**The Kalamazoo Promise and College Enrollment**

By

Guillermo Dominguez

4/19/2021

## Abstract

College Promise Programs have existed for over a decade despite the sudden popularity and increasing calls for free college and abolishing student debt. These programs are known for increasing community investment, K-12 aptitude scores, and college enrollment and completion; however, many of these programs allow students to use the scholarship up to an extended amount of time after high school completion. Thus, many existing studies have not had the opportunity to examine the full extent of the effect of Promise Programs on postsecondary outcomes, as many students opt into college well after high school graduation. Using a difference-in-differences (DID onwards) design and exploiting the quasi-natural experiment of the Kalamazoo Promise, we estimate the effect of the Kalamazoo Promise on college enrollment, by comparing those who were Promise-eligible and Kalamazoo Public School graduates (KPS), to those who were KPS graduates but not Promise-eligible. I find that the Kalamazoo Promise is responsible for a 13 percent increase in college enrollment when including 2003-2011 cohorts, and for a 10 percent increase when excluding 2005, a year when a KPS school closed. These findings have important implications for the future of affordable routs to college attainment.

# Introduction

While calls for free college education and college debt have heightened in recent months, free college is not a novel idea in the U.S. The Kalamazoo Promise, one of the first Promise Programs in the U.S., has been around since 2005. Since then, around 300 similar placed-based programs have started around the country (Odle et al 2021; this number depends on how you define place-based scholarship), with the goals of 1) improving high school performance; 2) broadening access to college, and 3) boosting the local economy, by attracting students from other districts and by providing residents with higher levels of education (Bartik, Hershbein, and Lachowska 2017; Swanson et al. 2016).

With the presence of a College Wage Premium (calculated as the median wage of college degrees over the median wage of those without a college degree) increasing in recent decades (Cleveland Fed, 2012), access to free college becomes an important signal for future economic success. These calls become even more appealing when considering the enormous amounts of college debt that college students take on, and that has consequences throughout the life-course, particularly for Black students (Seamster and Charron-Chénier 2017). In fact, according to Odle, Lee, and Gentile (2021) the Tennessee Promise reduced the percent of students who borrow and attend 4-year universities by 8-10 percent after program implementation.

According to Human Capital Theory (HCT), student college completion is a signal of gaining particular tools and credentials that could affect future wellbeing (Becker 1962; Collier and McMullen 2020); thus, removing a significant barrier and stressor to these future desirable outcomes is beneficial. In fact, while tools such as financial aid and merit-based scholarships have been studied extensively, less attention has been placed to place-based programs (Bartik et

al 2017). Place-based programs are distinct from merit-based scholarships and financial aid, particularly because they involve entire communities benefitting from these programs, from High schools making efforts to ameliorate their curriculum, to attracting newcomers to these programs and boosting housing prices (LeGower and Walsh 2014). Additionally, while financial aid may lead students to accumulate debt for years, place-based promise programs offer an important cost-effective alternative (Bartik et al. 2017).

Due to the popularity of the Kalamazoo Promise – a program where its largest public school's commencement speaker in 2010 was Barack Obama  -- most of the literature on the effect of Promise Programs has focused on the Kalamazoo Promise. Among other reasons for its popularity, Kalamazoo Public Schools' administrative data is held under Upjohn W.E. Employment Research Institute, an organization that hires dozens of academics  who  study the effects of this program. Generally, these papers, published under Upjohn's own publisher, show that since the enactment of the Program, housing prices and the population has increased with regards to adjacent districts. The program has also been found to increase enrollment in the KPS system and in the close districts, signaling potential spillover effects of the Promise. Most importantly, the Promise has led to increased number of applications for college, enrollment, and completion in preliminary studies (Andrews et al 2010;  Bartik et al 2015).

Moreover, programs such as the Kalamazoo Promise are universal, meaning that the awards are non-competitive and are based on non-academic criteria, and are valid for a prolonged amount of time. In the case of the Kalamazoo Promise, awards can be used up to 10 years post high school graduation, and students can start and stop college at any time in that window. In fact, many students stop college and re-enter several years later knowing well that the Promise will still grant them the benefit of paying up to full tuition (Collier and McMullen

2020). According to Collier and McMullen, 22 percent of students who enrolled in college using the Kalamazoo Promise stopped after their first year. Nevertheless, 45 percent of them re-enrolled afterwards, with Black and Latino students re-enrolling faster. Additionally, 30 percent of all those students who stopped obtained a degree afterwards (Collier and McMullen, 2020). Additionally, using Inverse Probability Weights with Regression Adjustment (IPWRA), Collier and colleagues (2020) find that there are no substantive differences between the GPAs of KPromise students in college versus those who attended other Michigan public schools.

