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Investigating the "Draw of Home" and Teachers' Career Decisions

Naomi Blaushild
The Learning Partnership

Claire Mackevicius
Northwestern University

Cora Wigger
Elon University

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Naomi Blaushild, Ph.D., The Learning Partnership

Claire Mackevicius, Ph.D. Candidate, Northwestern University

Cora Wigger, Ph.D., Elon University

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Abstract

Research shows that teachers seek out jobs close to home, but previous studies have been unable to test whether proximity to home is related to retention in the teaching profession. We leverage a unique dataset from Teach For America (TFA) linking individuals' preferred teaching locations, actual teaching locations, and years in teaching for 7 years after entering the profession. By controlling for a detailed set of background, preference, and teaching assignment variables through a matched fixed effects design, we find that individuals who were assigned to a TFA region in their home state taught, on average, for .15 years longer than those who were not assigned to teach in their home state. This effect is strongest for teachers of color and those from a low-income background. Being assigned to teach in one's home state is associated with .36 more years in teaching for those from low-income backgrounds and .47 more years in teaching for teachers of color. Both sub-groups are approximately 8 percentage points more likely to stay in teaching for 7 or more years if assigned to their home state. Overall, this study provides evidence of a positive *home state effect* on teacher retention. Our results lend support for policies and programs that recruit from or nudge teachers toward teaching in their home states, particularly through alternative certification pathways, and as a means to increase teacher diversity.

Keywords: Teacher recruitment and retention, teacher career pathways, teacher diversity, grow-your-own, Teach For America

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Investigating the "Draw of Home" and Teachers' Career Decisions

Given declining enrollment in teacher preparation programs and high rates of new teacher attrition, policy solutions that increase both teacher supply and retention are crucial to resolving leaks in the educator pipeline (Bacher-Hicks et al., 2023; Diliberti & Schwartz, 2023; Ingersoll et al., 2018; Papay et al., 2017; Parlow, 2019). One approach that has the potential to increase both teacher supply and retention involves recruiting and training community-based teachers through home-grown or "grow your own" (GYO) teacher preparation programs (Diliberti & Schwartz, 2023; Gist et al., 2019; Rogers-Ard et al., 2019; Swanson, 2011). Proponents of GYO programs argue that recruiting local teachers should decrease teacher attrition rates, especially in schools with chronically high rates of turnover, and increase the diversity of the teacher workforce (Diliberti & Schwartz, 2023; Gist et al., 2019; Hunt et al., 2012; Podolsky et al., 2019).

Although research has shown that teachers often seek out jobs closer to home (Boyd et al., 2005b; Cannata, 2010; Engel et al., 2014; Reininger, 2012), the relationship between teachers' preferences for teaching near home and retention is less clear. The scarcity of evidence on this relationship reflects several limitations of traditional teacher turnover research. First, it is challenging to gather longitudinal data on teachers' career trajectories, especially if they move across state lines. Some of the most influential teacher retention studies (e.g., Ingersoll, 2001) rely on the nationally-representative Schools and Staffing Survey (SASS) and Teacher Follow-up Survey (TFS), which are not designed to track individual teachers longitudinally (Donaldson & Johnson, 2010; Papay et al., 2017). Studies using district or state-wide administrative data (e.g., Lankford et al., 2002; Papay et al., 2017) may offer a longitudinal picture of teacher retention and mobility within and between districts but often fail to account for teacher movement across states (Goldhaber et al., 2015). Further, it is challenging to isolate the impact

of a particular location on retention, given that teachers are not randomly assigned to schools or districts. Because teacher shortages are primarily driven by voluntary teacher attrition (Sutcher et al., 2016), policies that increase the supply of new teachers without addressing attrition offer only a short-term fix for teacher shortages while failing to reduce teacher turnover.

We track four cohorts of Teach For America (TFA) teachers for at least seven years after entering the profession to examine whether TFA teachers assigned to teach in their home state stay in the teaching profession longer than TFA teachers not assigned to teach in their home state. TFA recruits recent college graduates and career changers to teach for at least two years in high-need urban and rural schools across the U.S. (Teach For America, 2022). Though TFA does not operate in the style of a GYO program, its placement process provides a unique opportunity to observe teachers' preferences for different locations in addition to their assigned teaching locations. For our sample of 2010-2013 TFA teachers, TFA's regional assignment process includes applicants' stated location preferences, applicants' qualifications to teach in different states (as determined by their college coursework and state certification requirements), and the staffing needs of each region's partner schools and districts.[1]

We operationalize teaching close to home as being assigned to teach in one's home state – or "home state match" – and retention as the number of years in the teaching profession. Since many educational policies that affect teachers' working conditions (e.g., accountability policies, unionization, certification requirements, etc.) are determined at the state level, states are a useful entity when considering different policy levers and programs that could improve teacher recruitment and retention.

[1] TFA has since updated their regional placement process, detailed here: https://www.teachforamerica.org/teach-for-america-corps#choose-your-location.

Using TFA administrative records, including annual alumni surveys, we construct a dataset comprised of individuals' backgrounds and demographic characteristics, rankings of their preferred teaching locations, their actual assigned teaching locations, and their occupations (i.e., teacher or non-teacher) for at least seven years after entering TFA to answer the question: how does being assigned to teach in one's home state affect teacher retention? We first present descriptive statistics outlining TFA corps members' overall location placement preferences, their preferences to teach in their home state, and the frequency with which teachers receive preferred placements and/or placements in their home state.

Next, we detail how we construct groups of similar TFA corps members to compare across their placement locations to isolate the variation in teacher retention due to differences in initial teaching location. In addition to controlling for a large set of background, application, and placement characteristics, we identify four key variables we use to identify the effect of home state match separate from a general preference to teach in one's home state and to stay in teaching. Specifically, we compare teachers who 1) are from the same home state; 2) ranked TFA regions in their home state similarly; 3) were assigned to teach in locations for which they expressed similar preference; and, 4) reflected a similar level of pickiness for region preferences. Within these groups, some individuals were assigned to teach in their home state, while others were not. Using fixed effect regression analysis leveraging variation within these groups, we isolate the effect of being assigned to teach in one's home state on time spent in the teaching profession for up to seven years.

Overall, we find that individuals who were assigned to a TFA region in their home state taught, on average, for .15 years longer than those who were not assigned to a TFA region in

their home state. Individuals are also more likely to stay in teaching for at least 5 years if they were assigned to teach in their home state.

We document substantial heterogeneity in home state effect by teachers' socioeconomic background and race; the home state effect is driven almost exclusively by teachers from low-income backgrounds and by teachers of color. Being assigned to teach in one's home state is associated with .36 more years in teaching for those from low-income backgrounds and .47 more years in teaching for people of color.

We find that this home state effect is most pronounced when individuals demonstrate a strong preference to teach in their home state by listing it as their first choice in their application; however, we find no evidence that being assigned to teach in one's first choice region, if that is not their home state, has any impact on years in teaching. Thus, our results suggest that being assigned to teach near home, on its own, does not necessarily matter for longevity in the profession; rather, expanding pathways into teaching for those who *want* to teach near home could positively impact teacher retention and increase the diversity of the teacher workforce.

Overall, by uncovering evidence of a positive home state effect on retention, particularly for teachers of color and those from low-income backgrounds, this study contributes novel findings to the literature on teachers' labor market decisions. Although research has documented teachers' preferences for teaching near home, previous studies have been unable to test whether teaching near home is related to retention. TFA is a "usefully unusual" (Healy & Heissel, 2023) setting to study teacher location and retention since assignment to teaching locations for TFA teachers is more random than for typical teachers in the US. In doing so, we minimize the risk of bias in our estimates and provide the closest approximation of a true average treatment effect of teaching in one's home state on teacher retention that currently exists in the literature. Our

findings suggest that traditional or alternative teacher preparation programs, GYO-style programs, school districts, or state education policies that attempt to nudge or draw teacher candidates to their home states might see greater success with retention than programs or policies without a home state or regional approach, while also helping to increase diversity of the teaching profession.

Theoretical and Empirical Framework

Scholars across multiple disciplines have examined outcomes associated with the worker-workplace relationship. Both *person-environment fit* and *match quality* theories suggest that a teacher's placement in their preferred location and/or home state should increase their likelihood of staying in the profession. In line with those theories, prior research has found that teachers tend to seek out jobs closer to home or in contexts similar to where they grew up. However, there is not yet clear evidence documenting how those preferences and proximity to home relate to retention.

Person-Environment Fit

Industrial and organizational psychologists have analyzed how the fit between worker and workplace relates to positive outcomes (e.g., job satisfaction or retention). Person-environment fit theory argues that the person and the environment together predict human behavior more strongly than each of them do separately (van Vianen, 2018); in other words, behavior is a function of the person and environment (Lewin, 1951). Fit has positive consequences for job satisfaction, performance, productivity, and retention (Su et al., 2014). Accordingly, scholars have drawn on fit theory to address organizational issues like recruitment, selection, and staffing, and to explain outcomes such as organizational commitment and turnover.

