

1-1-2013

Cost Estimate of a Promise Scholarship Program for the City of Jacksonville, Illinois

George Erickcek

W.E. Upjohn Institute for Employment Research, erickcek@upjohn.org

Citation

Erickcek, George. 2013. "Cost Estimate of a Promise Scholarship Program for the City of Jacksonville, Illinois." Report prepared for Jacksonville Promise Board.

<https://research.upjohn.org/reports/206>

This title is brought to you by the Upjohn Institute. For more information, please contact repository@upjohn.org.

Cost Estimate of a Promise Scholarship Program for the City of Jacksonville, Illinois

George Erickcek

September 5, 2013

Introduction

This report provides the cost estimates for the first 10 years of a Promise Scholarship program for the Jacksonville (IL) schools patterned after the Kalamazoo (MI) Promise. Moreover, it presents a detailed outline of the method used in the calculation of these cost estimates. All the major assumptions and variables—and their sources—are presented in the report.

The model generates the first- and middle-dollar costs of a Jacksonville Promise over a 10-year time frame. (A middle-dollar program estimates program costs after federal and state grants have been awarded.) Key parameters for the program are:

- Graduation from one of the following High Schools:
 - Jacksonville City Schools high school (District 117)
 - Our Savior School
 - Pathway School
 - Routt Catholic High School
 - Salem Lutheran
 - Westfair Christian Academy
 - Illinois School for the Deaf
- Residency and enrollment within the district for a minimum of four years with a sliding scale for benefits similar to the Kalamazoo Promise (Table 1);
- The scholarship would be available for students attending one of the following colleges:
 - Lincoln Land Community College
 - MacMurray College
 - Illinois College
- The first-dollar scholarship funding would cover tuition and mandatory fees. The middle-dollar scholarship funding would cover tuition and mandatory fees after federal and state grants are taken into consideration.

Table 1 Scholarship Eligibility By Class Enrollment

Kindergarten	100%
First	95%
Second	95%
Third	95%
Fourth	90%
Fifth	85%
Sixth	80%
Seventh	75%
Eighth	70%
Ninth	65%
Tenth	0%
Eleventh	0%
Twelfth	0%

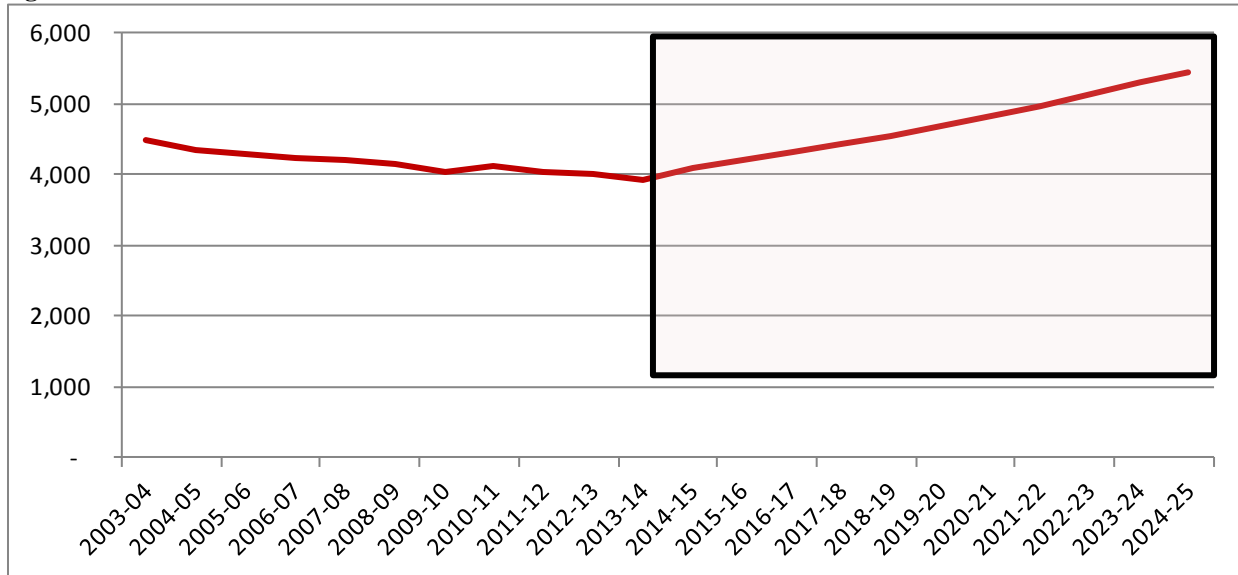
Generation of a Forecast of Enrollment for the Jacksonville Schools

