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Teach for America Placement and Teacher Vacancies: Evidence from the Mississippi Delta

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## **Introduction**

Teach for America (TFA) is one of the most prominent and controversial teacher preparation programs in the country. Established over two and a half decades ago, TFA now places over 6,000 teachers annually in regions spanning the entire nation (Teach for America, 2013). TFA utilizes an alternative approach to teacher training and certification in which corps members, most of whom are recent college graduates, take part in a five week summer institute before becoming full-time teachers of record in classrooms. Though TFA teachers represent a small portion of the nation's teaching force, the organization and its teachers receive considerable media coverage, have prompted the formation of other alternative routes to teaching (such as the New Teacher Project), and have become a major voice in education policy.

While TFA was initially viewed as a source of teachers for hard to staff schools, their rapid expansion over the last couple of decades has resulted in the presence of TFA teachers in districts and schools that do not face the same level of staffing challenges. As a consequence, many traditionally trained teachers and the schools of education that train them have come to view TFA as a threat to their jobs. This tension has been amplified by cases in which districts have hired additional TFA teachers while laying off current teachers (Takahashi, 2012, June 22) and has resulted in backlash from teachers' unions (Finne, 2012).

Despite being one of the most studied teacher education programs, the research on Teach for America has largely focused on its impact on student achievement (Glazerman, Mayer, Decker, 2006; Xu et al., 2011; Clark, Isenberg, Liu, Makowsky, & Zukiewicz, 2015).

Specifically, the relationship between TFA's presence in a school district and teacher labor market outcomes such as vacancies has not been studied systematically. The purpose of this study is to explore the relationship between Teach for America presence and advertised teacher

vacancies for school districts in Mississippi. Specifically, I address the following research questions.

- 1) What is the relationship between Teach for America presence in a Mississippi school district and the number of district vacancies advertised through the state board of education?
- 2) What is the relationship between the number of Teach for America teachers placed in a Mississippi school district and the number of district vacancies advertised through the state board of education?
- 3) Do these relationships vary by characteristics of the vacancy such as grade level or subject area?

The answering of these questions has the potential to address the ongoing debate regarding Teach for America's impact on opportunities for traditionally trained teachers. While I cannot directly observe the composition of the labor pool, I utilize the term "non-TFA" to refer to teachers, both veteran and new to the profession, who are not affiliated with TFA, many of which came through traditional teacher preparation programs. The answers to these research questions provide preliminary evidence as to the relationship between TFA placement and teacher vacancies. Providing information regarding this relationship has important implications for state and local policymakers as they consider the merits of partnering with and providing funding to Teach for America.

## **Background**

The importance of teachers in the education production function is well established in the research literature and intuitively understood by parents and students. Rockoff (2004) estimates that a one standard deviation change in teacher quality predicts a tenth of a standard deviation increase in reading and mathematics achievement. Other work finds that teachers account for at

least seven percent of the school influenced variation in student achievement outcomes, the largest of any measured school characteristic (Nye, Konstantopoulous, & Hedges, 2004; Rivkin, Hanushek, & Kain, 2005).

While there is large variation in teacher quality within schools (Rockoff, 2004), we also know that teacher quality is not uniform across schools and school districts. Rather, systematic differences exist in the distribution of teachers. Schools and districts serving large numbers of minority and low-income students tend to have teachers that are less experienced (Clotfelter, Ladd, & Vigdor, 2005, 2006; Lankford, Loeb, & Wyckoff, 2002) and more likely to be teaching in a subject other than the one for which they are certified (Ingersoll, 2003). Engel, Jacob, and Curran (2014) explore the supply side of teacher labor markets finding that schools with more advantaged students receive more applicants than less advantaged schools. Geography may also play an important role as evidence suggests that teachers tend to return to teach in districts that are close to where they grew up or where they attended college (Boyd et al., 2005), a result that may disadvantage many rural school districts' and lower-income urban schools' abilities to compete in the teacher labor market given that these areas are less likely to house qualified applicants or schools of education. Furthermore, recent research suggests that a lack of community amenities may disadvantage rural schools when it comes to teacher recruitment and retention (Miller, 2012).