Person-environment fit theory assumes that individuals have an inherent need to fit into their environments, desire consistency, attempt to reduce uncertainty, and seek a sense of belonging (Baumeister & Leary, 1995; van Vianen, 2018). As such, individuals will seek out environments that align with their personal attributes. Person-environment fit can be measured as calculated fit or perceived fit. Calculated fit attempts to measure the discrepancy between personal and environmental attributes and assumes that the lower the discrepancy, the better the fit (van Vianen, 2018). Perceived person-environment fit – an individual's belief that their work environment matches their personal characteristics – has been found to be the most proximal and strongest predictor of employees' decisions and behaviors (Kristof-Brown & Billsberry, 2013). However, it is challenging to distinguish the effect of person-environment fit from how individuals combine beliefs about themselves and their environments into their perceptions of fit. In other words, person-environment fit is a reciprocal and ongoing process – individuals seek out and create environments that align with their personal attributes, and individuals are also shaped by their environments (Rounds & Tracey, 1990; Su et al., 2014).

Match Quality

While person-environment fit often takes individuals' perceptions of fit into account, labor economists examine the quality of the worker-workplace match (i.e., "match quality") using measurable outcomes, such as worker productivity and turnover (Jovanovic, 1979). Match quality assumes that the labor market efficiently allocates workers to firms by workers seeking jobs where they can be more productive and leaving firms where they are less productive. The effect of a strong person-environment fit on work-related outcomes suggests a "quality match" between the worker and the workplace.

Using student outcome data linked to teachers and schools in North Carolina, Jackson (2012) estimated the effect of teacher-school match on teacher productivity (student achievement). He found that teachers who switched schools were more effective after a move than before, and that teacher-school match quality accounted for 10-40 percent of what is typically estimated as teacher quality. Notably, this suggests that teacher quality is not portable across schools. These findings, which documented the relationship between match quality and mobility in a profession where there is little relationship between wages and productivity, suggest that workers value high productivity matches for reasons other than compensation (Jackson, 2012, p. 1114). Teacher "productivity" (as measured by student achievement) likely contributes to teachers' feelings of efficacy (Bandura, 1977) and "sense of success" with students (Johnson & Birkeland, 2003), which are both linked to teacher commitment (Chesnut & Burley, 2015; Kraft et al., 2021; Skaalvik & Skaalvik, 2010).

Overall, both person-environment and match quality theories suggest that individuals will seek out environments that align with their personal attributes and that these matches should lead to positive workplace outcomes, such as job satisfaction, productivity, and retention. If teachers choose to remain in their schools and/or teaching environments (e.g., district, school type, state), their retention decisions might reflect a quality match between the teacher and some aspect of their teaching environment. However, it is also possible that individuals are unaware of the potential positive effects of their work environments in advance. In that case, positive match effects could signal an individual's revealed preference (Hands, 2013), rather than their perceived preference, for their work environment.

Teachers' Preferences for Home and Familiar Contexts

Consistent with fit and match quality theories, several influential studies have shown how teachers seek out jobs closer to home or in school districts with similar characteristics to the ones they attended. Most new teachers are recent college graduates (Ingersoll et al., 2018), who are often unmarried, mobile, and willing to explore different careers and locations (Arnett, 2000). However, teachers are more likely than other college-educated working professionals to live closer to home, often within 20 miles of the high schools they attended (Reininger, 2012). A study of first-year teachers in New York State found that most teachers took their first public school teaching job very close to their hometowns, which the authors describe as a strong "draw of home" for new teachers (Boyd et al., 2005b). Though there were some regional differences, 61 percent of teachers entering public schools in New York State between 1999 and 2002 first taught in schools located within 15 miles of their hometowns, and 85 percent worked within 40 miles of their hometowns. These hometown preferences also appeared to reflect teachers' preferences for familiar contexts. Independent of distance from home, teachers were more likely to teach in regions similar to where they grew up (e.g., urban or suburban). Thus, the "draw of home" encompasses both proximity to home and/or similar attributes to home.

These results have been corroborated by other studies of new teachers' geographic preferences. A study of prospective elementary teachers found that new teachers show strong preferences to teach in districts close to their homes, familiar contexts, and where they can work with colleagues and students whose characteristics match their own (Cannata, 2010)

However, while teachers' preferences for home are well documented, the relationship between teaching near home and retention is less clear. Several localized, longitudinal studies hint at the importance of teachers' proximity to home and retention. A study of teachers in New York City found high rates of teacher turnover in low-performing schools but that those living in

NYC prior to their first teaching jobs were less likely to quit or transfer to a different district (Boyd et al., 2005a). The authors argue that, since most highly qualified new teachers were from outside of NYC, their high attrition rates out of low-performing schools could signal a desire to teach closer to home, rather than a preference for high-achieving students. Another NYC-based longitudinal study found that for alternatively-certified math teachers in high-need neighborhood schools, "community insiders" (graduates of NYC high schools) had significantly higher retention rates in their first schools and in the district compared to "community outsiders" (Brantlinger et al., 2023).

Outside of the NY context, a study analyzing state-wide data on teacher shortages in Tennessee found that school-level teacher vacancy rates are negatively associated with the number of early-career teachers who attended high school within 25 miles of the school (Edwards et al., 2022) Further, a longitudinal study of teacher preparation programs and attrition in Washington State found that while seven percent of teachers exited the workforce each year, those from out-of-state programs were the most likely to leave (Goldhaber & Cowan, 2014). However, in-state teacher preparation programs' attrition rates ranged widely with some in-state preparation programs yielding similar teacher attrition rates as out-of-state programs.

Recent literature reviews and meta-analyses of teacher turnover research conducted over the past few decades (Borman & Dowling, 2008; Guarino et al., 2006; Nguyen et al., 2020) have shown higher attrition rates in high-poverty, urban and rural schools, and the positive influence of "relational demography" (i.e., demographic match between principals and teachers) on retention, particularly for teachers of color. However, none of these recent literature reviews and meta-analyses included robust evidence on the link between teachers' proximity to home and retention. Overall, though several localized studies have hinted at relationships between teachers'

proximity to home and retention, this association has not been well established in the current literature.

Whether they demonstrate a preference for teaching in their home state or not, there are several reasons to predict that teaching close to home is associated with positive outcomes, such as job satisfaction and retention. Teaching is an emotionally demanding and stressful job, particularly for early-career teachers (Chang, 2009; Diliberti et al., 2021; Kraft et al., 2021; Taylor et al., 2019). Having access to social and familial ties could buffer teachers from the negative impact of stress and burnout associated with teacher turnover (Skaalvik & Skaalvik, 2011). Second, as the teacher workforce remains predominantly female, some teachers cite pregnancy and childcare as reasons for leaving teaching (Podolsky et al., 2019); whereas, teaching close to home and having access to family support could mitigate these reasons for leaving the profession.

Finally, teaching in one's home city or state could forge a connection between teachers and students based on shared background characteristics (Gist et al., 2019), which has positive implications for both teachers and students. Research has shown how teacher-student race match is associated with a number of positive outcomes, particularly for Black students (Gershenson et al., 2018; Lindsay & Hart, 2017). Teachers whose backgrounds match their students, then, may experience a greater sense of success with their students, feelings of impact in teaching, or a greater sense of belonging – all of which could increase their commitment to teaching (Johnson & Birkeland, 2003; Kraft et al., 2021; Skaalvik & Skaalvik, 2011).

In sum, given the literature on person-environment fit, match quality, teachers' geographic preferences and teacher retention, we expect that teachers' placement in their preferred locations and/or their home states will be associated with more time spent in the

teaching profession. Figure 1 depicts how teachers who begin teaching in their home states may be more familiar with their teaching context, state education policies, and students' cultural backgrounds and/or have greater access to their familial and social networks. These conditions may increase teachers' sense of belonging, job satisfaction, resilience, and relationships with students and families, all of which are correlated with teachers' decisions to stay in the profession (Beltman et al., 2011; Brackett et al., 2010; Doney, 2013; Johnson et al., 2011; Skaalvik & Skaalvik, 2011). "Home state match" could also influence teacher retention by providing social and emotional resources that buffer teachers from factors related to attrition (e.g., challenging working conditions, stress, and burnout).

Research Setting

TFA seeks to develop "outstanding and diverse leaders early in their careers" to partner with "children and families most impacted by educational inequity" beginning with two years of teaching in a public school (Teach For America, 2022). In some ways, TFA functions similarly to other alternative-certification and fast-track teacher preparation programs, which exist in almost every state (Feistritzer et al., 2011; Humphrey et al., 2008; Parlow, 2019), by providing a streamlined route into the teaching profession. However, with an emphasis on leadership development and two-year commitment, TFA typically attracts non-education majors with short-term career orientations toward teaching (Donaldson & Johnson, 2010). Unsurprisingly, then, TFA teachers leave the profession at higher rates than traditionally-certified teachers (Darling-Hammond et al., 2005; Heilig & Jez, 2014), for which the program has drawn criticism (Darling-Hammond, 1994; Lefebvre & Thomas, 2017; Veltri, 2008). However, other studies have shown heterogeneity in TFA teachers' openness to staying in teaching as a career (Heineke et al., 2014) and differences in turnover rates given school contextual factors and corps members' ages when

entering the program (Donaldson, 2012; Donaldson & Johnson, 2010). To our knowledge, no empirical studies have examined the TFA teachers' retention rates conditional on their proximity to home or assignment to a preferred location.