From 2003 to 2012, enrollment in Jacksonville’s public and private schools decline by 1.3 percent annually, losing approximately 500 students during the period. As shown in Table 2 and Figure 1, it is forecasted that school enrollment would increase by five percent after the first year of the Promise announcement and by three percent during the subsequent years, reaching nearly 5,500 students by 2024.

Table 2 Enrollment History and Forecast for Public and Private Schools in Jacksonville

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	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
K	326	311	321	324	363	339	338	306	289	310	303	326	333	340	343	352	360	370	383	394	405	418
1	328	302	308	335	320	351	306	342	307	294	293	329	337	344	348	357	365	375	388	399	410	424
2	314	331	297	294	327	315	346	301	329	310	322	331	351	361	365	375	383	393	407	419	431	445
3	338	321	320	282	292	332	311	349	309	320	318	349	341	361	368	378	386	396	411	422	434	449
4	351	326	308	320	280	301	318	312	345	310	313	350	366	359	375	388	397	408	422	434	447	461
5	321	349	333	322	322	285	294	326	299	343	333	337	354	371	361	382	394	405	419	431	443	458
6	304	308	344	327	299	305	280	299	311	308	293	335	324	340	353	350	368	382	396	408	420	434
7	387	320	313	335	344	329	312	290	314	310	310	338	364	354	367	386	382	401	420	432	444	459
8	356	392	323	315	351	319	303	310	272	312	307	297	324	352	341	353	372	369	388	406	418	430
9	368	356	378	328	331	325	319	287	305	266	255	291	282	308	335	325	336	354	351	369	387	398
10	369	345	358	364	317	307	334	343	290	299	294	264	301	292	316	344	334	345	363	359	378	395
11	370	349	349	333	350	295	283	334	322	272	258	270	241	276	268	291	317	307	318	335	332	349
12	362	335	341	354	323	341	300	310	333	349	337	266	278	250	284	276	298	324	314	325	342	338
Total	4,494	4,341	4,293	4,230	4,219	4,142	4,044	4,109	4,024	4,002	3,935	4,084	4,196	4,307	4,424	4,556	4,693	4,828	4,980	5,134	5,291	5,458

Figure 1 Enrollment at the Jacksonville K–12 Schools



One of the more difficult challenges in forecasting the cost of a Promise Scholarship program is estimating the length of residency of eligible students. We adopt the national Census derived estimate that annually, three percent of all families move from one geographic area to another. Of course, this varies greatly by community; however, without longitudinal student enrollment data this is our starting point. As shown in Table 3, of the estimated 217 graduates in 2014, 143 started in kindergarten.

Table 3 Residency Estimates for the Class of 2014

Grade	Number	Percent
K	143	66
1	5	2
2	5	2
3	5	2
4	6	3
5	6	3
6	6	3
7	6	3
8	6	3
9	7	3
10	7	3
11	7	3
12	7	3

Estimation of the Cost of the First-Dollar and Middle-Dollar Promise Scholarship Program

The first step in estimating the cost of the Jacksonville Promise is to estimate the number of eligible students who will use the scholarship. In 2012, the Jacksonville public schools (District 117) had an 85 percent graduation rate—85 percent of its 9th graders graduated on time. Based

on the Kalamazoo Promise experience, it is assumed that this rate will remain unchanged during the forecast period.

The enrollment forecasts of Jacksonville Promise recipients for the three eligible colleges are shown in Table 4. As is shown, enrollment is expected to grow at all three of the eligible colleges during the forecast period.

