $2,250 in FY08), which are not included in the per pupil revenue limits used in this paper, and which add to taxpayer savings when such students choose MPCP.

The allocation of these benefits among different classes of taxpayers has been a challenge for Wisconsin over the years. In the early years, when the benefits were small, the allocation was not a major issue. It seems that the course of least resistance was to fund the program out of MPS aid, and to ensure that MPS revenues did not decline in those early days, even as voucher students left, Milwaukee taxpayers picked up the tab. When the program expanded in FY99, however, the strains of this simple arrangement became evident, as depicted in Figure 9.

A potentially appealing solution was available in the existing revenue and aid formulas, which are highly enrollment-sensitive and thus compatible with the logic of choice. These formulas would allocate the gains among property taxpayers in Milwaukee and across the state, as depicted in Figure 7. If additional property tax relief was desired, these formulas also offered a ready solution, under which voucher expenditures need not be offset dollar-for-dollar by aid cuts, as under the 2/3 rule, underlying Figure 8.

In FY00, Wisconsin made an important move toward integrating the MPCP with these enrollment-driven formulas, by excluding voucher enrollment from the calculation of MPS revenue limits and general school aid. However, Wisconsin was unable to make a full break from the system under which it began. The MPCP funding mechanism continues to deduct aid from MPS for voucher expenses, even though the general aid formulas no longer allocate any funds to MPS for voucher students. Since MPS is allowed to recoup these funds by raising the property tax, the net result is a continuing adverse impact on Milwaukee property taxpayers. Comparing Figure 9 with Figures 7 and 8, one sees how large the discrepancy has now become between the existing system and a system that might share the fiscal benefits of MPCP with Milwaukee.

The history of MPCP illustrates how voucher programs can provide significant taxpayer savings, when students voluntarily choose programs that draw less on public funds than the schools they would otherwise attend. However, the same history also illustrates that if the funding formulas are not carefully constructed, some groups of taxpayers may be adversely affected instead of sharing in the net savings. The initial funding mechanism may have been well-designed for the purpose at hand, when the program was small. However, as the program grew, the mechanism carried unintended distributional consequences. Attempts to reform the mechanism have achieved some success, but the vestiges of the initial system continue to drive the allocation of burdens and benefits, even as the program has outgrown the funding system's origins.

Appendix A: Review of selected previous literature

As an example of the first phase of the literature, Henry Levin compares the voucher and per pupil MPS expenditures for FY97.[53] Specifically, he considers the claim of Paul Peterson and Chad Noyes "that Milwaukee voucher schools were receiving only half as much for each student as the Milwaukee Public Schools."[54] Levin compares the $4,373 voucher with two sorts of figures received from MPS: the system's per pupil budgeted expenditure, $7,628, and various site-based expenditures, ranging from $3,042 to $3,815, depending on grade level. According to Levin, the main sources of the huge difference between these measures of MPS expenditures are special education and transportation, both funded at the central office. Levin argues that it is more appropriate to compare the voucher with the site-based expenditures, but after considering other adjustments, and acknowledging that his calculations do "not constitute a precise cost-accounting" he concludes that "the costs of similar services at the school site may favor slightly the Milwaukee voucher schools."

After the expansion of the program in FY99 to include religious schools, studies by researchers at the People for the American Way and the American Federation of Teachers undertook a more detailed comparison of spending in voucher schools and MPS, and also compared private school tuitions with their spending and the size of the voucher.[55] The objective of this research was to determine if public funds that went to voucher schools constituted an "overpayment" that might allow the churches to divert funds that were previously spent on education to other activities, thereby arguably constituting "compelled taxpayer support of religion." The heart of the argument went roughly as follows: (1) prior to MPCP, tuitions of religious schools were below operating costs, so that religious education was subsidized from other church revenues; (2) the voucher exceeded the published tuitions existing at many of the religious schools; (3) therefore vouchers would allow religious institutions to reduce the church subsidy to their schools, freeing up church funds for non-educational religious purposes. However, since the MPCP voucher is also below many of these schools' operating costs (by law it is prohibited from being more), then the expansion of enrollment in these schools would also require church subsidy. In any case, this line of analysis appears to have been

[53] Henry M. Levin (1998), "Educational Vouchers: Effectiveness, Choice, and Costs," *Journal of Policy Analysis and Management* 17 (3), 373-392.

[54] Unpublished 1996 paper, "Under Extreme Duress, School Choice Success," Harvard University Program in Education Policy and Governance, later published in Diane Ravitch and Joseph Viteritti, eds. *New Schools for a New Century: The Redesign of Urban Education*, Yale University Press, 1997. A more recent paper by Peterson (2006), with Nathan Torinus and Brad Smith, compares the FY05 voucher of $5,943 with a figure of $9,024 for MPS per pupil expenditures, which is a ratio of 66% .

[55] R. Egen, D. Holmes, and E. Mincberg (2000), "The 40 Percent Surcharge: How Taxpayers Overpay for Milwaukee's Private School Voucher Program," Washington, D.C., People for the American Way. F. Howard Nelson, Rachel Egen, Dwight Holmes (2001), "Revenues, Expenditures and Taxpayer Subsidies in Milwaukee's Voucher Schools," paper presented at the 2001 Annual Meeting of the American Education Finance Association.

rendered moot by the U.S. Supreme Court decision in *Zelman* that vouchers for religious schools did not violate the establishment clause.

More recent analyses of the fiscal impact of MPCP have had a different focus. Instead of focusing on the impact on the finances of the religious schools, these analyses focused on the impact on the public schools and taxpayers. Thus, instead of comparing the voucher with the pre-voucher tuition, one returns to the comparison of the voucher with MPS per pupil expenditures.

Among the more prominent such recent analyses is that of Susan Aud, a Senior Fellow at the Milton and Rose D. Friedman Foundation.[56] This study examines the fiscal impact of all U.S. voucher programs, including MPCP. For MPCP, the size of the voucher is understood to equal MPS' per pupil state aid,[57] and Aud compares NCES estimates of that figure with instructional expenditures per student in MPS. The difference is found to fluctuate around $300, so that is the figure that Aud takes to be the per pupil savings from vouchers. Her aggregate figure is $4.8 million for FY06 and the 16-year total is $28.3 million. Aud then analyzes the MPCP funding formulas to determine how these savings are spread among taxpayers. Consistent with much public discussion (and the findings of this report), Aud finds that the fiscal impact has been adverse for Milwaukee taxpayers since 1999. However, other important aspects of her analysis (the calculated impact on state taxpayers and the exclusion of non-Milwaukee property taxpayers) seem to be based on an incomplete understanding of Wisconsin's funding formulas.[58]

Bruce Baker, of the University of Kansas, critiqued Aud's study for the Think Tank Review Project.[59] He finds that Aud's analysis "confirm[s] an obvious point," that the gap between the voucher and per pupil spending does create potential savings. In fact, his figure for estimated voucher savings in Milwaukee is $38.6 million in FY05[60], which is $2,674 per voucher student -- about 9 times the figure given by Aud. Baker has two main criticisms of Aud's conclusions. First, potential savings are relatively small, compared to total current expenditures for the state: his figure for Wisconsin is 0.46% in FY05. This simply follows from the fact that although the voucher students comprise a

[56] "Education by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006," Milton & Rose D. Friedman Foundation, April 2007.