TFA's regional placement process for incoming teachers considers three main factors: the staffing needs of each region's partner schools and districts, applicants' qualifications to teach certain subjects (i.e., how their college coursework aligns with state teacher certification requirements), and applicants' stated preferences for TFA's different regions. TFA regions have different types of geographic boundaries depending on the organization's partnerships with school districts in the area (see Appendix A). Most TFA teachers are assigned to a region in one city (e.g., Los Angeles, CA) or two nearby cities (e.g., Twin Cities, MN). Each region has its own support staff and places teachers in the region's partner schools, districts, charter networks, early childhood centers, and/or Bureau of Indian Affairs schools (Teach For America, 2022).

Discussions with TFA staff detailed that for most of the program's history (including the years in which the focal cohorts entered), TFA applicants indicated their preferred regions before learning of their acceptance to the TFA program. During the application process, applicants were required to categorize each TFA region as: highly preferred, preferred, would consider, or would not consider. Applicants could place as many or as few regions in any of those four categories. For example, an applicant with a strong preference for teaching in Los Angeles could include that region as the only "highly preferred" region; whereas an applicant who is open to teaching anywhere could include all regions as in the "highly preferred" category.

Within each category, applicants were required to rank each region numerically with "1" being their first choice region. Alternatively, applicants could indicate not having a strong preference for one region over the other by ranking multiple regions as "1." For example, as

illustrated in Figure 2, an applicant who hoped to teach in a large city – with a top preference for Los Angeles – might include Los Angeles, New York, Washington, D.C., Dallas-Ft. Worth, and Chicago-Northwest Indiana in the "highly preferred" category and number those regions from 1 to 5 (personal communication, February 2, 2021).

TFA reports that approximately 90 percent of incoming teachers are assigned to one of their highly preferred regions (Teach For America, 2022). However, since these rankings were considered along with the applicant's college coursework and the specific staffing needs of each region's partner schools, TFA's regional assignment process includes an element of randomness not experienced by traditionally certified teachers or those who enter geographically defined teaching programs (e.g., Teach Kentucky or Baltimore City Teacher Residency).

Accepted TFA applicants were notified of their region assignment when they received an offer to join TFA. Before accepting TFA's offer, applicants had an opportunity to request a region transfer but were not guaranteed that those requests would be granted. Thus, for most of the individuals represented in this study, accepting TFA's offer meant accepting their region placement.

Data and Descriptive Statistics

This paper uses three separate administrative datasets ("offer", "preferences", and "alumni records") provided by TFA that follow four cohorts of TFA teachers (entering in 2010, 2011, 2012, and 2013) for up to 7-10 years after entering TFA. The offer dataset includes teachers' demographic characteristics (e.g., race/ethnicity, gender, income background, undergraduate institution, major, home city, and home state); placement information (e.g., TFA region, city, state, school type); whether teachers requested and/or were granted a transfer from one region to another; and whether teachers completed their two-year commitment, resigned, or

had their contract terminated. The preferences dataset includes how TFA teachers ranked each of TFA's regions during the application process. The alumni records contain data about the 2010-2013 cohorts in their post-TFA or alumni years (2014-2020). This information is gleaned from surveys administered annually to TFA alumni about their current occupations, locations, involvement in educational organizations (e.g., school boards, unions), and mindsets about educational equity.

Using the unique identifier assigned to each individual upon entry, we construct a dataset linking incoming TFA corps members' demographic characteristics, preferred teaching locations, actual teaching locations, school types, and occupations (e.g., teacher or other) for up to 7-10 years after entering TFA. The offer year dataset includes 21,862 individuals who entered TFA between 2010-2013. In total, 3,615 individuals (16.5%) did not complete their two-year TFA commitment. TFA considers only those who complete their two years in the program to be "TFA alumni." Thus, individuals who did not complete two years in the program are unaccounted for in the alumni records and have more missing data than TFA completers. For example, around 70 percent of non-completers are missing hometown and home state information. It is also unclear at what point non-completers left and whether they pursued teaching careers through other programs after not completing TFA. For those reasons, we restrict our analyses to individuals who completed their two-year TFA commitment and explore whether being assigned to one's home state and/or highly preferred region is associated with teaching longer (i.e., beyond completing the two-year commitment to TFA).[2] Table 1 provides summary

[2] This restriction could introduce bias in our sample if teachers' motivations for leaving were related to whether they were assigned to teach in their home state. However, as we discuss later, such bias would have to be substantial and go in the opposite direction of our main effects to invalidate our findings.

statistics for the TFA completers included in the dataset. In the following subsections, we describe several measures central to our analysis in additional detail.

Home State Match

Home State Match is a binary measure that indicates whether an individual was assigned to a TFA region in their home state.[3] Between 2010 and 2013, there were 39-46 distinct TFA regions (depending on the year) located in 39 states. TFA corps members hailed from all 50 states and over 30 countries outside of the U.S. Given that TFA exists in most states in the U.S., most corps members had the potential to be assigned to their home state. Yet, only 50% ranked a region in their home state as highly preferred, and only 22% of individuals in the total sample were assigned to a region in their home state (see Table 2).

Preference Match

TFA prioritizes placing individuals in one of their "highly preferred" regions and reports doing so for around 90% of applicants (Teach For America, 2022). As shown in Table 3, this trend was reflected in our sample. Most individuals were placed in a highly preferred region. Table 3 also shows the proportion of the sample assigned to their home states and/or one of their highly preferred regions. Because TFA attempts to send as many individuals as possible to one of their highly preferred regions, over 93% of those assigned to teach in their home states were also assigned to teach in a highly preferred region. As such, for most of the sample, home state match is nearly the same as being assigned home *and* to a highly preferred region.

Variation in "Pickiness" about Regional Placement

Applicants could include any number of regions in the "highly preferred" category. Figure 3 shows the distribution of the number of highly preferred regions individuals selected

[3] Individuals' home states were provided by TFA and reflect what TFA applicants listed as their home states.

during the application process. At a minimum, TFA applicants ranked one region in their "highly preferred" set. On average, they ranked six regions within their "highly preferred" set of regions.

Total Years in the Teaching Profession

We operationalize retention as the number of years an individual spent in the teaching profession, irrespective of the location in which they were teaching. The complete dataset includes only those who completed their two years in TFA and alumni records captured in 2014-2020.[4] This means that, depending on when they entered, individuals in this sample taught for a minimum of 2 years (completed TFA) and a maximum of seven (2013 cohort) to ten (2010 cohort) years. To aid interpretation across cohorts, we cap total possible years in teaching for the full sample at 7 years. Therefore, the highest possible number of total years in teaching for any member of this sample is seven years, which equates to teaching for an additional five years beyond their two-year TFA commitment.

Discussions with TFA staff indicated that alumni survey response rates ranged from 40-70% depending on the year (personal communication April 2, 2020), prompting TFA to scrape data from LinkedIn lieu of a survey in 2020 (personal communication, July 10, 2020). Despite inconsistent survey response rates, the alumni records contain employment information for 89% of the sample for at least one time point after completing their TFA commitment.

We calculated total teaching years as the *latest* year in which an individual responded to a survey and indicated they were teaching. For example, if an individual was coded as teaching in years 3, 4, and 5 (i.e., for the next three years after entering TFA), their total years in teaching

[4] We do not have alumni surveys for the first alumni year of the 2010 cohort, such that 2010 cohort members are all coded as having taught for 2, 4, 5, 6, or 7 years. This means we are undercounting those who taught for 3 years. Our findings are robust to re-coding all 2010 cohort members who completed TFA but taught less than 4 years as teaching for 3 years, or dropping this cohort altogether. Ultimately, since relatively few corps members teach for exactly 3 years in other cohorts, we elect to include this cohort despite the data limitation. Note that our outcomes for whether teachers taught for at least 4, 5, 6, or 7+ years are not affected by this discrepancy.

would equal 5. If an individual was coded as teaching in years 3 and 5, their total teaching years would also be coded as 5. This assumes that the missing response in year 4 was due to an unanswered survey rather than a year off from teaching. A more conservative estimate of teaching years would take the *summary* of years in which an individual was affirmatively coded as teaching. Using this more conservative estimate of teaching years does not change the overall patterns we identify in the main results (see Table 12). Table 4 shows summary statistics for teaching years (capped at 7) by cohort. Figure 4 shows the proportion of 2010-2013 corps members who taught for additional years beyond their two-year TFA commitment. On average, corps members taught for 4.5 years total (out of 7 possible), or 2.5 additional years beyond their initial TFA commitment.

Empirical Methods

This study poses a fundamentally causal research question: does teaching in one's home state affect teacher retention? Yet, teaching locations are not randomly assigned, making a causal estimate challenging to identify. In an initial exploration of the similarity between those who were and were not assigned to teach in their home state in our sample, we found substantial differences between the two groups, suggesting that even in our setting where teaching region placement is *more* random than usual, TFA region placement is not, on its own, random. These differences were often related to preference for home. For example, individuals from a low-income background were more likely than those not from a low-income background to rank a region in their home state in their highly preferred category. Fortunately, we can leverage our unique and detailed data on teacher preferences to identify comparisons of teachers in which placement to one's home state is nearly (if not perfectly) random. In other words, placement to

one's home state is unlikely to reflect observable or unobservable differences in teachers' characteristics that could influence their likelihood of staying in teaching.