Table 4 College Enrollment Forecasts of Scholarship Recipients

	Lincoln Land Community College	Illinois College	MacMurray College
2011	73	5	18
2012	83	5	19
2013	73	5	17
2014	72	8	31
2015	84	11	39
2016	83	11	41
2017	92	14	49
2018	101	16	58
2019	99	17	60
2020	104	18	65
2021	111	20	71
2022	112	20	72
2023	119	22	79
2024	127	24	85
2025	132	25	90

Unfortunately, too many college students are not successful in their studies and drop out of college. The reasons for this include financial burdens, which would be addressed by the proposed Promise Scholarship; however, several key factors are not financial in nature. First, the student may not be academically and emotionally ready for college. Second, the student may not “attach” to the college and therefore can feel alone and isolated. Finally, the student may have familial responsibilities that take away necessary study time. While, the retention and completion rates are expected to improve during the forecast period, they did remain disappointingly low as shown in Table 5.

Table 5 Eligible College Retention and Completion Rates (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Lincoln Land Community College															
Complete two years	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0
Illinois College															
Returning the 2nd year	83.0	83.8	84.7	85.5	86.4	87.2	88.1	89.0	89.9	90.8	91.7	92.6	93.5	94.5	95.4
Returning the 3rd year	68.9	69.6	70.3	71.0	71.7	72.4	73.1	73.9	74.6	75.3	76.1	76.9	77.6	78.4	79.2
Completing the 4th year	57.2	57.8	58.3	58.9	59.5	60.1	60.7	61.3	61.9	62.5	63.2	63.8	64.4	65.1	65.7
MacMurray College															
Returning the 2nd year	45.0	45.5	45.9	46.4	46.8	47.3	47.8	48.2	48.7	49.2	49.7	50.2	50.7	51.2	51.7
Returning the 3rd year	40.0	40.4	40.8	41.2	41.6	42.0	42.5	42.9	43.3	43.7	44.2	44.6	45.1	45.5	46.0
Completing the 4th year	37.0	37.4	37.7	38.1	38.5	38.9	39.3	39.7	40.1	40.5	40.9	41.3	41.7	42.1	42.5

The final major assumption required in generating the cost of the proposed scholarship is the expected annual increase in tuition. During the forecast period, the following assumptions, based on historical trends, are used.

- Lincoln Land Community College—2 percent annually
- Illinois College—6 percent annually
- MacMurray College—6 percent annually

The resulting expected costs of tuition and fees at the three colleges are shown in Table 6.

Table 6 Forecast of the Cost of Tuition and Fees (\$)

	Lincoln Land Community College	Illinois College	MacMurray College
2011	2,412	24,530	20,400
2012	2,460	26,012	21,633
2013	2,509	27,584	22,940
2014	2,560	29,251	24,326
2015	2,611	31,018	25,796
2016	2,663	32,892	27,354
2017	2,716	34,879	29,007
2018	2,771	36,987	30,760
2019	2,826	39,222	32,618
2020	2,883	41,592	34,589
2021	2,940	44,105	36,679
2022	2,999	46,770	38,895
2023	3,059	49,595	41,245
2024	3,120	52,592	43,737
2025	3,183	55,770	46,380

The cost estimates of a first-dollar scholarship which would cover all costs (tuition and fees) of attending any one of the three eligible schools is shown in Table 7. During its first year, the scholarship would cost \$1 million dollars. In 2017 when all four classes at Illinois College and

MacMurray College are filled, the cost climbs to \$3.6 million. In the later years, the cost of the college will continue to rise because of both higher attendance and tuition costs.