[57] Aud states that "the voucher is limited to the amount of state equalization aid per student received by the Milwaukee public school district in the same year." This was originally true, but not since 1999.

[58] A few examples: (i) Aud seems to assume that as enrollment shifts, the average aid per pupil shifts with it. This is incorrect. (ii) Aud makes no mention of the important FY00 change in the funding formula's treatment of voucher enrollments, and her analysis does not reflect that change. (iii) The funding formula has automatic adjustments to each district's aid and local taxes to make the total aid appropriation match the formula's distribution. Aud's analysis does not seem to reflect this feature.

[59] Review of "School Choice by the Numbers: The Fiscal Effects of School Choice Programs 1990-2006," Education Policy Research Unit, Arizona State University, May 2007.

[60] This figure, which is provided in Baker's Table 5, assumes "no change to local share."

sizeable portion of Milwaukee's total enrollments (about 13% that year), they are a negligible portion of statewide enrollments. Second, Baker argues that although the voucher program may provide the "opportunity" for MPS to reduce its expenditures, he believes this result is unlikely or at least uncertain. However, Wisconsin's revenue limits statute, combined with the MPCP statute (as it has existed since FY00), does in fact reduce MPS expenditures correspondingly.

Appendix B: Further Details in Funding Formulas

This appendix considers various details of the funding formulas that are omitted from the text. While a number of these features are important for short-term effects, they do not have a material impact on the long-term properties that are our concern.

(i) Revenue limit vs. actual revenues. Although districts are not required to raise local levies up to the amount allowed by the revenue limit, in practice that is what almost all districts do, including Milwaukee.[61] That is why, in the text, we do not make a distinction between actual revenues and the revenue limit.

(ii) The timing of the enrollment measure. In the Revenue Limit formula, enrollment is a three-year moving average of September FTE's, including the current year.[62] This has no effect on the evolution over time of the per pupil revenue limit, p, since the increments are specified legislatively (except as indicated in (iii) below).

The enrollment measure for Equalization Aid is of the prior year only (average of September and January FTE's). This would, in general, be comparable to the Revenue Limit's three-year average, since that would approximate the year on which it is centered (the prior year) during periods of steady (or negligible) enrollment growth or decline. Thus, the E's in (3) and (4) are not quite the same as in (2), but are close: for FY02-FY07 they never differed by more than 0.5%, and the average difference was under 0.2%. More importantly, in considering the fully-phased in effect of *changes* in enrollment (as is our focus), there is no material difference between these two measures.

(iii) Recurring exemptions to the revenue limit. There are some exemptions which get added to the revenue limit and remain in the base figures for the following year's calculations. These exemptions are usually small. For Milwaukee, the only significant recurring exemption recently has been for revenues to cover "transfer of service," which typically refers to costs of students with serious disabilities, over and above what is reimbursed from categorical aids. It has the effect of raising Milwaukee's Δp_t above the state-specified increment. Thus, in FY07, Milwaukee's p rose by $288 (from $8,545 to $8,833) vs. $257 for the state-specified increment. The extra $31 represents the per pupil effect of FY06's $3.0 M "transfer of service" exemption, carried forward on a per pupil basis. Again, this has no material effect on the analysis of MPCP's fiscal impact.

(iv) Non-recurring exemptions to the revenue limit. These are exemptions that get added to the revenue limit for the year in which they occur, but are not retained in

[61] Statewide, approximately 99.8% of revenue limit capacity is used. In recent years, Milwaukee has used 100.0%. Note also that if a district does set revenues below its limit, it can carry over the entire underlevy that is due to a recurring exemption (see (iii) below).

[62] Summer school enrollment is also counted, as a 40% FTE, although this is typically negligible. This is also true for Equalization Aid's enrollment measure, discussed below.

the base figures for the following year's calculation. The key example here (the only one that has applied recently to Milwaukee) is for enrollment declines. If a district's enrollment measure (a three-year average) declines in any given year, there is a one-year adjustment to the revenue limit offsetting that decline. Over the long haul, a permanent drop in enrollment will be fully reflected in the revenue limit, as indicated in equation (2), but the impact is effectively phased in over time, due to the combination of the three-year averaging and this non-recurring exemption. Thus, the one-year impact of this exemption can be significant, but not for the purpose of evaluating long-run policy impacts.[63]

(v) What state and local funds are covered by revenue limits. On the state side, the revenue limit covers "General School Aid," which includes Equalization Aid (the main state formula aid) and two much smaller programs. Statewide Equalization Aid totaled $4,620.4 M in FY07, and Milwaukee received $637.9 M. The two smaller pieces of General School Aid are Integration Aid (payments for intradistrict and interdistrict pupil transfers to facilitate integration) and Special Adjustment Aid (a form of hold harmless payments). Statewide, these programs totaled $89.0 M and $13.3 M respectively in FY07, of which Milwaukee received $49.1 M of the former and none of the latter. As stated earlier, revenue limits do *not* cover categorical aid, which totaled $572 M statewide in FY07.

On the local side, the revenue limit covers levies for general operations, as well as certain capital projects and debt service, [64] but not others (e.g. debt approved by voter referendum and levies for "community services").

In short, the revenue limit covers almost all the state and local revenues that would be affected by MPCP. The main exception is categorical aids.

(vi) Shared cost vs. revenue limit. The Equalization Aid formula uses the concept of "Shared Cost," which is close but not identical to the Revenue Limit. Some of the differences include the difference between expenditures and revenues, and the treatment of payments-in-lieu of taxes. On average, these differences result in less than 1% discrepancy between shared cost per pupil and revenue limit per pupil. A larger difference is that shared costs are based on the previous year's expenditures for the determination of the current year's Equalization Aid, whereas the current year's Revenue Limit includes an increment to the previous year's per pupil figure. Again, however, this should not distort the analysis of the long-run impact of *changes* in enrollment, such as those occasioned by MPCP.

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[63] In the last few years Milwaukee's enrollment declines have accelerated, reaching 2,127 and 2,767 for the three-year averages used in FY07 and FY08 respectively. Coupled with the rise in the per pupil revenue limit, this led to a rise in this exemption to $14.1 M in FY07. Milwaukee was not alone: in FY07, 245 of the state's 424 districts received such an adjustment. Beginning in FY08, the legislature raised the offset from 75% to 100%, and Milwaukee's exemption rose to $25.3 M.

[64] The revenue limit includes a piece of the local levy that is reimbursed by the state in order to exempt computers from the locally funded property tax base.

Appendix C: Equations Underlying Tables and Figures

Table 3 and Figure 7
The revenue limit calculations of Table 3 are based on these equations:[65]

$$(7)\qquad \begin{aligned} \Delta R_M &= -p_M \Delta E_M < 0, \\ \Delta R_x &= p_x \Delta E_x > 0. \end{aligned}$$

This frees up $p_M \Delta E_M - p_x \Delta E_x$ in aid, which is split among property taxpayers in all districts:[66]

$$(8)\qquad \Delta L_i = -\left(p_M \Delta E_M - p_x \Delta E_x\right) \cdot (V_i / \sum V_i),$$

and each district's aid is adjusted upward accordingly:

$$(9)\qquad \Delta A_i = \Delta R_i + \left(p_M \Delta E_M - p_x \Delta E_x\right) \cdot (V_i / \sum V_i).$$

In the bottom half of Table 3, the net benefits are decomposed as follows:

$$(p_M \Delta E_M - p_x \Delta E_x) = (p_M - p_x)\Delta E_M - p_x(\Delta E_x - \Delta E_M).$$

The first term on the right-hand side is the reduction in spending on those students who switch, and the second term is the spending on vouchers for students who would not have attended MPS.