To address this potential source of bias, we identify key characteristics uniquely observable in our data that can help isolate the random variation in teaching placements with respect to teachers' home states. First, individuals in the group must be from the same home state. This ensures that we are not inadvertently picking up an effect of being assigned to a subset of particularly desirable states, whether or not they represent "home." Second, individuals in the group must have ranked a region in their home state similarly. We define this as having both ranked a region in their home state at the same preference level (i.e., Highly Preferred, Preferred, or Would Consider).[5] Third, individuals must have an ultimate teaching placement from the same preference level. That is, if someone was assigned to teach in a highly preferred location, they can only be compared to others who were also placed in one of their own highly preferred locations. Finally, to account for overall levels of pickiness, all individuals in the group must have listed the same number of potential regions at the Highly Preferred level. This controls for overall pickiness – if an individual places 20 regions in their highly preferred category, they are likely less picky than someone who only places two regions in highly preferred. To control for preferences, it could be unwise to directly compare these two individuals.

In our models, we regress total years in teaching on a dummy variable indicating whether the individual was assigned to teach in their home state, which we refer to as "home state match" (HSM) and a vector of background and placement controls, X_i. We utilize the identifier fixed effects in two ways. In the first method, we include each of the four variables as a separate set of fixed effects. In equation 1, we include a set of fixed effects of the individual's home state (HS),

[5] If there are multiple regions in one's home state, we use the highest preference level their home state appears in.

the preference level given to their home state (HSPL), the preference level of the region to which they were assigned (RPL), and their pickiness (P) defined as the number of highly preferred locations listed. We refer throughout this paper to model 1 as the "separate fixed effects" model.

$$YearsInTeaching_i = \beta_0 + \beta_1 HSM_i + \alpha_{HS} + \delta_{HSPL} + \theta_{RPL} + \tau_P + X_i + \varepsilon_i \qquad (1)$$

While this method helps to isolate particular comparisons, it still poses a risk of bias. To further restrict the set of individuals we compare, we combine all four identifier fixed effect variables into a single group to create a set of combined fixed effects that match individuals who are the same across all four categories. By including a single set of matched identifier (MI) fixed effects, we are effectively matching individuals who are the same on all four characteristics, and identifying the home state effect based on those for whom one was assigned to teach in a home state while the other was not. This method, shown in model 2, we refer to as the "matched" or "combined fixed effects" model, which we consider to be our preferred estimation strategy.

$$YearsInTeaching_i = \beta_0 + \beta_1 HSM_i + \gamma_{MI} + X_i + \varepsilon_i \qquad (2)$$

In equation (2), the home state match effect, β_1, now represents the effect of being assigned to teach in one's home state, isolating the differences in years of teaching for individuals who share the same home state, preferences to teach in their home state, overall pickiness, and assigned region preference.

We augment equations (1) and (2) with a vector of additional control variables, X_i, to further strengthen the precision of the estimation. Our fully specified model includes controls for features of the assigned placement, such as grade level, subject, and region fixed effects, as well as cohort year. These assignment-specific controls help to further isolate comparisons amongst like-teachers and account for specific differences in retention across these features. In addition, we constructed a variable capturing the within-preference level rank of placement a teacher

received to more directly control for precise measures of teachers' preferences related to their placement.

We also control for individual demographic characteristics, such as self-identified racial and ethnic categories and socioeconomic status, whether they majored in education as an undergraduate, whether they were an older applicant, as well as a subset of scores from individuals' applications regarding their potential for leadership, communication, and perseverance. The primary role of these controls is to increase precision of the estimates. Our preferred specifications include the full set of controls describing features of the teaching placement and teacher characteristics.

Balance on Observables

To more fully assess the likelihood that our preferred model will produce an unbiased estimate of the effect of being matched to one's home state, we first run a balance test regressing the indicator for whether a teacher received an initial teaching placement in their home state on the full set of demographic variables and application scores, as well as treatment identifier fixed effects and fixed effects for cohort and initial TFA region, grade level, and subject.

Table 5 presents the results from these balance tests and the F-test of all individual characteristics. Column (1) presents the covariates and F test for the full sample of TFA completers in the analytic sample. Collectively, individual characteristics are significantly, though weakly, predictive of receiving a home state match, conditional on the identifier and placement fixed effects, with an F statistic of 5.4 (separate identifier fixed effects) or 3.3 (combined fixed effects). However, only two individual characteristics are statistically significant on their own in the full model: education major and being from a low-income background. In columns (3) and (4), we drop education majors. A benefit of this study is the

ability to focus on teachers who were unlikely to stay in the teaching profession. Very few TFA corps members were undergraduate education majors, and so we drop education majors from the main sample to explicitly focus on those who were arguably least likely to stay in teaching. In these models, the F-statistic falls but is still statistically significant, and again the coefficient on low-income is the only statistically significant result.

Even conditional on our restrictive matched identifier fixed effects, our identification strategy cannot fully disentangle the relationship between home state match and being from a low-income background, a relationship likely driven by a higher preference to teach in one's home state amongst low-income applicants. While we control for low-income status throughout the remainder of these results, we acknowledge that this relationship could be indicative of other unobserved differences. Instead of fully working to disentangle this relationship beyond what is practically observed, we split our analyses into two groups: those from low-income backgrounds (self-identified) and those not from low-income backgrounds. Columns (5) and (6) perform the same balance tests on these two groups separately. Within these sub-groups, we find no evidence that other individual characteristics are jointly predictive of home state match in the matched fixed effects model, while still weakly predictive in the separate fixed effects model.

These results suggest that 1) controlling for low-income is likely sufficient to account for any remaining bias in the overall estimates, and 2) analyses within subgroups are even more likely to be comparing like individuals who differ only on their experience being assigned to teach in their home state. Finally, our test suggests that the matched fixed effects model is most likely to produce unbiased estimates, and so where necessary, we focus on these models as our preferred specification.

Results

Among all TFA completers, being assigned to teach in one's home state is associated with teaching for .14-.15 more years. Dropping education majors leads to very little change in these estimates. Across all models, this "home state effect" is statistically significant at the 95% confidence level.

Table 6 presents the results of equations (1) and (2) regressing the outcome Total Years of Teaching on the dummy variable indicating whether an individual was assigned to a region in their home state, or that they had a home state match (HSM). All columns include demographic controls for teachers' self-identified race and socioeconomic status (low income or not), whether they were an older applicant, whether they majored in education as an undergraduate, character scores from their application, the within-preference level ranking of their placement site, and fixed effects for the assigned region, grade, subject, and cohort year.

Column 1 includes all individuals from our sample and uses each of the identifier variables as a separate fixed effect (equation 1). Using this method, we find that being assigned to teach in one's home state leads to .141 more years in teaching over the five years after completing TFA. In Column 2, we use the matched identifier fixed effects model and estimate a very similar home state match effect of .143.[6] In columns 3 and 4, we repeat these same two models but drop education majors from the sample. Doing so increases the estimated effect slightly to .147 (separate fixed effects) and .149 (matched/combined fixed effects). Across every specification, the home state match coefficient is statistically significant at least the 95% confidence level.

[6] Note that the total number of observations is smaller in the combined fixed effects specifications. This is due to a lack of common support for some combined groupings where only one individual was in a "matched" grouping. However, some individuals (about half) are included while not actively contributing to the home state match estimate. If a matched grouping has multiple teachers meeting the criteria but lacks variation amongst in home state match, they are still included in the analysis and do contribute to the estimation of control variables, but do not directly contribute to the key estimator of interest.

Given that we previously identified education major as a potentially unbalanced characteristic for those who were and were not assigned to teach in their home state, and our focus on drawing unlikely teachers into the teaching profession, the rest of our analyses include only those non-education majors in the sample.

Heterogeneity by SES and Race

Our results show substantial heterogeneity in *home state effect* by SES and race. In Table 7, we examine the home state effect for individuals who are and are not from low-income backgrounds, separately. These models are analogous to those shown in columns (3) and (4) of Table 6, broken out by subgroups. All estimates in Table 7 drop education majors.

Table 7 shows that the overall home state effect is driven by low-income and non-white teachers. In our preferred specifications using matched identifier fixed effects (even-numbered columns, we find that being assigned to teach in one's home state leads to staying in teaching an extra .36 years for those from low-income backgrounds, and an extra .47 years for teachers of color. These effects are statistically significant at the 99.9% confidence level. We find no evidence of a home state effect on retention in teaching for those not from low-income backgrounds or those who identified as white. Thus, the home state effect is driven by individuals from low-income backgrounds and those who identify as people of color.

Longevity in Teaching

Our analyses examining the outcome total years in teaching suggest a marginal increase in the number of additional years, over the 5 years after completing their 2-year TFA commitment, that teachers stayed in the profession. Figure 5 shows the results of our preferred specification with the full set of controls, instead predicting a series of dummy variables indicating whether a teacher stayed at least X number of years in teaching (3-7). We find that

being assigned to teach in one's home state makes corps members just under 4 percentage points more likely to stay in the teaching profession for 3, 4, or 5 years, with slightly smaller effects at 6-7 years. Again, this effect is driven by teachers from low-income backgrounds (dark gray square) and teachers of color (light gray triangle), who each experience much larger and persistent effects on longevity in teaching. These results provide evidence that the home state effect is not being driven by many individuals being more likely to stay just one more year, but by a smaller subset staying in the profession long term.

Consistent with prior research on TFA teacher retention (Darling-Hammond et al., 2005; Donaldson & Johnson, 2010b; Heilig & Jez, 2014), most individuals in this sample left the teaching profession within the first few years. However, we find that those who were assigned to teach in their home states taught, on average, longer than those who were not assigned to teach in their home states. We describe this difference as a positive *home state effect* on retention. All else being equal, an individual assigned to their home state has a higher likelihood of teaching beyond the two-year TFA commitment.