Prior to the 1980s, teachers predominantly entered the profession through a traditional teacher education program located in an institution of higher education; however, since the 1980s, an increasing number of alternative route programs have emerged that allow teachers to bypass the traditional teacher education programs (Boyd, Goldhaber, Lankford, Wyckoff, 2007). As of 2007, forty-six states and the District of Columbia utilize some form of alternative route

certification though the requirements of each program continue to differ substantively by state. While all of the states require candidates to hold a bachelor's degree, the length of training varies from as short as two weeks to more extensive programs that require course credit through a university. Around half of the programs require some form of student teaching or fieldwork (Boyd et al., 2007). In most all cases, the alternative route programs are designed to produce fewer barriers to entry to the profession than traditional route programs, a component that in theory eliminates obstacles to bringing more high quality individuals to the teaching field.

As one of the earliest and undoubtedly the most prominent of these alternative route programs, Teach for America has served as a model and motivator for this approach to teacher preparation. While some early correlational work questioned the value of Teach for America teachers (Laczko-Kerr & Berliner, 2002), more recent and rigorous studies of TFA demonstrate generally comparable or positive results for students in the classrooms of TFA teachers as compared to non-TFA teachers. The most convincing of these studies comes from work by Glazerman and colleagues (2006) who implemented a randomized control trial in which elementary students were randomly assigned to TFA and non-TFA teachers. Across various specifications of control groups, the authors found that TFA teachers produced statistically greater mathematics gains and were at least as effective in reading (Glazerman, Mayer, Decker, 2006). The positive impact of TFA teachers for mathematics achievement was found to hold across the achievement distribution and to be particularly pronounced for females and African American students (Antecol, Eren, & Ozbeklik, 2013). A more recent randomized control trial also finds TFA teachers to be at least as effective as non-TFA teachers (Clark et al., 2015). Quasi-experimental studies of TFA across various regions (Henry et al., 2010; Tennessee Higher

Education Commission, 2011) and grade levels (Xu et al., 2011) find similar equivalent or positive effects of TFA teachers.

Given that TFA teachers are of as high or higher quality as those teachers that students will experience in their absence, the use of TFA represents a potential source of quality teachers for districts facing teacher shortages. To date, however, little research has explored the relationship between the presence of TFA and the filling of teacher shortages. Given the prevalence of debates over this issue in the popular media and assertions that TFA teachers are replacing traditionally trained teachers rather than filling shortages (Finne, 2012; Takahashi, 2012, June 22), research on this issue is of importance. This paper addresses this gap in the literature by exploring the relationship between TFA presence in school districts and advertised vacancies by those districts in the state of Mississippi.

### **Data**

Data for this study come from multiple sources. The independent variable of interest, specifically whether or not a school district utilized TFA during a given school year, came from data provided by the Teach for America organization. This data included district placement data by year from the initial TFA placement in the Mississippi Delta in 1993 through 2013. This data allowed for the creation of a binary indicator representing whether TFA placed in a given school district during a given school year as well as a variable representing the number of corps members placed in each district per year.

I acquired the dependent variable of interest, specifically the number of district vacancies advertised through the state department of education's website, through a search of internet archive documents. The Internet Archive provides historical versions of websites (Internet Archive, 2014). By searching the Internet Archive for the Mississippi Department of

Education's teacher vacancy URL, I was able to acquire historical vacancy data for school districts from 2001 to 2011. The Internet Archive periodically crawls virtually every website on the internet and archives a time-stamped version of the website. While the period of time between crawls of a website can vary, I found that the Mississippi Department of Education's vacancy website had been routinely crawled during the first three months (January – March) of each calendar year for the period of 2001 to 2011 and, with the exception of 2009, crawled during the second three months (April – June) of each calendar year for the same period. Consequently, the analytic sample size for the first quarter of the year consists of 1,859 observations (169 districts over 11 years) while the analytic sample size for the second quarter consists of 1,690 observations (169 districts over 10 years). Table 1 shows the dates of each Internet Archive crawl of the Mississippi Department of Education's vacancy website. Table 2 shows the number of vacancies by vacancy type and by quarter of the year. As shown, districts advertise nearly four times as many vacancies during the second three month period as compared to the first.