Table 4 and Figure 8
Given ΔR_M from (7), the 2/3 rule implies

$$(8')\qquad \Delta L_i = \left(\Delta R_M / 3\right) \cdot (V_i / \sum V_i),$$

and each district's aid is adjusted upward accordingly:

$$(9')\qquad \Delta A_i = \Delta R_i - \left(\Delta R_M / 3\right) \cdot (V_i / \sum V_i).$$

[65] Note that the changes we are considering are relative to having no vouchers. Thus ΔE_x is actually E_x. Also, the enrollment change for Milwaukee ΔE_M, is defined in absolute value, rather than algebraic.

[66] There is a slight complication due to the reduction in Wisconsin's total public enrollment, which will slightly raise the average valuation per pupil, v^3. Strictly speaking, the analyses in this paper hold v^3 constant and only let v^2 vary. The impact of this simplification is a very slight distortion of the distribution of levies between Milwaukee and the other districts.

Table 5 and FY94-99 in Figure 9

During this period, Milwaukee's revenue limits include the voucher students, so $R_M = p_M \cdot (E_M + E_x)$, and

$$(7^{\mathrm{I}}) \qquad \Delta R_M = p_M \cdot (\Delta E_x - \Delta E_M) > 0.$$

The expressions for changes in local levies and aid reflect the MPCP aid deduction and levy substitution, as well as the 2/3 rule:

$$(8^{\mathrm{I}}) \qquad \begin{aligned} \Delta L_M &= p_x \Delta E_x + (\Delta R_M / 3) \cdot (V_M / \textstyle\sum V_i) \\ \Delta L_i &= (\Delta R_M / 3) \cdot (V_i / \textstyle\sum V_i) \end{aligned}$$

$$(9^{\mathrm{I}}) \qquad \begin{aligned} \Delta A_M &= (\Delta R_M - p_x \Delta E_x) - (\Delta R_M / 3) \cdot (V_M / \textstyle\sum V_i) \\ \Delta A_i &= -(\Delta R_M / 3) \cdot (V_i / \textstyle\sum V_i) \end{aligned}$$

Table 6 and FY00-01 in Figure 9

Voucher students were removed from revenue limits, so we have (7) again, for ΔR_M. The expressions for changes in local levies and aid reflect the split of the MPCP aid deduction between Milwaukee and other districts (denoted as ~*M*). The expressions also reflect the 2/3 rule, including the addition of aid for 2/3 of the MPCP levy hike:

$$(8^{\mathrm{II}}) \qquad \begin{aligned} \Delta L_M &= (p_x \Delta E_x)/2 + [(\Delta R_M / 3) - (2/3)(p_x \Delta E_x)] \cdot (V_M / \textstyle\sum V_i) \\ \Delta L_{\sim M} &= (p_x \Delta E_x)/2 + [(\Delta R_M / 3) - (2/3)(p_x \Delta E_x)] \cdot (V_{\sim M} / \textstyle\sum V_i) \end{aligned}$$

$$(9^{\mathrm{II}}) \qquad \begin{aligned} \Delta A_M &= \Delta R_M - (p_x \Delta E_x)/2 + [(2/3)(p_x \Delta E_x) - (\Delta R_M / 3)] \cdot (V_M / \textstyle\sum V_i) \\ \Delta A_{\sim M} &= -(p_x \Delta E_x)/2 + [(2/3)(p_x \Delta E_x) - (\Delta R_M / 3)] \cdot (V_{\sim M} / \textstyle\sum V_i) \end{aligned}$$

Tables 7-8 and FY02-07 in Figure 9

The revenue limit calculation is unchanged from (7^{II}). The expressions for changes in local levies and aid reflect the elimination of the MPCP deduction from non-Milwaukee districts and the adjustment of Milwaukee's deduction to 45%. The expressions also reflect the removal of the MPCP levy hike from the 2/3 rule.

$$(8^{\mathrm{III}}) \qquad \begin{aligned} \Delta L_M &= 0.45 \cdot p_x \Delta E_x + (\Delta R_M / 3) \cdot (V_M / \textstyle\sum V_i) \\ \Delta L_i &= (\Delta R_M / 3) \cdot (V_i / \textstyle\sum V_i) \end{aligned}$$

$$(9^{\mathrm{III}}) \qquad \begin{aligned} \Delta A_M &= \Delta R_M - 0.45 \cdot p_x \Delta E_x - (\Delta R_M / 3) \cdot (V_M / \textstyle\sum V_i) \\ \Delta A_i &= -(\Delta R_M / 3) \cdot (V_i / \textstyle\sum V_i) \end{aligned}$$

Table 1. Net Impact of MPCP on Public Funds, FY07 ($ millions)			
17,000 MPCP enrollees. Voucher = $6,501			
		Per Pupil Impact on MPS Revenues	
		$9,682 (LFB)	**$8,833 (DPI)**
% of MPCP students that would have attended MPS	**100%**	$54.1 M	$39.6 M
	90%	$37.6 M	$24.6 M
	80%	$21.2 M	$9.6 M
	70%	$4.7 M	- $5.4 M
Positive Numbers Indicate Net Savings of Public Funds			

Table 2: Fiscal Impact of 17,000 student shift from Milwaukee to District X assumptions: p_M=$8,833, p_x=$6,501			
	State Aid	**Local Levy**	**TOTAL**
Milwaukee	- $147.7 M	- $2.4 M	- $150.2 M
District X	+ $110.5 M	$0	+ $110.5 M
All Other Districts	+ $37.2 M	- $37.2 M	$0
TOTAL	$0	- $39.6 M	- $39.6 M
Fiscal Impact on Students Who Switch:			-$2,332 x 17,000 = - $39.6 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on State Taxpayers:			$0
Fiscal Impact on Milwaukee Property Taxpayers:			+ $2.4 M
Fiscal Impact on Other Property Taxpayers:			+ $37.2 M

Table 3: Fiscal Impact of 17,000 student voucher program under General Formula assumptions: as in Table 2, but only 90% voucher students from MPS.			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	- $ 133.6 M	- $1.5 M	- $135.1 M
Voucher Schools	+ $110.5 M	$0	+ $110.5 M
All Other Districts	+ $23.1 M	- $23.1 M	$0
TOTAL	$0	- $24.6 M	- $24.6 M
Fiscal Impact on Students Who Switch:			-$2,332 x 17,000 x 0.90 = - $35.7 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on Parents of Non-Switching Voucher Students:			+ $11.1 M
Fiscal Impact on State Taxpayers:			$0
Fiscal Impact on Milwaukee Property Taxpayers:			+ $1.5 M
Fiscal Impact on Other Property Taxpayers:			+ $23.1 M