Home State, Preference, or Both?

We previously documented that TFA applicants did demonstrate a preference to teach in their home state. We therefore want to disentangle to what extent our findings are intertwined with an overall effect of being assigned to teach in a personally desirable location. We do this in two ways. In Table 8, we perform the analyses separately for those who received their overall first choice region and for those who did not. In these analyses, we focus on the combined matched identifier models and drop non-education majors. Column (1) of Table 8 shows that amongst those who received their first choice region, individuals who also were assigned to teach in their home state taught for .288 more year than those who did not. This effect is even

larger for teachers of color (column 5, .551) and those from low-income backgrounds (column 3, .576). Alternatively, analyzing only those who did not receive their first choice ("Not Top"), we document only a small and insignificant home state effect amongst all TFA completers, and marginally smaller, but noisier, effects for low-income teachers and teachers of color. These results suggest that the home state effect is strongest for those who also expressed a strong interest in teaching in their home state.

Finally, we look specifically at the effect of being assigned to teach in someone's *most* preferred location (i.e., their top ranked region) and how this interacts with being assigned to teach in one's home state. Table 9 displays results for these models using our full set of control variables (less the variable identifying the exact preference match a teacher received) and matched identifier fixed effects. Columns 1, 3, and 5 show that we find a small and insignificant null effect of being assigned to one's first choice teaching placement on total years in teaching for the overall, low-income, and teachers of color samples. Together, these results suggest that being assigned to one's first choice region is not, in and of itself, predictive of teacher retention for this population.

Columns 2, 4, and 6 of Table 9 then include an interaction between the variables indicating assignment to first choice teaching placement and assignment to teach in one's home state. Column 2 shows that, overall, it is difficult to disentangle these two factors. The coefficient on "assigned first choice" is negative and insignificant, while the coefficient on "assigned home state" is similar in magnitude, but positive, while still being insignificant. The interaction term is the largest and most positive of all three, and similar in magnitude to the main effect documents in Table 6, but is imprecisely estimated. These results suggest that home state match is a stronger

predictor of years in teaching than assignment to first choice, but that the interaction of these two variables matters most for time in the profession.

Amongst the low-income background subgroup (column 4), we again find a small, negative, insignificant effect of being assigned to a top choice region on its own. The effect of home state match, on its own, is large but statistically insignificant (.23), as is the interaction of home state match and assignment to first choice (.22). While the estimates are still noisy, they do provide suggestive evidence that assignment to one's first choice region is not, on its own, predictive of years in teaching, while assignment to home state seems to matter more. Alternatively, amongst the teachers of color subgroup, assignment to home state is, on its own, the strongest predictor of years in teaching, suggesting that for this group, the home state effect may operate even more fully outside of preferences, similar to results documented in Table 8.

Robustness

We perform a series of robustness checks, all of which consistently demonstrate that our main results are unaffected across several different assumptions. In each of the following tests, we use our preferred specification that uses matched fixed effects, the full set of controls, and drops education majors. We also show all results for the overall (non-education major) sample and broken out by race and income background.

Single State Effect. To ensure that our results are not being driven by any one individual state, we conduct an exercise where we repeat our preferred specification (matched fixed effects) dropping each individual home state one at a time. In Appendix Figure 6, we present histograms showing the distribution of the size of the home state match effect on total years in teaching across each of these specifications, both for the overall sample and the low-income background sub-sample. Our estimated home state effect is always positive and are distributed roughly

normally around the main effect estimates. We find highly consistent results across all estimates, providing clear evidence that our findings are not driven by any one unique state.

Alternative Definitions of Low Income. Our primary analyses by socioeconomic background are based on a survey measure asking individuals to self-report being from a low-income background. To check the robustness of our primary findings that home state effect is driven by teachers who were from low-income backgrounds, we re-operationalize socioeconomic status based on whether individuals had ever received a Pell Grant (self-reported). Our findings, presented in Appendix Table 10, are similar to those using the self-identified low-income measure for socioeconomic status. This suggests that our finding of differential effects by individuals' socioeconomic background are not driven by the nature of the measure of low-income and more likely are representative of the operationalized construct.

Redefining Retention. As described earlier, we define teacher retention based on the maximum total number of observed years in the teaching profession after completing the TFA 2-year term. In our primary analyses, we rely on the last observed year in which the teacher was confirmed teaching. Alternatively, we could have calculated years in teaching as the sum of all post-TFA years in which we had confirmation that the individual was still teaching. To ensure that our results are not driven by this choice, we re-run our preferred specifications using the alternative measure. By definition, this alternative measure of years in teaching is systematically smaller, and so we expect the point estimates to also be slightly smaller to reflect the change in scale. Table 11 reports these results, which are, as expected, only slightly smaller in magnitude and follow the same heterogeneity patterns we observe in the main findings.

Limitations

This study has several limitations. First, we are reliant on TFA-administered alumni survey data. TFA's alumni survey response rates began to decline between 2014 and 2019, prompting the organization use LinkedIn to identify alumni's careers in 2020. Initially, then, the sample might overrepresent those who hold mostly favorable or neutral views toward TFA, given that those individuals may be more likely to spend the time completing a survey. The survey response rates are an overall limitation of this study and suggest that the values for total teaching years may be slightly underestimated. However, the choice to respond to the alumni survey is likely unrelated to how long individuals stayed in teaching or whether they received a home state match. TFA alumni who continued teaching and those who left the profession have expressed a wide range of views about the program (Goldstein, 2014).

Second, the sample only includes those who accepted their offers from TFA and those who subsequently completed their two-year teaching commitment with TFA. Although 91% of incoming corps members were placed in one of their highly preferred regions, it is possible that applicants who were unhappy with their placement region could have self-selected out of the program. Nonetheless, the focal cohorts faced an economy still recovering from the Great Recession (Schanzenbach et al., 2016), meaning that they might have been less sensitive to an undesirable regional assignment. Indeed, TFA saw its highest numbers of applicants and largest cohorts between 2010 and 2014 (Belsha, 2022).

Similarly, it is possible that teachers who did not finish their two-year term left early for reasons related to their placement, which could bias our results if their reasons were specifically related to whether they were assigned to their home state. However, we believe that, if anything, omitting non-completers would be causing a downward bias, causing us to *underestimate* the true effect. For example, if everyone who left TFA after one year had done so precisely because

they were *not* assigned to teach in their home state (consistent with the direction of our estimated effect), we would be omitting individuals who had not received a home state match and who had only 1 total year in teaching. Including them in our analysis would *increase* our estimate of the state match effect. Alternatively, even if home state match and TFA completion were unrelated, including this group of teachers with 1 or fewer years in the teaching profession in the analysis would lower our estimate of the home state effect only insofar as the scale for the retention measure would be altered, but it is unlikely that the pattern of effects we document would change.

Finally, given TFA's emphasis on leadership development and recruitment of individuals with diverse career interests, the results of this study may not be generalizable to teachers from other alternative or traditional preparation backgrounds. Research has shown that TFA teachers behave similarly to non-TFA teachers in terms of their turnover patterns in high-need schools (Lankford et al., 2002), improvement over their first few years in the classroom (Darling-Hammond et al., 2005), and effectiveness in improving students' test scores in certain subjects (Glazerman et al., 2006; Xu et al., 2011). However, other studies have shown that the program's two-year commitment influences corps members' professional identities and career decisions (Lefebvre & Thomas, 2017; Thomas, 2018; Thomas & Mockler, 2018; Veltri, 2008).

Nonetheless, given the expansion of alternative certification programs and increase in short-term, fast-track teaching, it is possible that the teacher workforce could increasingly include those with short-term interests in teaching (Johnson & The Project on the Next Generation of Teachers, 2004; Olsen & Anderson, 2007; Rinke, 2011, 2013). This scenario is even more likely if districts and states continue to experience teacher shortages and turn to alternatively prepared and fast-track teachers to fill classrooms (Carver-Thomas et al., 2021;

Parlow, 2019; Sutcher et al., 2016). In that case, TFA teachers' retention patterns could offer insights into a potentially growing segment of the teacher workforce.

Discussion and Implications

Person-environment fit and match quality theories suggest that individuals seek out work environments that align with their personal attributes, which should lead to positive outcomes in the workplace, such as job satisfaction, productivity, and retention (Jackson, 2012; Jovanovic, 1979; van Vianen, 2018). Although research has documented teachers' preferences for teaching near home (Boyd et al., 2005b; Cannata, 2010; Engel & Cannata, 2015; Reininger, 2012), studies have been unable to test whether proximity to home is related to retention. This is due, in part, to the challenge of following teachers for long periods of time and because teachers are not randomly assigned to schools, districts, or states. This lack of random assignment makes it challenging to disentangle the effect of teachers' preferences for a particular location from the effect of teaching in that location on retention.

In this study, we exploit TFA's unique assignment process to test whether those who teach close to home (i.e., in their home states) stay in teaching longer than those who do not. Using a treatment group identifier fixed effect model, we found that being assigned to teach in one's home state led to spending an extra .15 years in the teaching profession, within the context of an individual's first seven years in the profession (or five years beyond their two-year TFA commitment). This effect was driven by teachers from low-income backgrounds, who stayed an extra .36 years when assigned to their home state, and teachers of color, who stayed an extra .47 years when assigned to their home state. Put another way, one out of every two teachers of color stayed an extra year in teaching if they were assigned to teach in their home state.