Table 7 First-Dollar Scholarship Outlays (\$)

Class	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
2014	1,008,045	531,443	401,683	359,208								
2015		1,335,199	713,087	546,579	488,783							
2016			1,484,904	803,239	623,890	557,956						
2017				1,846,297	1,011,137	794,178	710,200					
2018					2,279,620	1,263,525	1,001,899	895,957				
2019						2,502,079	1,403,181	1,121,808	1,003,187			
2020							2,828,628	1,603,815	1,288,151	1,151,940		
2021								3,254,620	1,865,569	1,504,860	1,345,734	
2022									3,511,101	2,034,496	1,647,748	1,473,513
2023										4,030,626	2,360,811	1,919,251
2024											4,593,569	2,719,501
2025												5,149,977
Total	1,008,045	1,866,641	2,599,674	3,555,324	4,403,431	5,117,737	5,943,908	6,876,201	7,668,007	8,721,921	9,947,862	11,262,242

The middle-dollar scholarship, which would require the student and his/her family to apply for available federal (Pell Grants) and state aid, would cost nearly \$600,000 in the first year and \$2.2 million during 2017 when all four classes are attending school at Illinois College and MacMurray College (Table 8).

Table 8 Middle-Dollar Scholarship Outlays (\$)

Class	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
2014	590,226	325,126	216,674	232,615								
2015		810,062	450,009	312,109	325,602							
2016			931,733	522,053	374,699	381,541						
2017				1,193,196	674,473	497,333	496,852					
2018					1,512,350	862,614	650,022	639,633				
2019						1,699,411	978,223	750,372	729,330			
2020							1,953,841	1,135,450	880,304	849,323		
2021								2,284,193	1,340,188	1,048,999	1,005,432	
2022									2,501,652	1,481,928	1,169,940	1,114,747
2023										2,913,171	1,742,390	1,386,254
2024											3,365,397	2,032,382
2025												3,821,974
Total	590,226	1,135,189	1,598,416	2,259,973	2,887,124	3,440,899	4,078,939	4,809,648	5,451,474	6,293,421	7,283,158	8,355,357

The cost of the two scholarship programs are compared in Table 9.

Table 9 Summary of Scholarship Cost Estimates (\$)

	First Dollar	Middle Dollar	Difference
2014	1,008,045	591,075	416,970
2015	1,866,641	1,136,886	729,756
2016	2,599,674	1,600,924	998,750
2017	3,555,324	2,263,639	1,291,685
2018	4,403,431	2,891,705	1,511,726
2019	5,117,737	3,446,238	1,671,499
2020	5,943,908	4,085,094	1,858,814
2021	6,876,201	4,816,656	2,059,545
2022	7,668,007	5,459,131	2,208,876
2023	8,721,921	6,301,925	2,419,997
2024	9,947,862	7,292,619	2,655,243
2025	11,262,242	8,365,793	2,896,449

With all forecasts there are risks and, unfortunately in this case, all of them point in the same direction and suggest that our estimates maybe too low. First, the cost of tuition continues to climb throughout the nation, and while the three eligible colleges have been successful at keeping their annual increases on the low end; they may find it necessary to increase their tuitions and fees at a higher rate in the future. Second, it is possible that more students will use the scholarship than we are forecasting. Finally, recent evidence from the Kalamazoo Promise Scholarship suggests that eligible students may have a greater completion rate. While the last two events would show that the proposed scholarship will be successful in improving the lives of many Jacksonville students, it would also increase the cost of the scholarship.

Appendices

Appendix A: Alternative Scholarship Option

A third options for the structure of the proposed Jacksonville Promise was also considered. In this scenario, the scholarship would be limited to the size of the Federal Pell Grant during the first two years of college and then limited to 140 percent of the grant for the final two years of college. In this scenario (as in the middle-dollar scenario above), the Federal Pell Grant is forecasted to increase by 2.5 percent annually during the forecast period. Finally, because the scholarship would be less generous, the expected impact on K-12 school enrollment was reduced by 50 percent. During the first year the cost of the scholarship would be less than \$400,000 and when all four classes are filled in 2017, it would reach only \$1.2 million.

