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Cost Estimate of a Promise Scholarship Program for the Buchanan (Michigan) Community Schools

Bridget Timmeney

W.E. Upjohn Institute, timmeney@upjohn.org

Brian Pittelko

W.E. Upjohn Institute

Michelle Miller-Adams

W.E. Upjohn Institute, miller-adams@upjohn.org

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Introduction

This report provides a cost estimate for the first ten years of a Promise scholarship program for the Buchanan Community Schools patterned after the Kalamazoo Promise. Moreover, it presents a detailed outline of the method used in the calculation of the cost estimate. All the major assumptions and variables, as well as their sources, are presented in the report.

It is recommended that in some instances sensitivity analyses be conducted to determine the cost impact if one or more of these assumptions were changed. The model is very flexible and its variables can be easily altered. Updates to this estimate may also be done as enrollment, graduation and college going patterns adjust as a result of the scholarship availability.

The model generates the fixed amount cost of a Buchanan Promise over a 10-year time frame. (A fixed-dollar program estimates program costs regardless of federal and state grants awarded.)

Key parameters for the program are:

- Graduation from the Buchanan Community High School;
- 90 percent attendance in the last three years of high school attendance;
- Residency and enrollment within the district for a minimum of four years (with a sliding scale for benefits similar to the Kalamazoo Promise);
- Enrollment at an accredited post-secondary public institution in the United States;
- Use of Promise funding within 6 years of high school graduation; and
- Fund availability from a \$7 million gift with a four percent annual usage of funds.

Generation of an Enrollment Forecast for Buchanan Community Schools

In generating the school enrollment forecast for the Buchanan Community Schools, both historic enrollment trends and school district projections were used. From 2009–10 to 2015–16, enrollment in the school district declined, grew, and declined again. This enrollment pattern served as the basis for estimating enrollment through the 10-year forecast period.

Table 1 shows the historic and forecasted enrollment for the resident population of the Buchanan School District. The forecast does not include students opting in under schools of choice, specifically, as these numbers are calculated within the overall move-in rate. The forecast does include students from the recently dissolved Galien Township School District and now living within the expanded designated boundaries of the Buchanan school district. The forecast increases enrollment by an annual rate of 0.5 percent, based on discussions with the school district. More recently, the district enrollment has declined by an annualized rate of 2.9 percent, but the expectation is that enrollment will stabilize. The forecast is based on estimating the annual percentage change in total enrollment and using an average distribution of students at each grade level. For example, in the last five years students in grade 12 were 6.3 percent of enrollment. As enrollment increases, 12th grade students increase from 86 to 90.