We also find that the home state effect was strongest amongst those who also ranked their home state as their first choice, but that on its own, being assigned to a first-choice region was not associated with staying longer in teaching. These results suggest: 1) that our findings are not driven solely by preferences; and, 2) that assignment to teach in one's home state is not, on its own, as powerful a predictor of teacher retention as both *preferring* and *being assigned* to teach in one's home state. In other words, the positive *home state effect* on retention reflects the interaction of a preference for home and assignment to home.

These findings have implications for research and policy focused on improving both teacher supply and retention in high-need schools. First, despite the expansion of GYO programs as a policy solution for teacher shortages, several influential studies on teachers' preferences for home, and research on the benefits of students' exposure to teachers who share their backgrounds, very little research has focused on teacher outcomes associated with teaching near home. As Boyd and colleagues (2005b) argue:

> Policies to attract and retain teachers develop with little guidance from research. The nature of the labor market for teachers is complex, involving the interaction of a wide variety of institutions, policies, and practices, the result of which affects both supply and demand for teachers (p. 113).

Our study helps lend support for GYO programs and other teacher preparation programs seeking to recruit and train community-based teachers, as a policy solution that could increase teacher supply and retention, particularly for teachers of color and those from low-income backgrounds.

Both TFA and non-TFA teachers improve within the first few years of teaching (Boyd et al., 2008; Darling-Hammond et al., 2005; Kane et al., 2008). Thus, even a marginal increase in the length of time teachers spend in the profession could increase their impact on student

outcomes and lessen the disruptive effect of teacher turnover on schools and students (Lankford et al., 2002). Given that our data tracks teachers for a maximum of five years beyond their two-year TFA commitment, we expect that our results may underestimate the long-term effect of home state match on retention. Although young adult college graduates might be willing to explore different places (Arnette, 2000), our findings suggest that those who were assigned to teach in their home states taught longer than those who were not. Thus, this study suggests that there are potential benefits of policies and programs that nudge individuals to teach in their home states, though the success of such policies may vary by state.

Importantly, the positive home state effect on retention is driven entirely by individuals from low-income backgrounds and those identifying as people of color. Increasing the diversity of the teacher workforce, which has remained around 80 percent white despite an increasingly linguistically and racially diverse public-school student population, has been of growing concern for scholars, policymakers, and practitioners (Dixon & Griffin, 2019). GYO teacher preparation programs have often been framed as one approach to increase the diversity of the teacher workforce and ensure that students of color are exposed to teachers who share their cultural backgrounds (Gist et al., 2019) and can draw on their "community cultural wealth" (Yosso, 2005). Research has demonstrated the many positive effects of increasing teacher diversity on students of color, particularly Black and Latinx students (Gershenson et al., 2018; Lindsay & Hart, 2017).

However, teachers of color tend to leave the profession at higher rates than their white counterparts, often due to their disproportionate assignment to under resourced schools, being shouldered with additional roles (e.g., as disciplinarian or translator), and experiences with systematic racism and isolation in the workplace (Achinstein et al., 2010; Bettini et al., 2022;

Bristol & Mentor, 2018; Dixon & Griffin, 2019). Our findings suggest that teachers of color and low-income teachers who teach close to home have higher retention rates compared to those who do not teach close to home. While our study cannot uncover *why* this is the case, we theorize that proximity to home could provide teachers with increased access to family, feelings of impact in teaching, and a sense of belonging (see Figure 1). Although improving the working conditions of teachers of color should be a primary concern for policymakers, districts, and school leaders, this study suggests that GYO programs have the potential to increase the supply and *retention* rates of teachers of color and low-income teachers, and thus, increase the diversity of the teacher workforce.

If home state effect does vary by state, it raises questions about specific state-level conditions or policies (e.g., right to work, average teacher salary, political climate) that affect teachers' working conditions, and thus, could influence the relationship between teaching close to home and retention. This suggests that the relative success of GYO-style programs might reflect state-specific working conditions, in addition to the relationship between home state match and retention. State policymakers are confronting declining numbers of newly certified teachers and teacher shortages in high-need subjects and schools, particularly in the post-pandemic era (Bacher-Hicks et al., 2023; Carver-Thomas et al., 2021; Diliberti & Schwartz, 2023; Parlow, 2019; Sutcher et al., 2016, 2019; U.S. Department of Education, 2017). Given that many educational policies that affect teachers' working conditions are designed at the state level, policymakers should consider introducing and measuring the impact of policy levers (e.g., loan forgiveness, tuition reimbursement, streamlined certification and hiring, etc.) that draw teachers to stay in or return to their home states to teach, and designing education policies that improve teachers' working conditions.

Moreover, TFA could consider factoring teachers' home states into account when they assign applicants to different regions and/or attempt to nudge teachers to indicate a preference for their home state. Approximately half of the sample included their home state as one of their highly preferred regions, and 22% were assigned to teach in their home states. Though TFA prioritizes placing teachers in one of their highly preferred locations (Teach For America, 2022), we found that being assigned to a first choice region was not associated with teaching beyond the two-year commitment.

TFA could also consider focusing their recruitment efforts on building a pipeline of home-state teachers in some regions and measuring the impact of this model on teacher retention. Though some scholars and practitioners have remained critical of TFA's short-term model, others have suggested that TFA leverage its organizational capacity and connections to build or partner with teacher residency programs and recruit non-education majors into the profession for the long-term (Darling-Hammond, 2011).

Conclusion

TFA teachers assigned to teach in their home states stayed in the profession longer, on average, than those who were not assigned to teach in their home states. Our results demonstrate a positive *home state effect* on retention, which was strongest for teachers from low-income backgrounds and teachers of color. This relationship is slightly stronger for those who were placed in their first choice region and/or a highly preferred region. More research is necessary to understand how home state match is associated with retention for other alternatively certified and traditionally certified teachers. However, our study presents clear and consistent evidence to support advocating for policies that attempt to recruit local teachers (e.g., GYO programs) or

nudge teachers toward home may see higher retention rates than those without a regional or home state affiliation, particularly in high-need schools and districts.

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Tables

Table 1: Summary Statistics

	Non-missing Observations	Mean (SD)
AAPI	18247	0.06
		(0.24)
Black	18247	0.13
		(0.33)
Latinx	18247	0.09
		(0.28)
Native American	18247	0.01
		(0.07)
White	18247	0.64
		(0.48)
Multiracial	18247	0.06
		(0.24)
Other/Does Not Identify	18247	0.01
		(0.10)
Female	18247	0.71
		(0.45)
Low-Income	18247	0.40
		(0.49)
Education Major	18247	0.06
		(0.23)
Leadership Score	17589	3.65
		(0.85)
Communication	17637	3.75
		(0.48)
Perseverance (FE)	17637	3.78
		(0.48)
Home State Pref. Level	18247	2.11
		(1.28)
Region Pref. Level	17554	1.10
		(0.32)
Num. Highly Pref. Regions	18238	6.24
		(7.10)

Table 2: TFA Corps Members Assigned to a Home State Region

	N	%
Teaching in Home State is Possible	16704	91.54
Ranked Region in Home State as Highly Preferred	9173	50.27
Assigned to Home State (Home State Match)	4092	22.43

Table 3: Assignment to Highly Preferred Region and/or Home State

	Assigned to Highly Preferred Region	Not Assigned to Highly Preferred Region	Total
Assigned to Home State	20.98%	1.45%	22.43%
Not Assigned to Home State	66.86%	10.71%	77.57%
Total	87.84%	12.16%	100%

Table 4: Total Teaching Years by Cohort

Cohort	Mean	Median	SD
2010	4.68	2.00	3.18
2011	4.74	4.00	2.79
2012	4.42	4.00	2.39
2013	4.20	4.00	2.15
Overall	4.49	4.00	2.63