Yet, papers on the effect of the promise either used data that was updated before the first cohort had their full window of time expire (Bartik et al 2015) or included cohorts that have not yet gone through the 10-year window. For instance, Bartik et al 2017 includes the 2012 and 2013 cohorts. At this point, only cohorts from 2006-2011 have gone through the full time-window of when they could use the Promise. While the 2006-2011 cohorts have been studied in Bartik and colleagues' work, they have been lumped with data from students that have not gone through the time-window of when they could use the Promise.

Using a DID method but limiting data to those cohorts that have had the full window of time to use the Promise, I find that the Kalamazoo Promise is responsible for at least a 13 percent increase in college enrollment with respect to those that are not Promise-eligible. However, preliminary summary statistics reveal that 2005 was an unusual year in Kalamazoo, where one KPS school (an alternative program, as noted in Bartik et al. 2017) closed. At the same time as this closure occurred, the college attendance rate of non-Kalamazoo county residents surprisingly skyrocketed, surpassing that of Kalamazoo County residents. Nevertheless, removing this unusual datapoint, I find that the program is responsible for a 10 percent increase in college enrollment with respect to those that were not eligible.

## Literature Review

I first draw on Swanson et al's 2017 meta-analysis, which recapitulates Upjohn's research, to understand the effects of Promise Programs on a host of outcomes. The meta-analysis also looks at other Promise Programs but warns that most Promise research comes out of Kalamazoo. Yet, since the review is four years old, I also update it with newer research. I then look at the specifics of the Kalamazoo Promise.

According to Swanson et al's review piece, Promise Programs are defined by three common goals: 1) Increase access to college, 2) Improve high school aptitude tests and markers of success, 3) boost the local economy. The first aspect is typically analyzed via studies that look at numbers of college applications (Andrews et al 2010), college enrollment, or college completion (Bartik et al 2017). The second one is typically operationalized by improvements in ACT scores or other standardized testing, and the third is studied via changes in housing prices and population within the school district. The studies included in the review all use causal methods, typically DID methods, and use adjacent non-promise districts or non-eligible students from the same public schools as the control group (Swanson et al 2016).

The definition of a Promise Program and the classifications distinguishing Promise Programs in the meta-analysis is useful for positioning the Kalamazoo Promise in a larger context. To be eligible, students need to live in the promise zone for a certain amount of time. In the case of the Kalamazoo Promise, students had to live in the KPS district since at least 9th grade, and live in the district through graduation. Moreover, the awards granted are higher the more one has lived in the district. Those that lived in the district starting in 9th grade only receive 65% of tuition covered in college, with tuition covered being increased by 5% per year lived in

the district, until 100% is covered for those who lived K-12. This program is also distinguished by being a "first dollar" scholarship, meaning that students can accumulate funds from other sources on top of the Promise, to cover room and board for example. Additionally, the program is universal and non-competitive. Students that satisfy eligibility requirements are automatically awarded the scholarship. A particular feature of the Kalamazoo Promise, shared with several other programs, is that eligibility requirements do not include GPA or test scores. That is, as long as you have lived in the area for a certain amount of time, you are eligible. A particular outcome of universal programs that do not include test requirements is that they are associated with enrollment increases in the school districts, while those that require high test scores and are not associated with enrollment increases (LeGower and Walsh 2014).

Additionally, programs often limit the set of schools one may use funds in. Kalamazoo Promise recipients may receive up to full tuition and mandatory fees in over 60 eligible and accredited Michigan colleges, including four-year programs, trade schools, vocational programs, and community colleges. According to their website, over $125 million has been invested by anonymous donors in the program, allowing almost 7,000 students to be eligible. To date, 3,000 degrees have been granted through this program. In the Fall of 2020, 62 percent of students enrolled in college via the promise were enrolled in one of three institutions: Kalamazoo Valley Community College, Western Michigan University, and Kalamazoo College, all local institutions (author calculations using data from publicly available tables at Uphjohn.org). While not all eligible individuals attend college, a typical year sees between 84% and 98% of eligible individuals enroll in college while the rate is of only between 46% and 85% among ineligible adults (note that not all who receive the Promise and attend college use the Promise to attend college, since some attend out-of-state schools).