While the exact date of the crawl varied from year to year, this variation is a random function of the Internet Archive's search and is plausibly unrelated to variation in the vacancies advertised by Mississippi school districts and the presence of TFA in a school district. Furthermore, the inclusion of a year fixed effect as described in the methods section addresses variation in the number of vacancies due to differences in crawl date across years.

The vacancy data provided by the Mississippi Department of Education is provided voluntarily by school districts. As a result, not all school districts report vacancy data to the Mississippi Department of Education at every year or during every period of each year. Consequently, the analyses conducted in this study address the impact of TFA placement on the

number of vacancies advertised through the Department of Education and do not necessarily represent the total number of vacancies experienced by a school district. Given no available source of data on all vacancies experienced by a district, the use of the advertised vacancies represents the best available proxy for district vacancies.

For school district level control variables, I draw on data provided by the NCES Common Core of Data, a federal repository of data on the nation's schools, as well as data collected through other publicly available sources. District level variables from the Common Core included as controls in the analysis are the number of schools, the total number of staff, pupil-teacher ratio, total number of students, and expenditures. Data on adequate yearly progress was acquired from the Mississippi Department of Education. AYP measures consist of a binary indicator for meeting AYP in the given subject area. Data on the characteristics of the school board and superintendent, such as whether they are elected or appointed, whether the superintendent holds a doctorate, and the gender of the superintendent were acquired through Internet Archive searches of the Mississippi Department of Education's superintendent list. Each of these characteristics is represented by a binary indicator in the data. Data on the placement of other alternatively trained teachers, namely those taking part in the Mississippi Teacher Corps (MTC), was acquired through publicly available listings of MTC participants. The MTC variable represents a binary indicator for the presence of MTC in a district. Finally, I draw community political preference data from county election results in the most recent presidential election. This data was collected from Mississippi election certification records and online resources ([uselectionatlas.org](http://uselectionatlas.org)). The complete list of control variables included in the analysis along with means by year is provided in Table 3.



Multiple imputation methods were utilized to deal with missing data. I followed von Hippel's (2007) recommendation by conducting multiple imputation on independent but not dependent variables. Consequently, the only variables imputed were those serving as control variables in the regression analysis. Variables without missing data, including the dependent variable of total vacancies, were used as auxiliary variables in the imputation (Allison, 2009). I conducted multiple imputation using the MI command in Stata 12.0 (Statacorp, 2011), which is based on multivariate normal regression and follows the NORM method outlined by Schafer (1997). To minimize falloff in statistical power, the imputation generated twenty-five imputed data sets (Graham, Olchowski, & Gilreath, 2007; McCartney, Bub, & Burchinal, 2006).

## **Methods**

I identify the relationship between Teach for America presence in a school district and advertised vacancies through the use of two methods. The first approach utilizes the full range of data and identifies the relationship between TFA placement and advertised vacancies through the use of fixed effects regression models. In the second approach, I capitalize on a large increase in the number of districts utilizing TFA that took place in the 2009 school year to implement a difference-in-differences estimation strategy.

### *Fixed Effects Regression Models*

The first approach involves ordinary least squares regression with district and year fixed effects. The basic model takes the following form:

$$\text{Vac}_{dt} = \beta_0 + \beta_1 \text{TFA}_{dt} + \beta_2 \alpha_d + \beta_3 \gamma_t + \beta_4 X_{dt} + u$$

where  $\text{Vac}_{dt}$  represents the advertised number of vacancies for district  $d$  at year  $t$ ,  $\text{TFA}_{dt}$  is a binary variable representing whether district  $d$  in year  $t$  placed TFA teachers,  $\alpha_d$  represents a series of district fixed effects,  $\gamma_t$  represents a series of year fixed effects,  $X_{dt}$  represents an array

of time-varying control variables, and  $u$  represents the error term. For analysis examining particular types of vacancies (i.e. vacancies for mathematics teachers or elementary grade teachers),  $Vac_{dt}$  represents the number of vacancies for the specific vacancy type. In addition to models examining the relationship between TFA placement in a district and advertised vacancies, I also model the relationship between the number of TFA teachers placed in a district and advertised vacancies. For such models,  $TFA_{dt}$  represents the number of TFA teachers placed in a school district rather than the binary indicator for TFA placement.