Table 1: Historic and Forecasted Enrollment

| Grade | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| GK | 140 | 104 | 108 | 127 | 112 | 105 | 95 | 105 | 106 | 107 | 107 | 108 | 108 | 109 | 109 | 110 | 110 |
| G1 | 110 | 126 | 94 | 120 | 133 | 102 | 94 | 104 | 105 | 105 | 106 | 107 | 107 | 108 | 108 | 109 | 109 |
| G2 | 104 | 102 | 125 | 113 | 118 | 119 | 96 | 110 | 111 | 111 | 112 | 113 | 113 | 114 | 114 | 115 | 115 |
| G3 | 93 | 108 | 101 | 136 | 105 | 111 | 110 | 109 | 109 | 110 | 110 | 111 | 111 | 112 | 112 | 113 | 114 |
| G4 | 120 | 89 | 97 | 124 | 133 | 102 | 101 | 107 | 108 | 108 | 109 | 109 | 110 | 110 | 111 | 112 | 112 |
| G5 | 111 | 121 | 89 | 110 | 127 | 130 | 93 | 106 | 106 | 107 | 107 | 108 | 108 | 109 | 109 | 110 | 111 |
| G6 | 113 | 116 | 120 | 109 | 114 | 112 | 114 | 110 | 111 | 111 | 112 | 112 | 113 | 113 | 114 | 115 | 115 |
| G7 | 117 | 117 | 108 | 124 | 100 | 109 | 107 | 106 | 106 | 107 | 107 | 108 | 109 | 109 | 110 | 110 | 111 |
| G8 | 98 | 123 | 111 | 126 | 130 | 105 | 117 | 114 | 114 | 115 | 115 | 116 | 116 | 117 | 118 | 118 | 119 |
| G9 | 126 | 109 | 123 | 110 | 122 | 105 | 100 | 108 | 109 | 109 | 110 | 110 | 111 | 111 | 112 | 113 | 113 |
| G10 | 93 | 119 | 95 | 109 | 109 | 113 | 119 | 105 | 106 | 106 | 107 | 107 | 108 | 109 | 109 | 110 | 110 |
| G11 | 90 | 83 | 106 | 87 | 98 | 94 | 112 | 96 | 97 | 97 | 98 | 98 | 99 | 99 | 100 | 100 | 101 |
| G12 | 96 | 94 | 80 | 89 | 78 | 93 | 102 | 86 | 86 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 |
| Total | 1,411 | 1,411 | 1,357 | 1,484 | 1,479 | 1,400 | 1,360 | 1,367 | 1,374 | 1,381 | 1,387 | 1,394 | 1,401 | 1,408 | 1,415 | 1,422 | 1,430 |

Kalamazoo Public Schools witnessed a large 10-percent bump in enrollment in the first year and a more stable 3.0 percent growth in each of the following years. Moreover, research indicates that the ongoing stable enrollment growth is because families are staying in the district that, in the past, would have left the district before their children entered high school. We are not predicting a large increase during the first year of the Buchanan Promise because of the timing of the announcement close to the start of the school year and, although generous, an award amount that is not as robust as the Kalamazoo Promise scholarship. Moreover, with the proliferation of Promise scholarship programs, the one-time enrollment boost seen in Kalamazoo has become increasingly unlikely.

A fixed first-dollar scholarship program with an effective outreach strategy and solid assistance for students and families to complete the Free Application for Federal Student Aid (FAFSA), the Michigan Tuition Incentive Program (TIP) application, and other institutional and private scholarship opportunities may assist in curbing exits from the school district and may bring some

existing residents back to their home school district after leaving under the schools-of-choice option. This is the basis for our stable enrollment forecast.

A second element to consider is the high school graduation rate. Of those enrolled in ninth grade, how many will graduate in four years and be eligible for the scholarship? Table 2 identifies the projected annual graduation rate and number of graduates. The graduation rate used is 75 percent in the first year and increasing by 0.25 percent each subsequent year. The rate used for this forecast is lower than the published rate in MI School Data, which is closer to 90 percent. It should be noted that there are discrepancies with the publicly available data on MI School Data versus the data provided by the school district for this forecast. Since the use of this higher rate would yield more graduates than estimated seniors, the historic enrollment data provided by the district shows that less than 90 percent of the 9th graders actually reach their senior year. The published rate could be affected by transfers or schools-of-choice students, but late arrivals would not be eligible for the scholarship, so a lower graduation rate was used in this estimate.

Table 2: Eligible Graduates and Graduation Rate

| | Seniors | Graduates | Graduation rate (%) |
|------|---------|-----------|---------------------|
| 2017 | 86 | 85 | 75.00 |
| 2018 | 86 | 85 | 75.25 |
| 2019 | 86 | 76 | 75.50 |
| 2020 | 87 | 82 | 75.75 |
| 2021 | 87 | 83 | 76.00 |
| 2022 | 88 | 83 | 76.25 |
| 2023 | 88 | 84 | 76.50 |
| 2024 | 89 | 84 | 76.75 |
| 2025 | 89 | 85 | 77.00 |
| 2026 | 90 | 86 | 77.25 |

The third step in generating an enrollment forecast is to estimate the length of residency of eligible students. As shown in Table 3, scholarship eligibility depends upon the length of residency in the school district. Only students who have attended school in the district continuously since kindergarten or first grade receive the full scholarship. From second grade through ninth grade, the scholarship rate steps down. Students enrolled from tenth grade on are not eligible. Table 3 also shows the number of new enrollees in the district each year. We base our forecast on the national Census-derived estimate that annually 3.4 percent of all families move from one geographic area to another. Of course, this varies greatly by community; however, without longitudinal student-level enrollment data this is our starting point.