## K-12 and Community Development Outcomes

Broadly speaking, Promise Programs boost community development and K-12 measures of aptitude. LeGower and Walsh (2014) conduct another review, also included in the Swanson meta-analysis, and find among that among 21 programs, the population of counties included in the program increased from by 3.7% with respect to adjacent counties between 2000 and 2011. Additionally, housing prices increased by 12.3% points higher than in adjacent counties, both outcomes supported in Bartik and Sutherland's 2015 analysis of 8 Promise Programs. In an updated study by LeGower and Walsh (2017) the authors this time identify 24 "promise-type" including the Kalamazoo Promise, and find that enrollment increases but mostly in primary schools where Promise benefits are higher with earlier enrollment. Home values also increased, but primarily for houses with three or more bedrooms, those that tend to have children (LeGower and Walsh 2017). Specifically in Kalamazoo, Miller (2011) used a DID model and found that homes in the KPS district depreciated in value more than those in non-KPS districts in Kalamazoo County, but this was confounded by the economic recession, as Kalamazoo was particularly badly hit (Miller Adams 2011).

In terms of K-12 outcomes, Bartik, Eberts, and Huang (2010) find that the introduction of the Promise reversed the negative trend of enrollment occurring in KPS , and Hershbein (2013) updates these findings to show that most of the increasing in enrollment stems from students migrating from adjacent districts, and not from students transitioning from private schools to KPS. Programs also improve K-12 outcomes. In a Promise Program in Arkansas, Ash finds that literacy and math scores increased significantly after the introduction of the program (Ash 2015).

Carruthers and Fox finds in a program in Tennessee that high school graduation rates increase by 4.6%. Last, Bartik and Lachowska find that GPA increased, although it was non-significant. On the other hand, Perna and colleagues draw on four Promise Programs that allow students to community colleges and, via semi-structured interviews, find that these programs may actually worsen academic progress of certain students. Specifically, they argue that these programs may hamper academic success and High School degree completion for those who are ineligible because resources become concentrated for Promise students (Perna, Wright-Kim, and Leigh 2020).

## Post-Secondary Outcomes

Regarding postsecondary outcomes, our outcome of interest, Miller-Adams' book *Promise Nation: Transforming Communities through Place-Based Scholarships* finds that the college enrollment rate for graduates of Denver Public Schools increased by 14 percentage points in five years, and in Pittsburgh, the increase in enrollment was of 10 percent. Even more staggering, in El Dorado, Arkansas, the college enrollment rate increased from 65 percent to 90 percent after the introduction of their promise program. Yet, these outcomes were not universal.

Andrews, Desjardins, and Ranchhod (2010) find that the Kalamazoo Promise increases the likelihood of KPS students apply to college, and the impact is particularly high for lower-income families. Bartik et al find that the Promise has positive effects on the probability of college enrollment, on the number of college credits accumulated, and on the probability of obtaining a degree. Specifically, the Promise increases the likelihood of enrolling in college by 8 percentage points with respect to the mean probability of enrollment for those that enroll right after high school, and the number of credits completed increases by 13 percent two years after

graduation. Finally, six years after graduation, "the Promise increased the percentage of students earning any postsecondary credential by 10 percentage points, from a pre-Promise baseline of 36 percent to 46 percent; this represents a proportional increase in credential attainment of more than one-quarter […] three fourths of this boost in postsecondary credentials is due to more students earning a bachelor's degree." (Bartik et al 2017) Additionally, results are stronger for women, but they are substantively similar by race and income. Last, they find that the present value of increased career earnings surpasses the cost of Promise scholarships "at all discount rates up to 11.3 percent" (Bartik et al 2017), signaling the economic potential of the program.

Yet, a potential weakness of the study is that since they estimate immediate college enrollment, they are unable to estimate the effect of the Promise on college enrollment regardless of when the student decided to attend college. Additionally, such positive outcomes are not universal: for instance, Cohodes and Goodman (2014) use regression discontinuity to find in the Adams scholarship in Massachusetts, that while enrollment increased, graduation rates decreased as students enrolled in lower quality colleges (Cohodes and Goodman 2014).