The goal of this study is to estimate  $\beta_1$  which, if modeled correctly, can be interpreted as the relationship between having TFA place teachers in a school district and the number of advertised vacancies provided by the district to the state Department of Education or, for models utilizing the count of TFA teachers placed, as the relationship between the number of TFA teachers placed in a district and the number of advertised vacancies in the district.

Through the use of control variables, this study attempts to mitigate selection bias, and, to the extent possible, approach an estimate of the causal impact of TFA placement on vacancies. The inclusion of district fixed effects controls for any time-invariant aspect of the school district. For instance, aspects of a school district that are consistent over time, such as the urbanicity of the district, will be controlled for through the district fixed effect. The inclusion of year fixed effects controls for any year specific influences on advertised vacancies. For instance, the economic downturn of the late 2000s, which may have prompted fewer teachers to leave their jobs or may have prompted districts to make staffing cuts, will be accounted for through the year fixed effect. Finally, I control for time varying aspects of the school district through the array of district level control variables.

### *Difference-in-Differences Models*

In addition to the fixed effect regression models, I also conduct analyses using a difference-in-differences approach. In 2009, the number of Mississippi school districts utilizing TFA teachers nearly doubled from 16 school districts to 30. This large increase corresponded to a concerted effort on the part of the TFA organization to increase their presence in the Mississippi Delta. In the second set of models, I exploit this large increase in districts utilizing TFA teachers to implement a difference-in-differences model. In a difference-in-differences model, changes in advertised vacancies are estimated from the period before and after the increase in TFA presence (after 2008) for both districts with and without TFA placements. The change in advertised vacancies for districts without TFA placements serve as the comparison group for the changes in advertised vacancies for districts with TFA placements. To the extent that the before and after changes in advertised vacancies not attributable to TFA placement are picked up by the comparison group, this approach can provide unbiased estimates of the relationship between TFA placement and advertised vacancies. The basic difference-in-differences model takes the following form:

$$\text{Vac}_{dt} = \beta_0 + \beta_1 \text{After2008} + \beta_2 \text{TFA} * \text{After2008} + \beta_3 \alpha_d + \beta_4 X_{dt} + u$$

where  $\text{Vac}_{dt}$  represents the advertised number of vacancies for district  $d$  at year  $t$ , TFA is a binary variable representing whether district  $d$  utilized TFA for the first time in 2009, After2008 is a binary indicator for whether the year is in a period after the increase in districts using TFA,  $\alpha_d$  represents a series of district fixed effects,  $X_{dt}$  represents an array of time-varying control variables, and  $u$  represents the error term. The coefficient of interest in this model is  $\beta_2$  which represents the interaction between being a district that first receives TFA teachers in 2009 and being in a time period after 2008. If modeled correctly, this coefficient can be interpreted as the relationship between TFA placement in a district and the number of advertised vacancies.

I run both the fixed effect and difference-in-differences models for two time periods. First, I run these models for vacancies advertised during the first three months of the year (January through March). Then, I estimate both models for advertised vacancies during the second three months of the year (April through June). The first time period represents early vacancies while the second time period picks up vacancies during the end of the academic year when knowledge of vacancies and recruiting to fill such vacancies is expected to be higher.

## **Results**

### *Fixed Effects Regression Models*

The primary identification strategy involved models utilizing district fixed effects and dummy variables indicating the placement of TFA teachers in a district during a given year. Table 4 shows results from these regressions predicting the number of advertised vacancies. Columns represent different vacancy types while the horizontal line divides models predicting vacancies during the first three months of the year (January through March) and models predicting vacancies during the second three months of the year (April through June). Column 1 shows the relationship between the use of TFA and the use of the state vacancy advertising system. This relationship is non-significant in the second quarter of the year. The primary outcome of interest, total vacancies is shown in column 2. As shown, TFA placement in a school district predicts approximately 11 fewer advertised vacancies during the period of April to June.