Table 4: Fiscal Impact of 17,000 student voucher program under General Formula assumptions: as in Table 3, but state aid drops by 2/3 drop in revenue limit			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	- $132.4 M	- $2.7 M	- $135.1 M
Voucher Schools	+ $110.5 M	$0	+ $110.5 M
All Other Districts	+ $42.3 M	- $42.3 M	$0
TOTAL	+ $20.4 M	- $45.0 M	- $24.6 M
Fiscal Impact on Students Who Switch:		-$2,332 x 17,000 x 0.90 =	- $35.7 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on Parents of Non-Switching Voucher Students:			+ $11.1 M
Fiscal Impact on State Taxpayers:			- $20.4 M
Fiscal Impact on Milwaukee Property Taxpayers:			+ $2.7 M
Fiscal Impact on Other Property Taxpayers:			+ $42.3 M

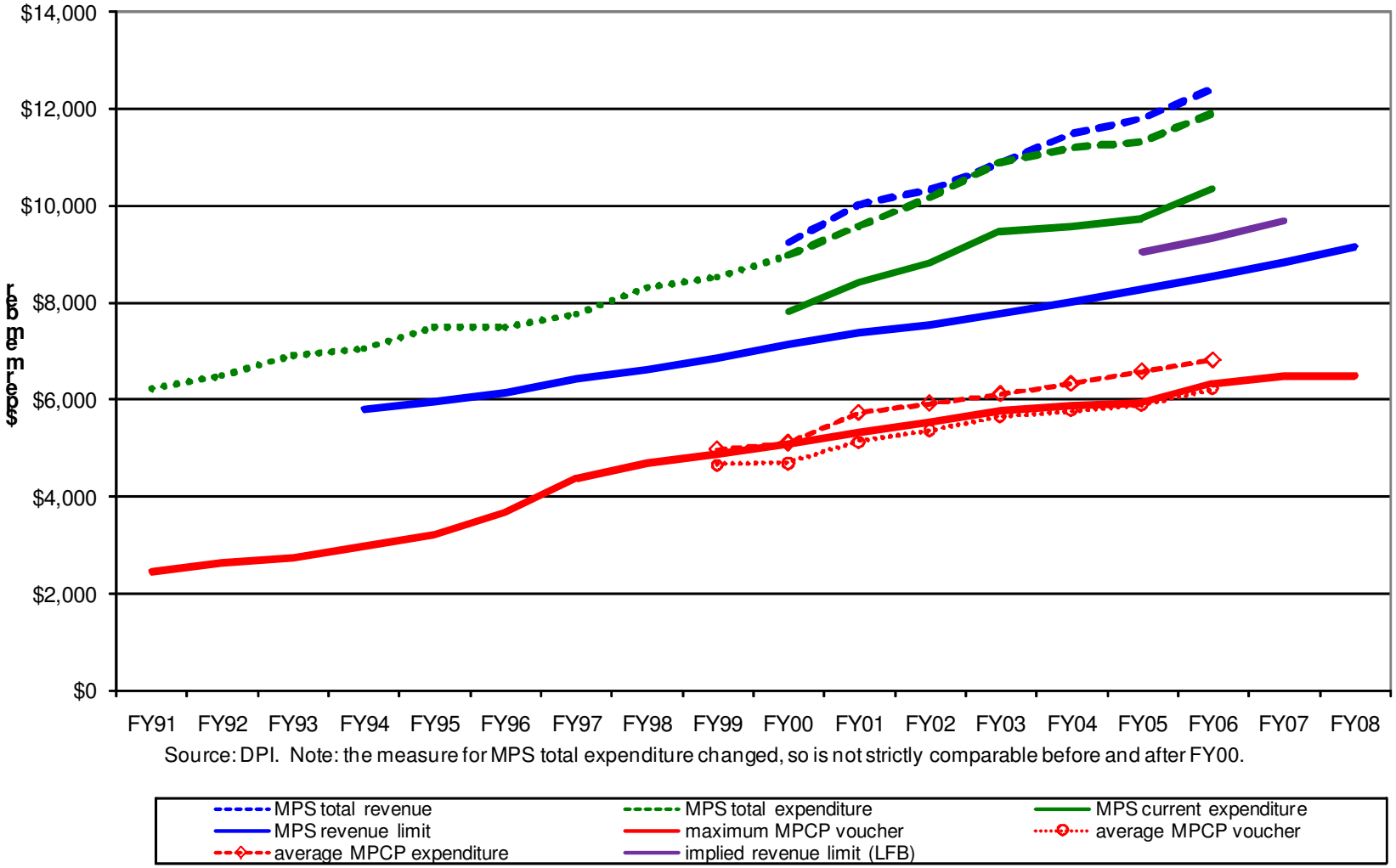
Table 5: Fiscal Impact of 5,761 student voucher program under FY99 Formula assumptions: p_M=*$6,852*, p_x=*$4,894*. 90% voucher students from MPS.			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	- $24.3 M	+ $28.3 M	+ $3.9 M
Voucher Schools	+ $28.2 M	$0	+ $28.2 M
All Other Districts	- $1.2 M	+ $1.2 M	$0
TOTAL	+ $2.6 M	+ $29.5 M	+ $32.1 M
Fiscal Impact on Students Who Switch:		-$1,958 x 5,761 x 0.90 =	- $10.1 M
Fiscal Impact on Students Who Stay In District:			+ $39.5 M
Fiscal Impact on Parents of non-Switching Voucher Students:			+ $2.8 M
Fiscal Impact on State Taxpayers:			- $2.6 M
Fiscal Impact on Milwaukee Property Taxpayers:			- $28.3 M
Fiscal Impact on Other Property Taxpayers:			- $1.2 M

Table 6: Fiscal Impact of 9,238 student voucher program under FY01 Formula p_M=*$7,375, voucher=$5,326*. Assuming 90% of students from MPS.			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	($ 82.7 M)	$21.4 M	($61.3 M)
Voucher Schools	$49.2 M	$0	$49.2 M
All Other Districts	$25.4 M	($25.4 M)	$0
TOTAL	($8.1 M)	($4.0 M)	($12.1 M)
Fiscal Impact on Students Who Switch:		-$2,049 x 9,238 x 0.90 =	- $17.0 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on Parents of Non-Switching Voucher Students:			+ $4.9 M
Fiscal Impact on State Taxpayers:			+ $8.1 M
Fiscal Impact on Milwaukee Property Taxpayers:			- $21.4 M
Fiscal Impact on Other Property Taxpayers:			+ $25.4 M

Table 7: Fiscal Impact of 11,231 student voucher program under FY03 Formula p_M=*$7,776, voucher=$5,783*. Assuming 90% of students from MPS			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	($ 106.2 M)	$27.6 M	($78.6 M)
Voucher Schools	$64.9 M	$0	$64.9 M
All Other Districts	$24.6 M	($24.6 M)	$0
TOTAL	($16.7 M)	$3.0 M	($13.7 M)
Fiscal Impact on Students Who Switch:		-$1,993 x 11,231 x 0.90 =	- $20.1 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on Parents of Non-Switching Voucher Students:			+ $6.5 M
Fiscal Impact on State Taxpayers:			$16.7 M
Fiscal Impact on Milwaukee Property Taxpayers:			-$27.6 M
Fiscal Impact on Other Property Taxpayers:			$24.6 M

Table 8: Fiscal Impact of 17,000 student voucher program under FY07 Formula p_M=*$8,833, voucher=$6,501*. Assuming 90% of students from MPS & 2/3 policy.			
	State Aid/Vouchers	**Local Levy**	**TOTAL**
Milwaukee	($ 182.1 M)	$47.0 M	($135.1 M)
Voucher Schools	$110.5 M	$0	$110.5 M
All Other Districts	$42.3 M	($42.3 M)	$0
TOTAL	($29.3 M)	$4.7 M	($24.6 M)
Fiscal Impact on Students Who Switch:		-$2,332 x 17,000 x 0.90 =	- $35.7 M
Fiscal Impact on Students Who Stay In District:			$0
Fiscal Impact on Parents of Non-Switching Voucher Students:			+ $11.1 M
Fiscal Impact on State Taxpayers:			+ $29.3 M
Fiscal Impact on Milwaukee Property Taxpayers:			-$47.0 M
Fiscal Impact on Other Property Taxpayers:			+$42.3 M

Fig. 1: MPCP Voucher & Expenditures vs. MPS Revenue & Expenditure Measures



Source: DPI. Note: the measure for MPS total expenditure changed, so is not strictly comparable before and after FY00.