## Data and Methods
### Data

In this study, I use data from the Kalamazoo Promise extracted from [https://www.upjohn.org/about/research-initiatives/promise-investing-community/kalamazoo-promise-data-collection]. While these data only include Promise cohorts, I was also able to obtain pre-Promise data from Upjohn directly (email correspondence, 2021). These data are summary statistics and do not include individual level data, so the methods available for analysis are greatly limited. We use 2003-2011 cohorts, to include only those who have gone through the whole time window of being able to use the cohort. The data includes several variables,

including the total number of KPS grads, those Promise eligible (or pseudo-eligible), those who

started college by eligibility type, the racial and gender breakdown (not by cohort), the race and

gender by cohort for those who were eligible (or pseudo) and started college, and the

free/reduced lunch eligibility for those who started college and were Promise eligible, by race

and gender.

The 2006-2014 cohorts data contain additional variables, such as the college attended and

the graduation rate, but these don't seem important for my purposes. Thus, the only possible

outcome I see of relevance is college enrollment, and no controls can possibly be added. Lastly,

the author of the Pre-Promise data cautions that: "some groups are pretty small in the

pre-Promise years, and I had to suppress the percentages for some racial groups because of low

totals. Additionally, I used the same pre-Promise sample that Brad [Hershbein, one of the

co-authors of the Bartik et al 2017 paper I have cited] used for his paper, but that sample

excludes some of the alternative program graduates (i.e., it's a more college-ready sample than

the full set of graduates), but using his eligibility definition was just easier and more consistent

than trying to include all grads." (email correspondence, April 2021). For simplicity, I append the

first table of each  Excel dataset (Pre-Promise and Promise) which correspond to eligibility and

enrollment statistics.

## Method

Because the Kalamazoo Promise was unexpectedly announced in 2005, it is plausible to

treat it as a natural experiment (Bartik et al. 2017), where the treatment group is those who live

in Kalamazoo County and the control group is those who live outside of it, and where our

outcome is whether they enrolled in college.  There are two ways to measure the "time" variable

to model DID. In the first method, I follow the method presented in

[https://www.princeton.edu/~otorres/DID101R.pdf] and assign a 1 to all cohorts that graduated after 2005 and a 0 to those who graduated in 2005 or earlier. My "time" variable for this method is called "promise_1" and the DID effect is the interaction between Kalamazoo County residency status (1 if resident, 0 if not), and promise_1. Thus, the model for this method is:

$$\text{Method 1} = \text{Attend\_coll} \approx \beta_0 + \beta_1 \cdot promise_1 + \beta_2 \cdot kzooCounty + \beta_3 \cdot promise_1 * kzooCounty \; [pw = weight]$$

A second way to obtain the same results is to define the "Time" variable as a 1 for those who were in Promise cohorts *and* had Kalamazoo County residency, controlling for year (we cannot control for year in method 1 because it would omit the year coefficients due to collinearity). In this method, the model is:

$$\text{Method 2} = \text{Attend\_coll} \approx \beta_0 + \beta_1 \cdot promise_2 + \beta_2 \cdot kzooCounty + \beta_3 \cdot i.year \; [pw = weight]$$

Note that we add probability weights in each model, reflecting the size of each cohort. In this second method, the promise_2 coefficient corresponds to the interaction coefficient in the method above. The main difference is that I control for yearly variation in the second method. The two methods yield identical coefficients, and slightly different standard errors. Nevertheless, they display the same levels of significance.


# Results
## Summary Statistics

On average, cohorts are of above 500 students per year, except in 2005 where one of the "alternative schools" closed down, and students had to choose to either enroll in one of the other two KPS schools or enroll in a private school. Table 1 below shows that every year, over 80 percent of graduates are eligible for the Promise, and out of those, over 80 percent use it. While I

do not have data on those who use the promise to attend college, we know that the majority of those who are promise eligible attend college, while the proportion is lower for those who are ineligible.