Table A-1 First-Dollar Scholarship Outlays—Alternative Pell Grant and 140% of Pell Grant (\$)

Class	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
2014	346,082	175,738	222,949	159,803								
2015		434,869	224,089	284,592	207,160							
2016			458,117	239,586	304,930	231,525						
2017				516,168	273,638	348,759	248,409					
2018					596,432	319,259	408,863	309,103				
2019						603,200	328,555	413,256	316,257			
2020							653,508	360,261	460,082	353,001		
2021								703,898	392,453	501,783	386,729	
2022									707,204	398,745	510,413	395,081
2023										768,424	438,112	561,433
2024											809,261	466,523
2025												846,441
Total	346,082	610,607	905,155	1,200,148	1,382,161	1,502,743	1,639,336	1,786,518	1,875,996	2,021,953	2,144,514	2,269,479

Appendix B: Economic Development Options for Jacksonville

The proposed Jacksonville Promise would provide the financial bridge enabling many of its high school graduates to attend college. Moreover, it would encourage many of its more academically successful high school students to attend college at one of the area's three colleges and, upon graduation, stay in the community. While these are extremely positive outcomes that could thrust many of the area's students into successful careers in the local economy, there remains a question whether other initiatives could have equal or greater impact on the area's economic livelihood.

Jacksonville has a stable economic base built on its regional medical center, Passavant Hospital, and its three post-secondary education institutions. Moreover, it has several large manufacturers including Reynolds Consumer Products, and firms in food products, and book binderies. Finally, it has both a state correctional facility and a developmental facility which also provide stable employment opportunities.

However, the city is losing population and has suffered severe manufacturing employment losses during the Great Recession including AGI (EMI) and ACH Foods. In addition, although it is served by Interstate 72, the community is somewhat isolated.

Talent-Driven Strategies

The proponents of the Jacksonville Promise are correct in pushing a talent-driven economic development strategy for the city. Numerous studies and reports clearly link a more educated workforce with income growth and prosperity. Moreover, in today's global market, successful firms cannot compete solely on price; they must add innovation and design to their products which can only be done if they have a talented workforce.

There are two separate strategies to bring talent into a community: grow your own or attract talent from the outside. In economic jargon, an area can focus on increasing local supply or local demand for talent. The literature is muddy regarding the effectiveness of either strategy except the following:

1. Strong amenities area—ocean coasts and mountains—attract talent and businesses often follow: Demand following supply.
2. Large Metro areas that attract talent due to their wide selection of job opportunities: Demand attracting supply. It can also be argued that places like Chicago, Minneapolis, and Boston are “cool places” with strong urban amenities that can attract talent.

For Jacksonville, the proposed Jacksonville Promise is clearly a supply-side strategy: by encouraging its best students to stay and attend college in the community, it would hopefully induce employers to expand in the area as well. The advantage of such a strategy is that the Promise college graduates know the unique amenities of the area and therefore may be more likely to stay in the area. However, the impact of the strategy may be limited. First, the labor market for talent is much bigger than a local area—area employers are wise to seek qualified individuals across a multi-county region. In addition, area college graduates should be encouraged to conduct regional job searches. It is well known that a Bachelor's degree significantly increases the likelihood that a person will relocate.

Options

A strongly promoted—or even subsidized—intern/apprenticeship program that encourages local companies to hire graduates from the area colleges would have the following advantages:

1. Clearly, it would link the local supply of talent to local demand. Internship or apprenticeship programs have been found to be effective avenues for full-time employment.
2. It would establish a communication linkage between area employers and educators. Recent graduates hired by local firms could speak to the college's instructors and students about the world of work and what employers need.
3. Employers would be more connected with the colleges, as well, and would likely be more active in helping educators with curriculum development.

A more untested option, would be to create a “maker’s space” for recent graduates with math, science, computer, or engineering degrees. A maker’s space can be considered as “open source” incubators where participants share both equipment and ideas. Incubators are typically composed of small boxes containing hard-working entrepreneurs who are developing their own ideas without much interaction with their neighbors. Maker’s spaces are large rooms filled with equipment and entrepreneurs working in groups. The equipment requirements of a maker’s space depend on its focus: electronic/computer programmers or consumer product development. Maker’s spaces are new, and as far as I know there is very little known about their potential effectiveness.

In summary, talent development is strongly associated with economic growth and advancement. The question is: what is the right strategy for Jacksonville?