Figure 2: MPCP Enrollment, FY91-08 (FTE's)

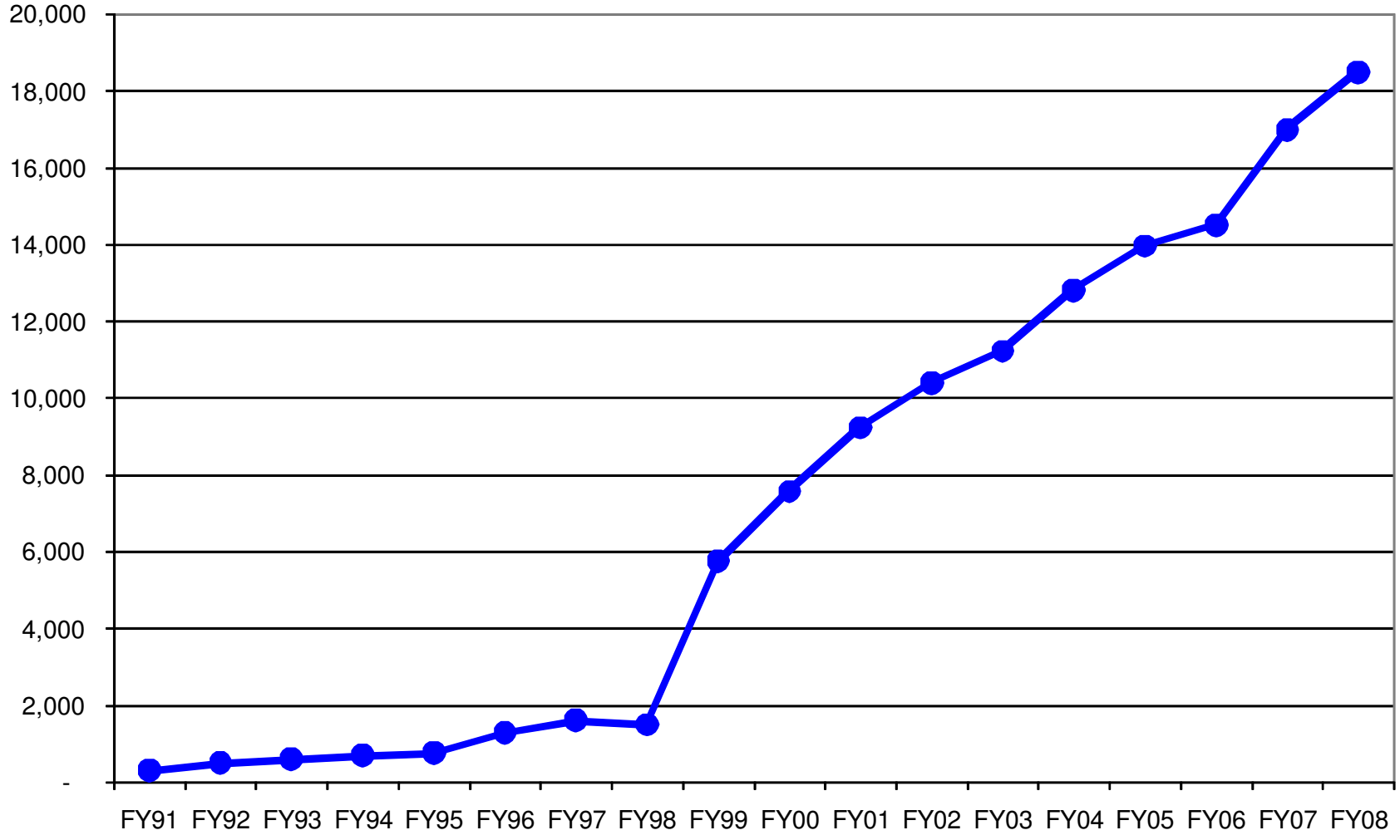
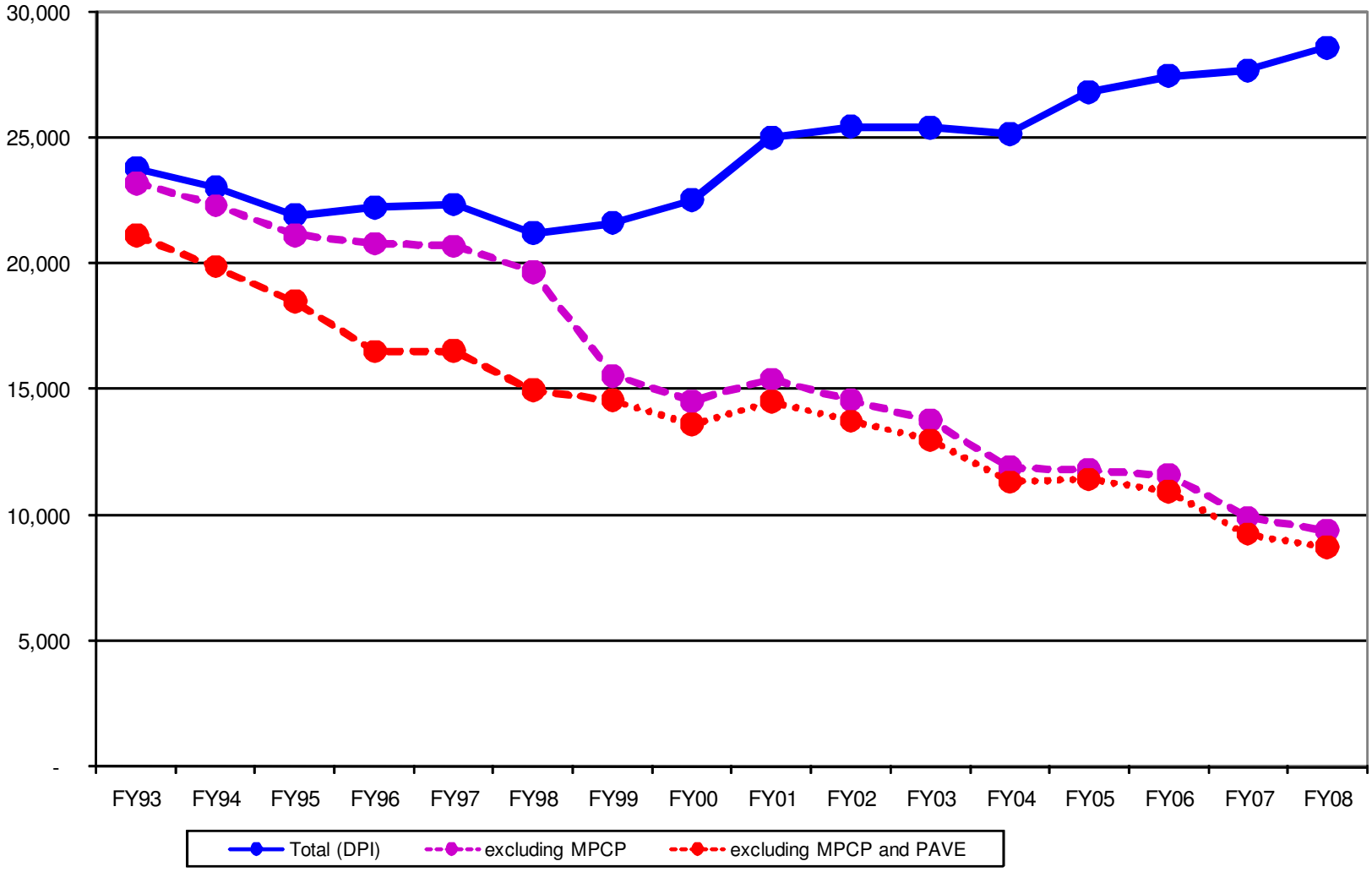