**Table 1. Raw Data**

| year | graduates | kzoo_county_grad | kzoo_county_used_promise | kzoo_county_eligible_attend_coll | all_attend_coll | non_kzoo_county_attend_coll | promise |
|------|-----------|------------------|--------------------------|----------------------------------|-----------------|-----------------------------|---------|
| 2003 | 525 | 452 | 389 | 394 | 449 | 55 | 0 |
| 2004 | 551 | 457 | 373 | 381 | 450 | 69 | 0 |
| 2005 | 392 | 349 | 307 | 306 | 345 | 39 | 0 |
| 2006 | 518 | 411 | 359 | 390 | 466 | 76 | 1 |
| 2007 | 581 | 504 | 442 | 492 | 550 | 58 | 1 |
| 2008 | 553 | 480 | 430 | 464 | 526 | 62 | 1 |
| 2009 | 539 | 479 | 432 | 462 | 507 | 45 | 1 |
| 2010 | 552 | 484 | 422 | 459 | 507 | 48 | 1 |
| 2011 | 531 | 474 | 423 | 452 | 495 | 43 | 1 |

Another way of representing these data is to visualize the trends in high school enrollment by residency status. Figure 1, below, shows that there are about four times more students in KPS who reside in the KPS district versus those that do not. The dip in students resulting from the closure of the alternative school suggests that the students who went to that school may have subsequently opted to enroll in private or non KPS schools. The trends of enrollment by cohort appear to be consistent throughout time, with KPS enrollment peaking at 2006 following the announcement of the Promise, and subsequently stabilizing.

Figure 1. Number of KPS Students by Promise Eligiblity
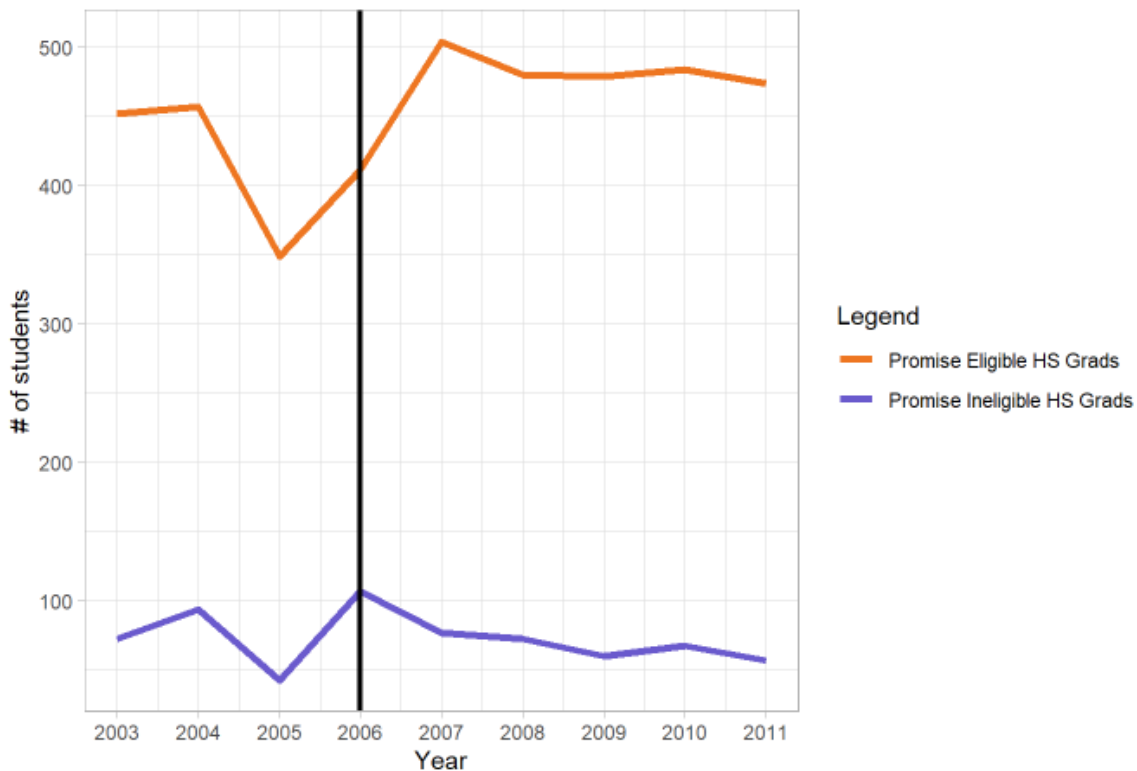
Next, I display a graph that reveals trends related to our research question, namely whether the Promise increased college enrollment for those who were eligible to use it versus those who lived outside of the KPS district. Figure 2 shows that the proportion of students who enroll in college following college graduation. For all years except 2005, eligible students are at least 10 percentage points more likely to enroll in college than ineligible students.