Table 5: Balance Table by Fixed Effects

	All		Non-Edu		Non-Edu, LI		Non-Edu, Non-LI	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
female	0.00149	-0.00208	0.00253	-0.000710	0.00779	0.0105	0.000116	-0.00399
	(0.00566)	(0.00567)	(0.00576)	(0.00581)	(0.00957)	(0.0104)	(0.00726)	(0.00768)
lowincome	0.0280***	0.0227***	0.0272***	0.0223***	0	0	0	0
	(0.00536)	(0.00532)	(0.00555)	(0.00553)	(.)	(.)	(.)	(.)
Black	0.00671	-0.00247	0.00249	-0.00311	-0.00468	0.00838	-0.00272	-0.0328
	(0.0191)	(0.0188)	(0.0194)	(0.0190)	(0.0278)	(0.0299)	(0.0272)	(0.0276)
White	-0.0120	-0.0153	-0.0144	-0.0157	-0.0409	-0.0206	0.00830	-0.0115
	(0.0176)	(0.0173)	(0.0179)	(0.0175)	(0.0268)	(0.0289)	(0.0234)	(0.0234)
AAPI	0.000633	-0.00843	-0.00267	-0.00998	-0.0177	0.000579	0.0156	-0.0164
	(0.0200)	(0.0197)	(0.0203)	(0.0199)	(0.0304)	(0.0321)	(0.0268)	(0.0273)
Latinx	0.0323	0.0148	0.0301	0.0148	0.0115	0.0190	0.0311	-0.00563
	(0.0197)	(0.0193)	(0.0200)	(0.0195)	(0.0284)	(0.0302)	(0.0287)	(0.0292)
Native American	0.00155	-0.0113	-0.00625	-0.00744	-0.107*	-0.0846	0.103	0.0845
	(0.0392)	(0.0400)	(0.0403)	(0.0412)	(0.0516)	(0.0583)	(0.0637)	(0.0736)
Multiracial	-0.00130	-0.00918	-0.00460	-0.00864	-0.0325	-0.0150	0.0191	0.000419
	(0.0199)	(0.0195)	(0.0202)	(0.0199)	(0.0299)	(0.0324)	(0.0270)	(0.0272)
OlderApp	0.00245	0.00166	0.00109	-0.00117	0.0107	-0.00983	-0.00276	0.00208
	(0.00657)	(0.00637)	(0.00681)	(0.00665)	(0.0114)	(0.0116)	(0.00859)	(0.00880)
edumajor	0.0254*	0.0234*	0	0	0	0	0	0
	(0.0106)	(0.0103)	(.)	(.)	(.)	(.)	(.)	(.)
Leadership Score	0.00264	0.000436	0.00313	0.00117	-0.0000324	-0.00164	0.00379	0.00199
	(0.00298)	(0.00297)	(0.00308)	(0.00310)	(0.00510)	(0.00546)	(0.00389)	(0.00414)
Communication	0.00151	0.00219	0.00101	0.00183	0.0135	0.00791	-0.00697	-0.00381
	(0.00515)	(0.00496)	(0.00529)	(0.00514)	(0.00853)	(0.00880)	(0.00675)	(0.00700)
Perseverance (FE)	-0.000704	0.0000989	0.00101	0.00243	-0.000281	-0.00227	0.00268	0.00666
	(0.00520)	(0.00516)	(0.00536)	(0.00537)	(0.00883)	(0.00947)	(0.00675)	(0.00714)
Constant	0.205***	0.228***	0.202***	0.219***	0.242***	0.289***	0.187***	0.204***
	(0.0346)	(0.0341)	(0.0354)	(0.0351)	(0.0558)	(0.0587)	(0.0455)	(0.0478)
Observations	17329	16242	16358	15275	6491	5631	9855	8884
Joint F Stat	5.4236	3.2611	5.0472	3.0142	2.3798	1.3400	0.7579	0.6158
P-Value	0.0000	0.0001	0.0000	0.0003	0.0062	0.1951	0.6828	0.8170

Standard errors in parentheses

All include corps year, Subj., grade, and corp region fixed effects.

Odd columns indicate separate fixed effect model; even columns indicate combined group fixed effects.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Main Results

	All TFA Completers		Non-Education Majors	
	(1)	(2)	(3)	(4)
Assigned Home State	0.141**	0.143*	0.147**	0.149*
	(0.0509)	(0.0635)	(0.0525)	(0.0657)
Observations	17329	16242	16358	15275
Individual Controls	X	X	X	X
Assigned Region Pref. Rank	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X
Corps Region	X	X	X	X
Fixed Effects	Separate	Combined	Separate	Combined

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Heterogeneity by Low-Income Background and Racial Category

	Low-Income		Non-Low Income		White		Teachers of Color	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Assigned Home State	0.283***	0.363***	0.0358	-0.0362	0.0299	-0.0892	0.292***	0.471***
	(0.0818)	(0.107)	(0.0695)	(0.0895)	(0.0706)	(0.0919)	(0.0806)	(0.105)
Observations	6491	5631	9855	8884	10265	9263	6084	5330
Individual Controls	X	X	X	X	X	X	X	X
Assigned Region Rank	X	X	X	X	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X	X	X	X	X
Corps Region	X	X	X	X	X	X	X	X
Fixed Effects	Separate	Combined	Separate	Combined	Separate	Combined	Separate	Combined

Standard errors in parentheses

Excludes all Education majors

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Results by Assigned Preference Rank

	All		Low-Income		Teachers of Color	
	(1)	(2)	(3)	(4)	(5)	(6)
	Top	Not Top	Top	Not Top	Top	Not Top
Assigned Home State	0.288***	0.00301	0.576***	0.185	0.551***	0.403*
	(0.0859)	(0.118)	(0.142)	(0.202)	(0.142)	(0.195)
Observations	8438	6366	3243	2037	3134	1896
Individual Controls	X	X	X	X	X	X
Assigned Region Rank	X	X	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X	X	X
Corps Region	X	X	X	X	X	X

Standard errors in parentheses

Excludes all Education majors

All models use Matched Treatment Effect Fixed Effects.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: First Choice and Home State Interactions

	All		Low-Income		Teachers of Color	
	(1)	(2)	(3)	(4)	(5)	(6)
Assigned First=1	0.00962	-0.0404	0.0697	-0.0263	0.0880	0.0104
	(0.0428)	(0.0476)	(0.0743)	(0.0847)	(0.0758)	(0.0876)
Assigned Home State=1		0.0321		0.227		0.436**
		(0.0993)		(0.163)		(0.158)
Assigned First=1 × Assigned Home State=1		0.183		0.220		0.0680
		(0.108)		(0.176)		(0.171)
Observations	15275	15275	5631	5631	5330	5330
Individual Controls	X	X	X	X	X	X
Assigned Region Rank	X	X	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X	X	X
Corps Region	X	X	X	X	X	X

Standard errors in parentheses

Excludes all Education majors

All models use Matched Treatment Effect Fixed Effects.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figures

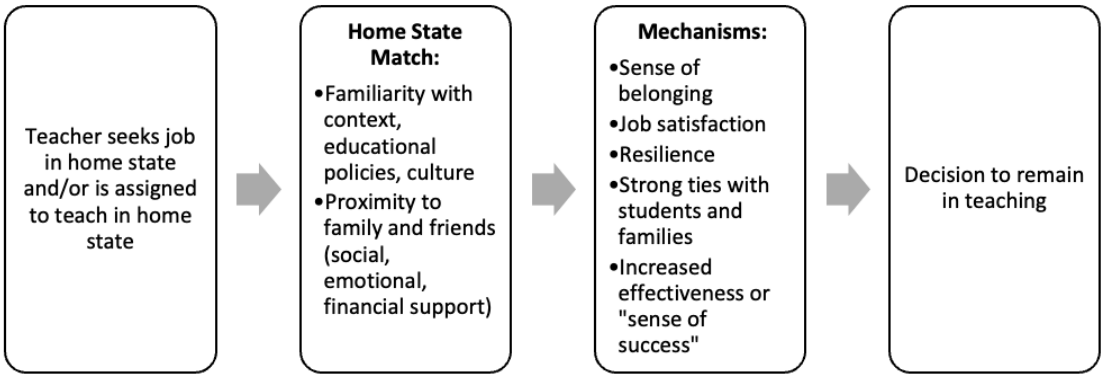

Figure 1: Theorizing the Relationship between "Home State Match" and Teacher Retention

Highly Preferred	Preferred	Would Consider
1-Los Angeles	1-Miami-Dade	1-Greater New Orleans
2-New York	2-Jacksonville	2-Pheonix
3-Washington, D.C.,	2-Easern North Carolina	3-Baltimore
4-Dallas-Ft. Worth	2-Indianapolis	4-Atlanta
5-Chicago-Northwest Indiana	3-Detroit	5-South Carolina

Figure 2: Exemplar of How TFA Applicants Ranked Their Potential Teaching Locations

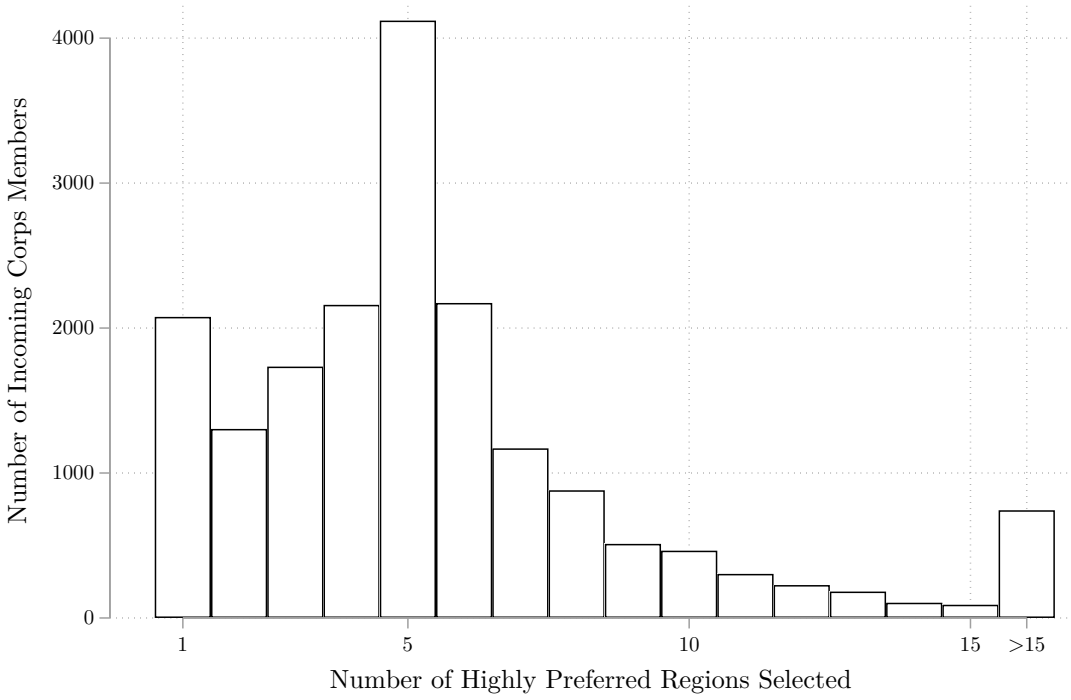

Figure 3: Distribution of Highly Preferred Regions Selected by Individuals in Sample