Figure 3. Milwaukee Non-Public Enrollment, FY93-08
(September headcount)



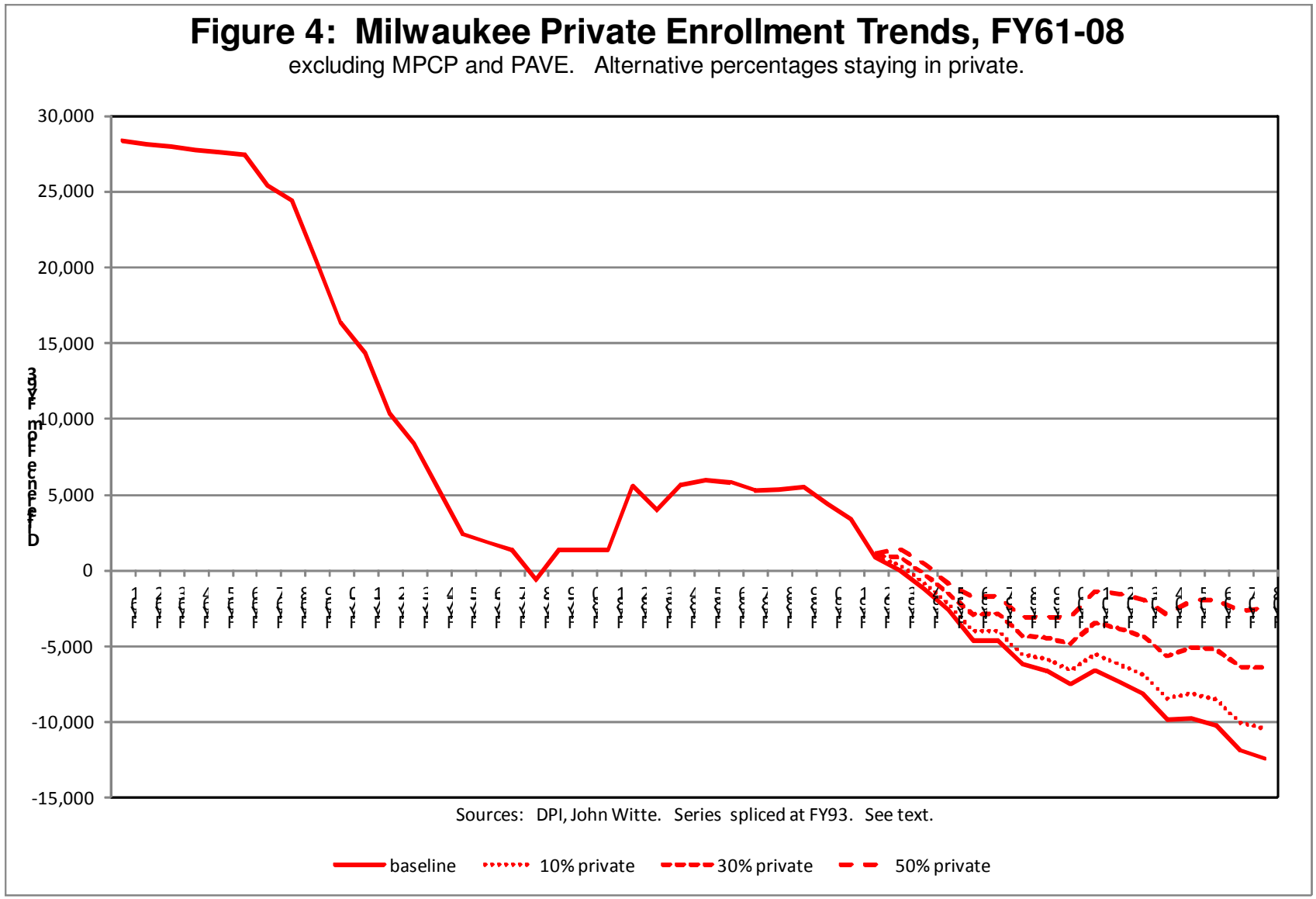


Figure 4: Milwaukee Private Enrollment Trends, FY61-08
excluding MPCP and PAVE. Alternative percentages staying in private.
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
Sources: DPI, John Witte. Series spliced at FY93. See text.
baseline
10% private
30% private
50% private