Moreover, the rate of college enrollment substantially increased after the announcement of the Promise for eligible students. In 2004, enrollment for eligible students was at 84 percent, but it has surpassed 95 percent every year since 2006. The trend for ineligible students is more volatile, possibly due in part to the small sample size. While the alternative program closed in the 2005, this does not explain the hike in college enrollment for ineligible students, particularly because the alternative program was more "college-ready." It also does not explain why this hike

resulted in a dip of 20 percentage points between 2005 and 2006. I have yet to receive a response from Upjohn regarding this unusual datapoint. In the meantime, I conduct the DID test with and without the 2005 cohort.



Figure 2. Proportion of students who attend college by eligibility
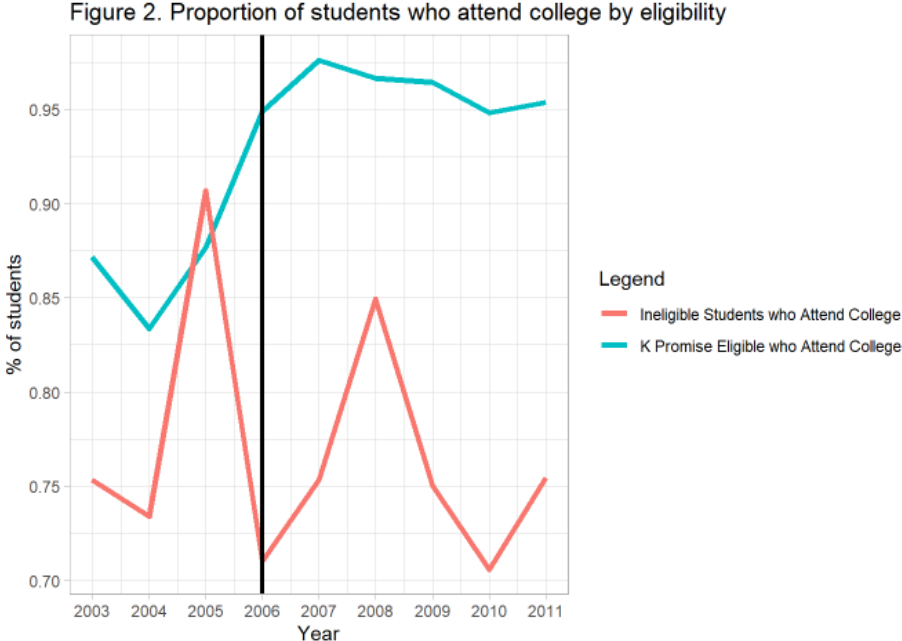
## Difference-in differences

To set up the data for a DID test, there have to be two rows for each cohort, one representing the proportion of those attending college for KPS residents, and one for non-KPS residents attending college. Below is what the dataset used for DID looks like.

**Table 3. Analytical Dataset**

| year | graduates | attend_coll | kzoo_county | promise_1 | promise_2 | weight |
|------|-----------|-------------|-------------|-----------|-----------|--------|
| 2003 | 525 | 0.87 | 1 | 0 | 0 | 0.11 |
| 2003 | 525 | 0.75 | 0 | 0 | 0 | 0.11 |
| 2004 | 551 | 0.83 | 1 | 0 | 0 | 0.12 |
| 2004 | 551 | 0.73 | 0 | 0 | 0 | 0.12 |
| 2005 | 392 | 0.88 | 1 | 0 | 0 | 0.08 |
| 2005 | 392 | 0.91 | 0 | 0 | 0 | 0.08 |
| 2006 | 518 | 0.95 | 1 | 1 | 1 | 0.11 |
| 2006 | 518 | 0.71 | 0 | 1 | 0 | 0.11 |
| 2007 | 581 | 0.98 | 1 | 1 | 1 | 0.12 |
| 2007 | 581 | 0.75 | 0 | 1 | 0 | 0.12 |
| 2008 | 553 | 0.97 | 1 | 1 | 1 | 0.12 |
| 2008 | 553 | 0.85 | 0 | 1 | 0 | 0.12 |
| 2009 | 539 | 0.96 | 1 | 1 | 1 | 0.11 |
| 2009 | 539 | 0.75 | 0 | 1 | 0 | 0.11 |
| 2010 | 552 | 0.95 | 1 | 1 | 1 | 0.12 |
| 2010 | 552 | 0.71 | 0 | 1 | 0 | 0.12 |
| 2011 | 531 | 0.95 | 1 | 1 | 1 | 0.11 |
| 2011 | 531 | 0.75 | 0 | 1 | 0 | 0.11 |