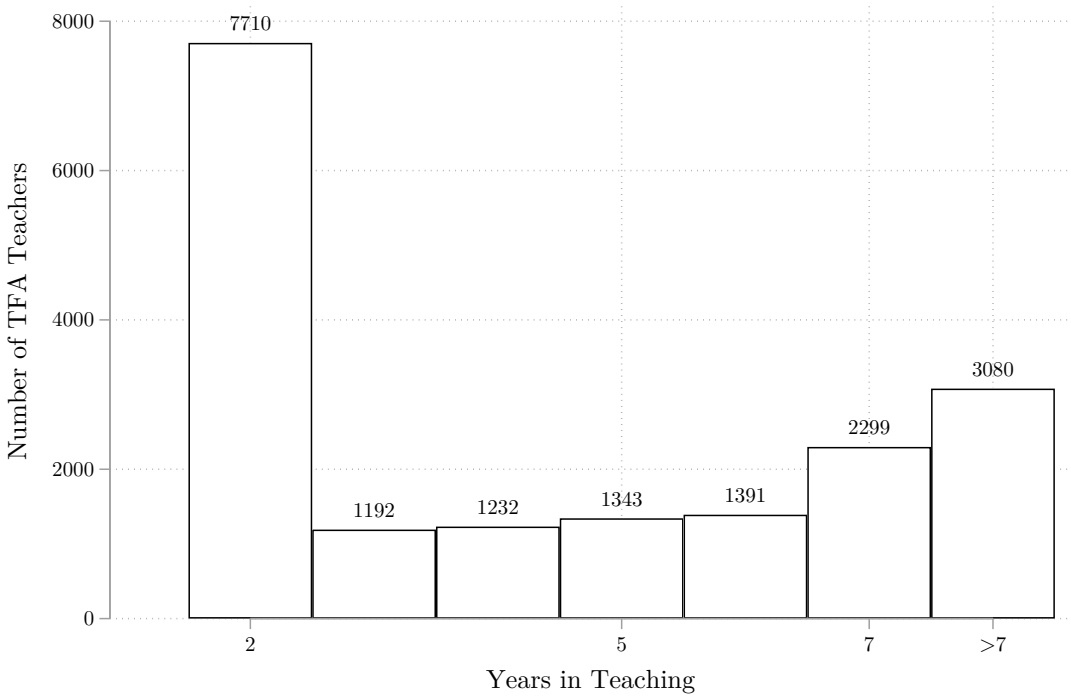

Figure 4: Distribution of Length of Time in Teaching (Capped at 7 years)

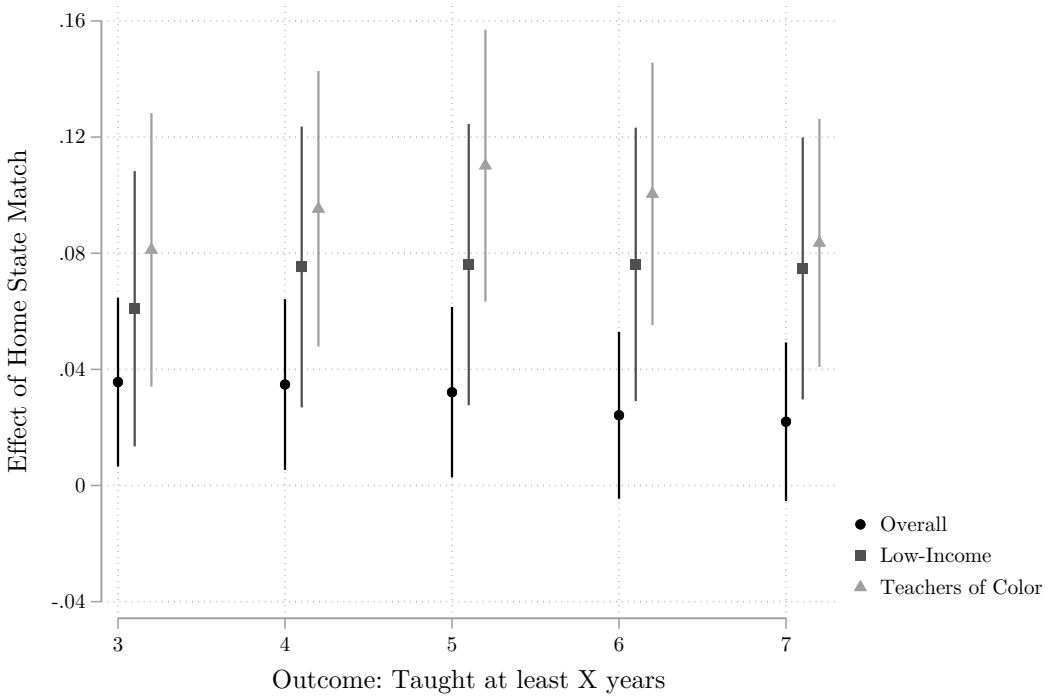

Figure 5: Likelihood of Staying an Extra Year

Appendix Tables

Table 10: Pell as Low-Income Designation

	(1) All	(2) Low-Income	(3) Non-Low-Income	(4) White	(5) Teachers of Color
Assigned Home State	0.143*	0.326**	0.0249	-0.0943	0.469***
	(0.0658)	(0.123)	(0.0837)	(0.0920)	(0.106)
Observations	15275	4397	10133	9263	5330
Individual Controls	X	X	X	X	X
Assigned Region Pref. Rank	X	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X	X
Corps Region	X	X	X	X	X

Standard errors in parentheses

Excludes all Education majors

All models use Matched Treatment Effect Fixed Effects.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11: Conservative Estimate of Years Teaching

	(1) All	(2) Low-Income	(3) Non-Low-Income	(4) White	(5) Teachers of Color
Assigned Home State	0.133*	0.296**	0.00419	-0.0721	0.424***
	(0.0611)	(0.0999)	(0.0831)	(0.0858)	(0.0969)
Observations	15275	5631	8884	9263	5330
Individual Controls	X	X	X	X	X
Assigned Region Pref. Rank	X	X	X	X	X
Corps Year, Subj., Grade	X	X	X	X	X
Corps Region	X	X	X	X	X

Standard errors in parentheses

Excludes all Education majors

All models use Matched Treatment Effect Fixed Effects.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Figures

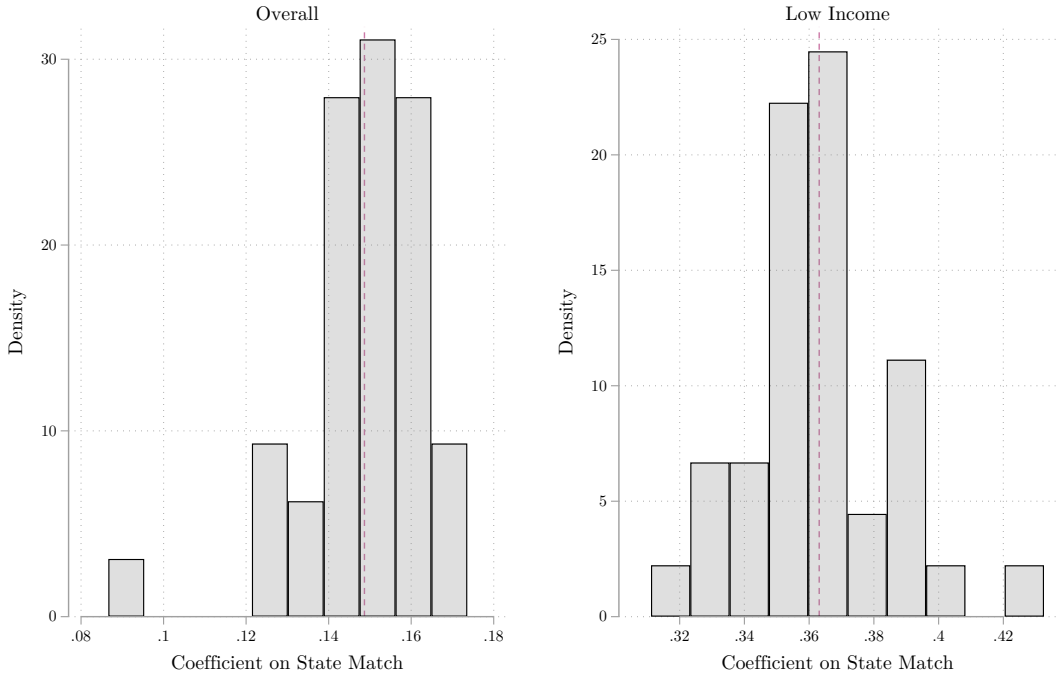

Figure 6: Distribution of Effects (Dropping Each State Once)