Columns 3-9 of Table 4 provide estimates of the relationship between TFA placement and advertised vacancies for subgroups of vacancy type. During the April through June period, TFA placement in a school district is most predictive of decreases in the number of advertised vacancies for general elementary teachers (over 3 fewer vacancies) and of other academic subjects (almost 2 fewer vacancies), such as social studies or art. It should be noted, however,

that school districts typically employ more teachers in these generic categories as compared to a specific disciplinary category such as mathematics. Without data on the number of teaching positions within a district that fall under each category, I am unable to assess whether these larger decreases in advertised vacancies for general elementary and other academic subjects are reflective of a greater influence of TFA on these areas or reflective of the larger number of teachers working in these areas.

I find evidence that the relationship between TFA placement and advertised district vacancies varies by the time of the year. During the first quarter of the year (January through March), TFA placement does not predict decreases in total advertised vacancies. TFA placement does, however, predict an approximately 13% decrease in the likelihood that a district advertises vacancies at all during this period. It is possible that districts that have partnered with Teach for America feel confident that vacancies that arise during this period will be filled by TFA teachers and consequently do not advertise these vacancies. Specifically, these districts may know that given their relationship with TFA they will have access to teachers later in the hiring timeline and therefore choose not to advertise vacancies through the state system during the earlier time period.

#### *Difference-in-Differences Models*

The second approach I utilize for estimating the relationship between TFA placement and advertised district vacancy outcomes takes advantage of the large increase in TFA presence in the Mississippi Delta beginning in 2009. Table 5 shows results from regressions utilizing the difference-in-differences approach. The results of the difference-in-differences model are largely consistent with those from the previous fixed effects models. Unlike the earlier models, TFA placement predicts a statistically significant decrease in advertised vacancies for both the

first and second quarter of the year though the relationship remains much stronger for the second quarter (14 compared to 2 vacancies). As before, the largest decrease in advertised vacancies comes in general elementary and other academic subjects.

#### *TFA Placement Count Models*

In addition to the primary models which predict the relationship between TFA placement and district advertised vacancies, I also analyzed models in which the independent variable was the number of TFA teachers placed in a district during a given year rather than a dummy indicator for TFA placement. The results of these models, shown in Table 6, display similar trends as those using the TFA placement indicator. The relationship between TFA placement count and total advertised vacancies is approximately one, indicating that for each additional TFA teacher placed in a district the district has one less total advertised vacancy during the second quarter of the year. This one to one relationship provides further evidence that the models estimated are picking up the impact of TFA on advertised vacancies.

#### **Sensitivity Analyses**

Given the non-random selection of Teach for America into and by school districts, the potential for omitted variable bias is of concern. Particularly, it could be the case that school districts that partnered with TFA were also implementing other policy changes or programs aimed at the recruitment and retention of teachers. Under such a situation, the estimated impact of Teach for America on district advertised vacancies could be picking up these other, unobserved efforts by the district. I address this concern through the three sensitivity analyses described below.

#### *Falsification Test*

The previously described difference-in-differences approach identified the impact of TFA on advertised district vacancies by exploiting the sudden increase in TFA presence in the Mississippi Delta during the 2009 school year. Difference-in-differences approaches such as this lend themselves to a falsification test in which the before and after period is shifted to an arbitrary time point and the analysis is rerun as if the intervention or policy change took place at that time point. If the impact of the true analysis is in fact caused by the policy under study, then the analysis run with the arbitrary time point should yield no results insofar as the policy change did not actually occur at that time point.

I implemented such a falsification test by choosing 2005 (the mid-point in my data) as the arbitrary time point to examine. I recoded the data for school districts that actually adopted TFA in 2009 to reflect their having begun the use of TFA in 2005. With the data recoded, the difference-in-differences analysis was rerun estimating the relationship between this “false” jump in TFA presence in 2005 and the advertised number of vacancies by the school district. Results from this analysis (not shown) show no statistically significant impact of TFA on the total advertised vacancies. Of the subgroups of vacancy type examined, only one (English/Reading) yielded a statistically significant impact and the direction was in the positive rather than negative direction. This result is as would be expected if the relationship identified in the primary analyses is in fact picking up the impact of TFA on district vacancies. In other words, the results of the falsification analysis suggest that the relationship under examination is not the result of omitted variable bias.

#### *Alternative Outcomes Analysis*

In addition to the falsification test, I also ran an additional sensitivity analysis in which I examined the relationship between TFA placement and advertised district vacancies for non-

teaching positions. TFA only places corps members in teaching positions. The organization does not place teachers in support staff roles, administrator positions, or central office roles. Consequently, the presence of TFA in a school district would not be expected to predict changes in the number of advertised vacancies in these non-teaching roles.