Next, I run four DID regressions. The first and second use all cohorts, and the first and third use Method 1, while the second and fourth use Method 2. I display these results using the Stargazer package in R in Table 4. The kzoo_county coefficient is the mean difference in proportion of students who attend college  between the treatment and control group prior to the Kalamazoo Promise was enacted, also known as the baseline differences.

Including all cohorts, prior to the Promise was enacted, students who were KPS residents had a 7 percentage point higher likelihood of attending college; removing 2005, the number increases to 10 percentage points. The promise_1 coefficient, only relevant in the first and third regression, is the mean change between before and after the Promise started among non-KPS residents. While the coefficient is negative, it is insignificant, showing that the Promise may not have had spillover effects into non-eligible students. Further, the interaction between promise and kzoo_county, or promise_2 in the second and fourth models, corresponds to what is known as the DID effect. It tells us if the change in college enrollment between before and after the Promise started was different by eligibility status. In all regressions, the coefficient is significant

at the 95 percent confidence level. When including all cohorts, the Promise is responsible for a 13.4 percent increase in college enrollment for eligible students versus ineligible students. When removing 2005, the Promise is responsible for increasing enrollment by 9.7 percentage points for eligible students versus ineligible students. Thus, the total difference in college enrollment after the Promise started corresponds to kzoo_county+kzoo_county:promise_1, or kzoo_county+promise_2. When all cohorts are included, the difference in college enrollment is of 20.6 percentage points. When 2005 is excluded, the difference is exactly the same (which makes sense because 2005 is a pre-Promise year). All in all, while 2005 is an odd datapoint, it does not take away from the fact that the Promise appears to be responsible for a substantial increase in college enrollment for KPS students who were eligible to attend the program.

**Table 4. DID Results**

| | Dependent variable: | | | |
| --- | --- | --- | --- | --- |
| | attend_coll | | | |
| | (1) | (2) | (3) | (4) |
| kzoo_county | 0.072[*] | 0.072[*] | 0.109[***] | 0.109[**] |
| | (0.039) | (0.033) | (0.036) | (0.030) |
| promise_1 | -0.033 | | 0.011 | |
| | (0.034) | | (0.029) | |
| kzoo_county:promise_1 | 0.134[**] | | 0.097[**] | |
| | (0.047) | | (0.041) | |
| promise_2 | | 0.134[**] | | 0.097[**] |
| | | (0.040) | | (0.035) |
| factor(year)2004 | | -0.029 | | -0.029 |
| | | (0.039) | | (0.030) |
| factor(year)2005 | | 0.079 | | |
| | | (0.043) | | |
| factor(year)2006 | | -0.050 | | -0.031 |
| | | (0.044) | | (0.035) |
| factor(year)2007 | | -0.015 | | 0.004 |
| | | (0.044) | | (0.035) |
| factor(year)2008 | | 0.028 | | 0.047 |
| | | (0.044) | | (0.035) |
| factor(year)2009 | | -0.022 | | -0.004 |
| | | (0.044) | | (0.035) |
| factor(year)2010 | | -0.052 | | -0.034 |
| | | (0.044) | | (0.035) |
| factor(year)2011 | | -0.026 | | -0.007 |
| | | (0.044) | | (0.035) |
| Constant | 0.787[***] | 0.777[***] | 0.743[***] | 0.758[***] |
| | (0.028) | (0.033) | (0.025) | (0.027) |
| Observations | 18 | 18 | 16 | 16 |
| $R^2$ | 0.825 | 0.937 | 0.909 | 0.967 |
| Adjusted $R^2$ | 0.787 | 0.847 | 0.886 | 0.917 |
| Residual Std. Error | 0.016 (df = 14) | 0.013 (df = 7) | 0.012 (df = 12) | 0.010 (df = 6) |
| F Statistic | 21.994[***] (df = 3; 14) | 10.422[***] (df = 10; 7) | 39.951[***] (df = 3; 12) | 19.358[***] (df = 9; 6) |