Table 3: Percent Eligibility Based on Enrollment Tenure

| | Percent of award | Percent of class |
|--------------|---------------------|------------------|
| Kindergarten | 100 | 66.0 |
| First | 100 | 2.3 |
| Second | 90 | 2.4 |
| Third | 90 | 2.5 |
| Fourth | 90 | 2.6 |
| Fifth | 80 | 2.7 |
| Sixth | 80 | 2.8 |
| Seventh | 80 | 2.9 |
| Eighth | 70 | 3.0 |
| Ninth | 70 | 3.1 |
| Tenth | 0 | 3.2 |
| Eleventh | 0 | 3.3 |
| Twelfth | 0 | 3.4 |

The assumption underlying our forecast is that 66 percent of the students will attend Buchanan schools from kindergarten through twelfth grade, and an additional percent will move in every year from outside of the district. So, as suggested by Table 3, of the approximately 85 forecasted students in the 2015–16 class, nearly 56 (or 66 percent) would be estimated to have started Kindergarten in the Buchanan Community Schools.

Estimating the Cost of the Buchanan Promise Scholarship Program

The first step in estimating the cost of the Buchanan Promise is to estimate the number of eligible students who will use the scholarship. Currently approximately 68 percent of Buchanan students go on to college within one year of graduating: of these, 66 percent attend community college and 34 percent attend a four-year institution. With a Promise Scholarship we expect that this rate will increase, as discussed below. The model also assumes that 33 percent of community college students will transfer to a four-year college and graduate.

Table 4 presents the college-going trends of Buchanan high school graduates. It is assumed that the percentage of Buchanan graduates attending community college will increase by 0.5 percentage points annually, and the percentage of graduates attending a four-year university will increase by 1.0 percentage point annually during the forecast period.

One requirement for the scholarship is that students must complete the FAFSA, and not everyone will necessarily meet this criterion. The model assumes that all students going to college will have completed this form. This overestimation is likely offset by not including students who enroll more than a year after graduation. Table 4 shows that 60 students will receive a scholarship in 2017 and 119 in 2020 when there are students enrolled at every grade level of college.

Table 4: College Enrollment Projection

| | 4-year college | 2-year college | Total |
|------|-------------------|-------------------|-------|
| 2017 | 22 | 37 | 60 |
| 2018 | 42 | 45 | 87 |
| 2019 | 61 | 41 | 102 |
| 2020 | 75 | 44 | 119 |
| 2021 | 77 | 45 | 122 |
| 2022 | 80 | 46 | 126 |
| 2023 | 84 | 47 | 131 |
| 2024 | 88 | 48 | 135 |
| 2025 | 91 | 49 | 140 |
| 2026 | 94 | 49 | 144 |

Unfortunately, not everyone who attends college completes a college degree or certification. As shown in Table 5, on average, about 18 percent of the students attending two-year institutions return for the second year, while 82.5 percent of four-year institution attendees return for their second year and only 41.4 percent of the college students attending four-year schools enter their fourth year, on average. In the model, we assume that the retention rate for all Buchanan students remains the same during the forecast period. In addition, as stated earlier, the model assumes that 33 percent of the students attending community college will transfer to a four-year university after completing their Associate’s degree.