I reran both the primary fixed effects analysis and the difference-in-differences model predicting advertised vacancies in six non-teaching areas (results not shown). Specifically, I estimated the impact on advertised vacancies for coaches, administrators, certified support staff, uncertified support staff, district staff, and miscellaneous vacancies. With both analytic approaches, I see no significant impact on vacancies for any of these non-teaching positions during the first quarter of the year. In the second quarter of the year, I do find significant decreases in the number of advertised vacancies for certified and uncertified support staff; however, advertised vacancies for coaches, administrators, district staff, and miscellaneous vacancies show no significant relationship.

Such results are largely consistent with the results that would be expected if the estimated impact on the outcomes were due to TFA. The relationship between TFA presence and certified/uncertified support staff may be attributable to a chance finding or may reflect shifts of uncertified individuals from long term substitute positions into support staff positions after the filling of the teaching position by a TFA teacher.

### *Spillover Analysis*

The final sensitivity analysis involves an examination of spillover effects of TFA. If the presence of Teach for America teachers in a school district displaced non-TFA teachers, one would expect an increase in the available labor pool for nearby districts without Teach for America. For example, if a veteran teacher found his position replaced by a TFA teacher then he



would likely look for employment at a school district within a drivable distance. Likewise, if a new non-TFA teacher failed to gain employment in a given district due to their use of TFA, the non-TFA teacher would be likely to look for available openings in other nearby districts. As a result, if TFA teachers are crowding out non-TFA teachers, then we would expect increases in the available pool of teachers for other nearby districts and subsequent decreases in the number of vacancies those districts advertise. If, in contrast, TFA teachers are not crowding out non-TFA teachers, one would expect no change in the number of vacancies advertised by nearby districts.

I directly test this hypothesis by including in the regression models a binary indicator for whether a school district is within 30 miles of a district with TFA teachers. Thirty miles represents the approximate distance that a teacher would be willing to drive to reach employment in another school district. I examine the relationship between this binary indicator and the number of vacancies advertised by a school district. The results (not shown) yield no significant relationships. In other words, the presence of TFA in a nearby district does not appear to impact the number of vacancies advertised by a school district.

## **Discussion**

As Teach for America and similar alternative route teacher preparation programs continue to grow, understanding their impact on teacher labor markets and teacher vacancies becomes increasingly important. The results found in this study suggest that the presence of TFA in a school district is significantly related to a reduced number of advertised vacancies. For districts, such as those in the Delta, that face chronic teacher shortages, reducing vacancies is an important goal. Furthermore, evidence from the regressions predicting advertised vacancies

from the count of TFA teachers demonstrates a nearly one to one relationship between the number of TFA teachers placed and the decrease in advertised vacancies.

Given the strong evidence that TFA teachers are at least equally as effective as the non-TFA that they teach alongside (Clark et al., 2015; Glazerman et al., 2006; Xu et al., 2011), the finding that they are filling vacancies has important implications for teacher quality. Particularly, TFA teachers in the Mississippi Delta appear to be filling vacant positions that otherwise may have gone unfilled by a certified teacher. Specifically, by reducing vacancies, TFA may decrease the likelihood that teaching positions will go unfilled and require long-term substitutes or uncertified teachers. As a result, they may provide students with access to teachers of higher quality than would have been experienced in their absence (Ingersoll, 2003). Given that the schools in the Mississippi Delta predominantly serve low-income, high minority student bodies, TFA contributes to improvements in the equity of the distribution of teachers within the state.

Within the Mississippi Delta, Teach for America serves to counter dominant trends in the teacher labor market. While more advantaged schools typically receive greater numbers of teacher applications (Engel et al., 2014), TFA provides a dedicated source of teachers directly to disadvantaged school districts. Additionally, TFA may be particularly important in a rural teacher labor market such as Mississippi. Given that teachers tend to teach in districts close to their pre-college home or college location (Boyd et al., 2005), rural areas such as the Delta are particularly disadvantaged given their lower levels of university based teacher preparation programs. Furthermore, these districts may face challenges in recruitment and retention due to the rural location and lack of amenities (Miller, 2012). TFA may serve to overcome this disadvantage by placing teachers in the region.