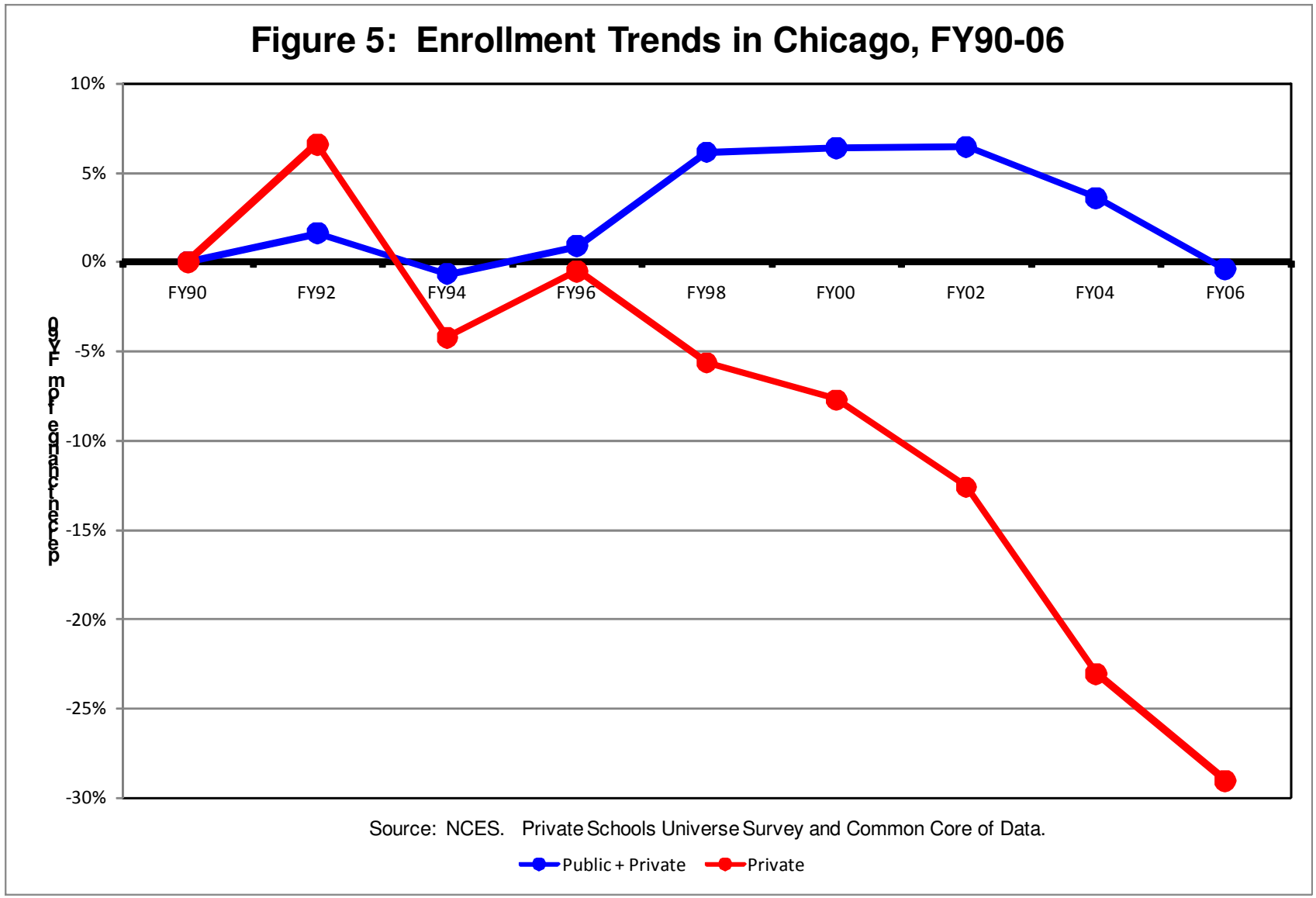


Figure 5: Enrollment Trends in Chicago, FY90-06
10%
5%
0%
-5%
-10%
-15%
-20%
-25%
-30%
FY90
FY92
FY94
FY96
FY98
FY00
FY02
FY04
FY06
Source: NCES. Private Schools Universe Survey and Common Core of Data.
Public + Private
Private

Figure 6: Potential Taxpayer Gains from MPCP
(assuming 90% of voucher students would otherwise have enrolled in MPS)

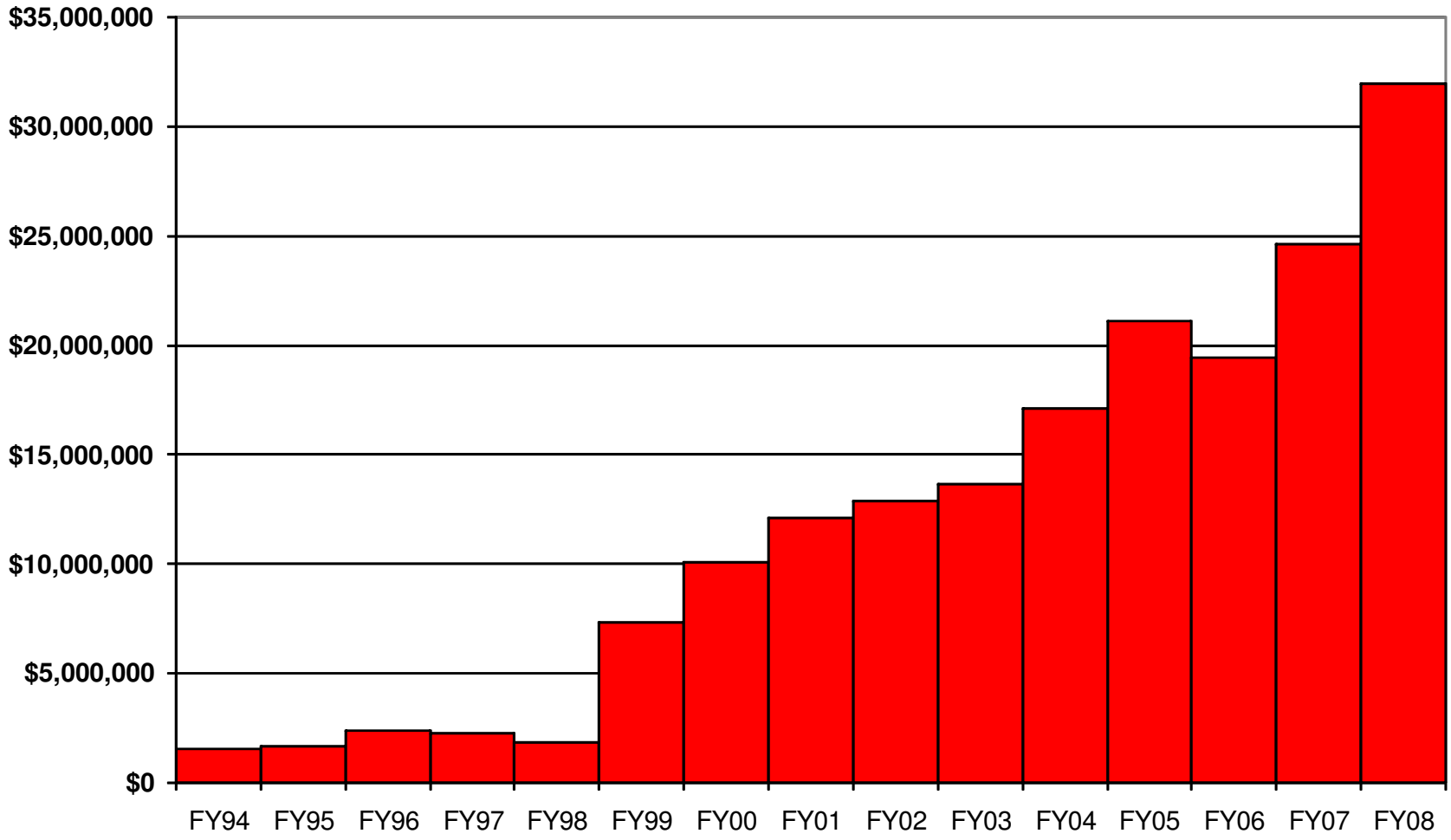


Figure 7: Allocation of Net Voucher Impact Under General Aid and Revenue Formulas
assumptions: 90% voucher students from MPS; cut in total aid = voucher expenditures