Table 5: College Retention Rates

| | Retention rate (%) |
|--------------------|-----------------------|
| Community colleges | 18.0 |
| 4-year colleges | |
| retain 2 year | 82.5 |
| retain 3 year | 68.1 |
| retain 4 year | 41.4 |

The estimated cost of a fixed-dollar Buchanan Promise, based on the factors outlined above, is shown in Table 6. **The cost is fixed at a flat scholarship rate of \$2,500 per student per year.** The actual per student cost is slightly less, \$2,148 per year, as not all students will be eligible for the full award. The value of the award is assumed in this estimate not to rise with inflation. The first year cost is estimated to be about \$128,747 since only one class of graduates is enrolled. Costs rise quickly as each additional class enters college for the first time, until 2020 when it reaches roughly \$255,869. In 2020 the scholarship is “all in” with students at every grade level of college. After 2020, costs rise more modestly to about \$308,000 in 2026.

Table 6: Estimated Costs

| Class | Students | Cost Per Student (\$) | Annual Cost (\$) |
|-------|----------|-----------------------|------------------|
| 2017 | 60 | 2,148 | 128,747 |
| 2018 | 87 | 2,148 | 186,406 |
| 2019 | 102 | 2,148 | 218,392 |
| 2020 | 119 | 2,148 | 255,869 |
| 2021 | 122 | 2,148 | 262,908 |
| 2022 | 126 | 2,148 | 271,097 |
| 2023 | 131 | 2,148 | 281,856 |
| 2024 | 135 | 2,148 | 290,722 |
| 2025 | 140 | 2,148 | 299,712 |
| 2026 | 144 | 2,148 | 308,829 |

It is important to note that in the preparation of these costs, it is assumed that students will attend college the year following high school graduation. This is, of course, not always the case especially for those young adults who enter military service. This means that this cost estimate of the Promise is “front loaded”: the scholarship’s costs will likely be lower than estimated in the early years but then slightly higher in later years.

During the first year of a fixed-dollar scholarship program, an estimated \$128,747 will be paid out for eligible costs such as tuition and fees, an average of \$2,148 per student attending college. In 2020, when four classes of high school graduates are attending college, an estimated \$255,869 will be paid out in tuition and fees to public colleges and universities. It will be important for the Buchanan Promise Planning Committee to discuss how community college attendees who are receiving Pell grants will receive and use their money to ensure that it remains nontaxable.

Forecast Risks

Of course, all forecasts carry with them a measure of uncertainty. The following are the major areas of uncertainty associated with this forecast. Actual performance can be monitored over time through Buchanan school district data and through the National Student Clearinghouse data.

Downside Risks

If households do not know about the availability of the Buchanan Promise or are uncertain about its sustainability, the school district enrollment impact will be modest and the resulting cost of the scholarship will be reduced. For example, for parents of a first grader, the perceived stability of the scholarship funds will affect the scholarship’s impact on residential decision, Buchanan School District enrollment, and college aspirations. The same is true if the Buchanan economy suffers an economic setback.

As mentioned in the report, all costs are “front loaded” since it is assumed that eligible students will use the scholarship in the fall after they graduate from high school. This assumption is based on the historical patterns of post-secondary enrollment balanced by the eligibility requirement that all students must complete a FAFSA to receive a scholarship. It is assumed that not all students will complete a FAFSA, making some students ineligible while some students will defer

use of their scholarship until later in the 4-year window of eligibility. The result of this assumption means that the first several years of the cost estimates are overestimated while the later years may prove to be more expensive (although total costs will remain within the bounds of the forecast).

In this forecast, school district enrollment is projected to increase modestly despite recent trends which depict a gradual decline. If enrollment continues to decline, the costs of the program will be reduced.

Upside Risks

It is possible that more students who would have previously chosen to go to a community college without the availability of the Promise will now make a different choice and attend a four-year university eligible for the scholarship. These trends could have implications for the local community college and for the local workforce.

Currently, Buchanan School District students have a relatively low post-secondary graduation rate, around 50 percent. If that rate increases, the costs of the scholarship will increase.