While the findings of this study suggest that Teach for America teachers contribute to decreases in advertised vacancies for school districts within the Mississippi Delta, caution should be given to extrapolating these findings beyond the region under study. While other rural areas facing similar challenges as the Delta might expect to see a similar relationship between TFA presence and vacancies, different trends might be expected in more populated urban areas. For instance, Metro Nashville Public Schools, one of TFA's placement sites, has reported garnering over 1,000 applications for approximately 400 teaching positions in recent years (Ruf, 2012, Jul 23). Despite the large demand to teach in Nashville and the presence of over six university based teacher preparation programs in the city, the school district contracts with Teach for America and has dedicated as many as one in four of their recent hires to the organization (Marshall, 2009, Aug 12). In such a context as Nashville, the probability that TFA is crowding out traditionally trained teachers would seem to be much higher.

### **Conclusion**

After several years of relative surplus, teacher shortages have reemerged as a pressing issue for many school districts nationwide (Rich, 2015, August 9). Districts, both rural and urban, cite issues filling teaching positions, particularly in hard to staff areas such as science and special education (Rich, 2015, August 9). Despite the pressing need for teachers in many school districts, debate over teacher preparation routes continues, with substantial recent criticism leveled at Teach for America (Finne, 2012; Takahashi, 2012, June 22). Prior to this study, however, little research has explored the teacher labor market implications of TFA.

The purpose of this study was to explore the relationship between TFA placement in a school district and advertised teacher vacancies by the school district. The findings suggest that, within the context of the Mississippi Delta, TFA presence in a school district contributes to an

approximately eleven advertised vacancy decline during the second quarter of the year. I find that there is an approximately one to one relationship between the number of TFA teachers placed and the decrease in the number of vacancies advertised by a school district. The results of this study were robust to multiple analytic strategies and to a series of robustness checks.

While the results may not be generalizable to all regions where TFA teachers are placed, the findings do provide important information about the impact of TFA in one of the nation's most underserved and impoverished regions. Additionally, the findings provide evidence that at least may be reflective of conditions in other rural areas of the country. Given the relative dearth of research on Mississippi and rural regions in general, these findings provide an important extension of the literature base on teacher labor markets and vacancies.

Furthermore, this study provides the first evidence on the impact of TFA on the labor market condition of vacancies. The findings suggest that TFA teachers in the Mississippi Delta are filling advertised vacancies. Given the importance of teacher quality to student outcomes (Nye, Konstantopoulous, & Hedges, 2004; Rivkin, Hanushek, & Kain, 2005) and the reemergence of teacher shortages (Rich, 2015, August 9), policymakers should continue the use of TFA as one mechanism for recruiting teachers to the Mississippi Delta.

As national conversations turn again to addressing teacher shortages (Rich, 2015, August 9), policymakers and practitioners should recognize the potential for the co-existence of alternative route teacher preparation programs, such as Teach for America, and traditional teacher preparation programs. Particularly in hard to staff regions, such as the Mississippi Delta, where teacher shortages are common and recruitment is difficult (Miller, 2012), organizations such as Teach for America can serve to fill vacancies and bring quality teachers into classrooms.

This study provides important first evidence on a previously understudied component of Teach for America; however, more work remains to be done. Future work should expand this analysis to other regions served by Teach for America. In particular, analysis should be extended to other rural regions in order to replicate these findings and to urban regions where one would expect the labor market conditions to potentially operate differently. Further understanding the dynamics of Teach for America on local teacher labor market conditions can serve to provide important evidence for policymakers and practitioners as they navigate the co-existence of TFA and traditionally prepared teachers.