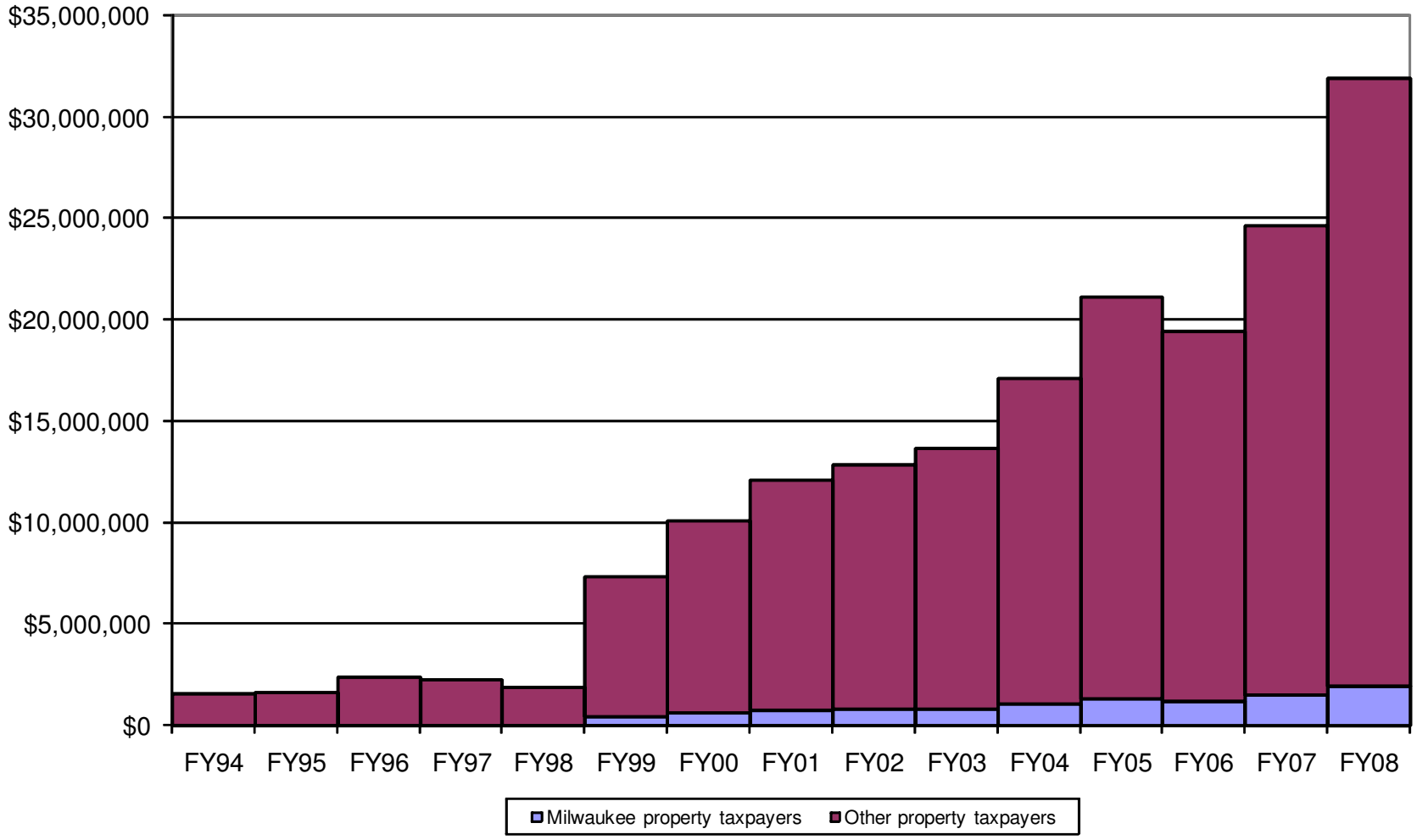


Figure 8: Allocation of Net Voucher Impact Under General Aid and Revenue Formulas
assumptions: 90% voucher students from MPS; change in total aid = 2/3 change in revenue limit

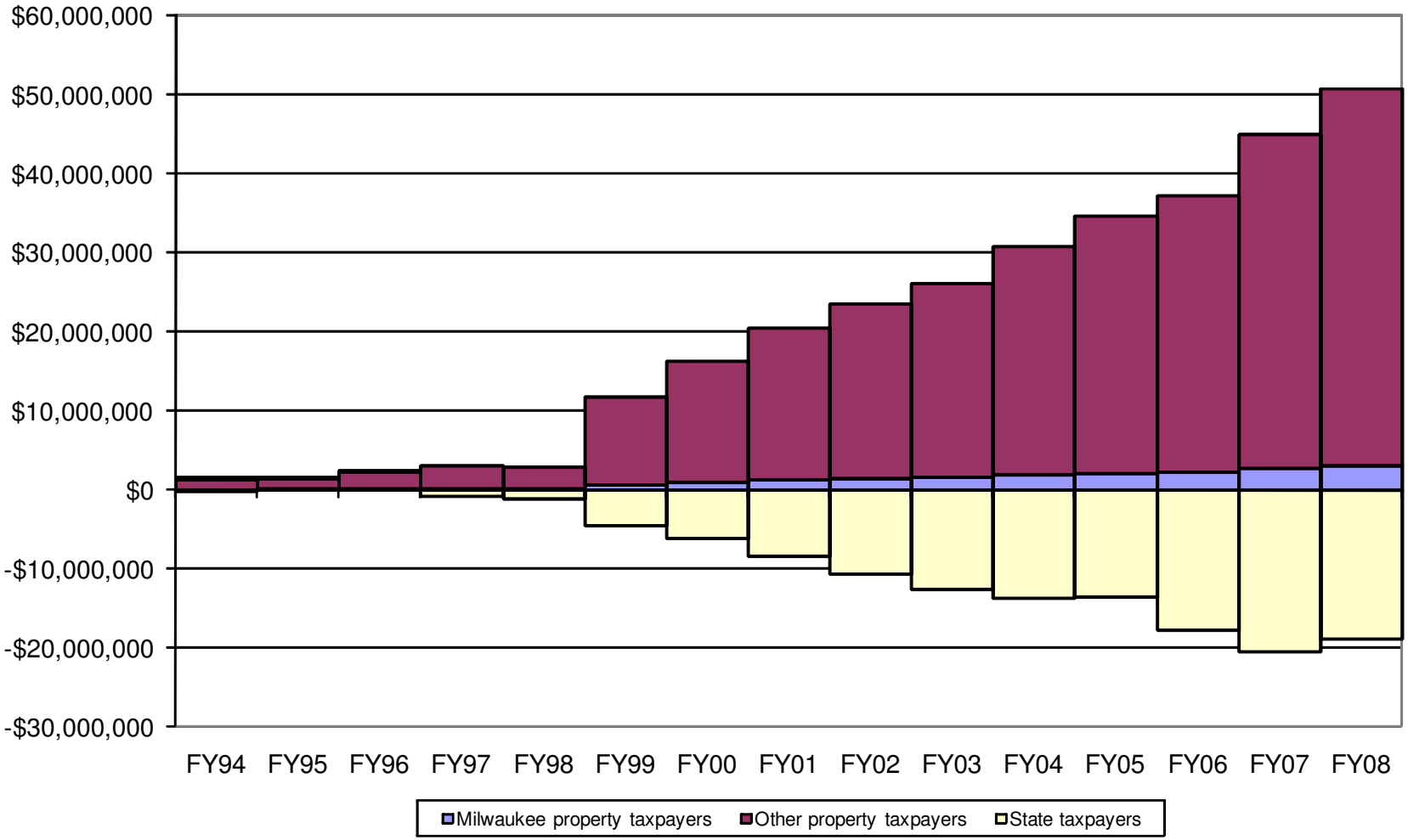


Figure 9: Allocation of Net Voucher Impact Under MPCP Formula
assumptions: 90% voucher students from MPS; change in total aid = 2/3 change in revenue limit