Note: $p<0.1$; **$p<0.05$**; $p<0.01$

# Discussion

Promise programs have been demonstrated to improve K-12 outcomes including test scores, community infrastructure such as population levels and housing prices, and post-secondary outcomes such as college enrollment. I focus on the latter outcome. Most studies predicting the effect of Promise programs on college enrollment fail to recognize that there is a time window between high school graduation and scholarship usability. As such, these studies include cohorts that haven't had the full window of time to use the scholarship. In this study, I use Kalamazoo Promise summary data, and 2003-2011 cohorts to find that the Promise is responsible for 13.4 percentage points of the college enrollment increase for Promise-eligible students versus ineligible students. When removing 2005, an odd year, the findings are substantively similar. These findings corroborate Bartik et al's finding of the same program where they claim that "the estimated Promise effect is a net enrollment increase of 8.3 percentage points" (Bartik et al. p26, 2017). However, because I increase the window of time in which students can enroll in college and acknowledging that students may choose to delay enrollment (Collier and McMullen 2020), the effect seen here is larger.

Nevertheless, this paper is not without its limitations. An important constraint is that I did not have access to the full individual-level data and had to rely on summary statistics provided by Upjohn. Thus, I was unable to include controls, and was unable to study other potentially fruitful outcomes, such as post-Promise wages. Another limitation is that I have not been able to understand the anomaly behind the 2005 datapoint. Yet, I believe that this paper is able substantiate claims that the Kalamazoo Promise is effective in increasing college enrollment, and that the policy of allowing a 10 year time window to enroll in college is beneficial to students who may choose to enroll later on.

# Bibliography

Bartik, Timothy J., Brad J. Hershbein, and Marta Lachowska. 2017. *The Effects of the Kalamazoo Promise Scholarship on College Enrollment, Persistence, and Completion*. W.E. Upjohn Institute.

Becker, Gary S. 1962. "Investment in Human Capital: A Theoretical Analysis." *Journal of Political Economy* 70(5):9–49.

Cohodes, Sarah R., and Joshua S. Goodman. 2014. "Merit Aid, College Quality, and College Completion: Massachusetts' Adams Scholarship as an In-Kind Subsidy." *American Economic Journal: Applied Economics* 6(4):251–85. doi: 10.1257/app.6.4.251.

Collier, Daniel A., Dan Fitzpatrick, Derek A. Houston, and Eric Archer. 2020. "Bridge of Promise: Comparing the Academic Outcomes of Kalamazoo Promise to Public School Students in a 4-Year Institution." *Journal of College Student Retention: Research, Theory & Practice* 1521025120942892. doi: 10.1177/1521025120942892.

Collier, Daniel A., and Isabel McMullen. 2020. "Sometimes a Long and Winding Road: An Exploration of Kalamazoo Promise Stop Out and Reenrollment." *Journal of College Student Retention: Research, Theory & Practice* 1521025120958631. doi: 10.1177/1521025120958631.

LeGower, Michael, and Randall Walsh. 2017. "Promise Scholarship Programs as Place-Making Policy: Evidence from School Enrollment and Housing Prices." *Journal of Urban Economics* 101:74–89. doi: 10.1016/j.jue.2017.06.001.

Odle, Taylor K., Jason C. Lee, and Steven P. Gentile. 2021. "Do Promise Programs Reduce Student Loans? Evidence from Tennessee Promise." *The Journal of Higher Education* 0(0):1–30. doi: 10.1080/00221546.2021.1888674.

Perna, Laura W., Jeremy Wright-Kim, and Elaine W. Leigh. 2020. "Is a College Promise Program an Effective Use of Resources? Understanding the Implications of Program Design and Resource Investments for Equity and Efficiency." *AERA Open* 6(4):2332858420967633. doi: 10.1177/2332858420967633.

Seamster, Louise, and Raphaël Charron-Chénier. 2017. "Predatory Inclusion and Education Debt: Rethinking the Racial Wealth Gap." *Social Currents* 4(3):199–207. doi: 10.1177/2329496516686620.

Swanson, Elise, Angela Watson, Gary Ritter, and Malachi Nichols. 2016. *Promises Fulfilled? A Systematic Review of the Impacts of Promise Programs*.