Table 1. Advertised vacancies collection date by year

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
January											
February	7th							4th	10th		
March		8th	11th	17th	7th	10th	8th			1st	3rd
April											
May		10th	9th	11th	10th		9th	9th		3rd	9th
June	8th					12th					







Table 4. Regressions predicting advertised vacancies by vacancy type and by quarter of year including district fixed effects, time-varying district controls variables, and year fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	No Vacancies Advertised	Total	Math	Science	English/Reading	Other Academic Subjects	General Elementary	Special Education	Early Childhood
Quarter 1: Jan-Mar									
TFA Present	-0.127*	-0.170	0.136*	-0.120*	-0.047	-0.021	-0.009	-0.071	-0.0120
	(0.060)	(0.616)	(0.068)	(0.050)	(0.058)	(0.145)	(0.233)	(0.110)	(0.023)
Observations	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859
Number of districts	169	169	169	169	169	169	169	169	169
Quarter 2: Apr-Jun									
TFA Present	0.052	-10.809**	-1.088**	-0.745**	-0.999**	-1.782**	-3.576**	-1.244**	-0.161**
	(0.072)	(2.151)	(0.255)	(0.201)	(0.227)	(0.449)	(0.665)	(0.401)	(0.047)
Observations	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690
Number of districts	169	169	169	169	169	169	169	169	169

Note. Standard errors in parentheses. All regressions include district fixed effects, year fixed effects, and the time-varying district controls variables listed in Table 3

\*\* p<0.01, \* p<0.05

Table 5. Difference-in-differences regressions predicting advertised vacancies by vacancy type and by quarter of year with district fixed effects and time-varying district controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	No Vacancies Advertised	Total	Math	Science	English/Reading	Other Academic Subjects	General Elementary	Special Education	Early Childhood
<b>Quarter 1: Jan-Mar</b>									
Year >= 2009	0.099** (0.026)	-0.542* (0.259)	-0.066* (0.029)	-0.017 (0.021)	-0.032 (0.024)	-0.111 (0.061)	-0.080 (0.098)	-0.097* (0.046)	0.003 (0.009)
TFA Started Placing in 2009 * Year >= 2009	-0.003 (0.081)	-2.007* (0.810)	0.051 (0.090)	-0.099 (0.066)	-0.080 (0.077)	-0.337 (0.191)	-0.834** (0.307)	-0.352* (0.145)	-0.044 (0.030)
Observations	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859
Number of districts	169	169	169	169	169	169	169	169	169
<b>Quarter 2: Apr-Jun</b>									
Year >= 2009	0.098** (0.031)	-1.865* (0.937)	-0.087 (0.110)	-0.017 (0.086)	-0.144 (0.097)	-0.316 (0.195)	-0.700* (0.292)	-0.390* (0.178)	-0.008 (0.020)
TFA Started Placing in 2009 * Year >= 2009	0.043 (0.099)	-14.244** (2.982)	-1.766** (0.350)	-0.694* (0.277)	-1.092** (0.312)	-1.980** (0.623)	-4.764** (0.915)	-1.526** (0.560)	-0.235** (0.064)
Observations	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690
Number of districts	169	169	169	169	169	169	169	169	169

Note. Standard errors in parentheses. All regressions include district fixed effects and the time-varying district controls variables listed in Table 3

\*\* p<0.01, \* p<0.05

Table 6. Regressions predicting advertised vacancies from TFA placement counts by vacancy type and by quarter of year including district fixed effects, time-varying district controls variables, and year fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	No Vacancies Advertised	Total	Math	Science	English/Reading	Other Academic Subjects	General Elementary	Special Education	Early Childhood
Quarter 1: Jan-Mar									
TFA Teachers Placed (#)	-0.006 (0.007)	-0.144* (0.067)	-0.001 (0.007)	-0.013* (0.005)	-0.014* (0.006)	-0.023 (0.016)	-0.035 (0.026)	-0.029* (0.012)	-0.003 (0.002)
Observations	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859
Number of districts	169	169	169	169	169	169	169	169	169
Quarter 2: Apr-Jun									
TFA Teachers Placed (#)	0.015 (0.008)	-1.301** (0.238)	-0.124** (0.028)	-0.075** (0.022)	-0.091** (0.025)	-0.183** (0.050)	-0.475** (0.074)	-0.170** (0.045)	-0.018** (0.005)
Observations	1690	1690	1690	1690	1690	1690	1690	1690	1690
Number of districts	169	169	169	169	169	169	169	169	169

Note. Standard errors in parentheses. All regressions include district fixed effects, year fixed effects, and the time-varying district controls variables listed in Table 3

\*\* p<0.01, \* p<0.05

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