BROOKINGS

Report

Work-from-anywhere as a public policy: 3 findings from the Tulsa Remote program

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For decades, the geography of work in the United States has faced a seemingly intractable problem. On the one hand, agglomeration economies and the rise of large cities[1] have led to smaller towns experiencing stark brain drain. The loss of young and highly educated residents to larger cities has had severely detrimental effects to the local economy and local sense of community in smaller towns.[2] On the other hand, educated workers migrating from smaller towns to the larger urban clusters, often archetypal members of the "creative class", [3] have faced separation from their hometown communities and high cost of living in dense urban centers. As Moretti[4] documents, this has led to reduced real income for college graduates migrating to large cities. In other words, while smaller towns have lost talent with no jobs to retain them, educated workers migrating to large cities have faced high cost of living and separation from their communities. In this context, the rapid rise of flexible "work-from-anywhere" (WFA) employment arrangements, where companies allow workers to relocate and live at the locations preferred by workers (Choudhury, 2020),[5] has the potential to mitigate this problem. If indeed, WFA were to become a mainstream policy across multiple organizations, smaller towns might see a flow of workers who are able to work remotely migrating from larger cities.[6] Workers migrating to cheaper locations might experience gains in real income and might also experience a stronger connection to their new communities. Sensing this, several localities across the country have rolled out programs to attract remote workers. Examples include Ascend WV in West Virginia, Remote Tucson in Arizona, and Tulsa Remote in Oklahoma.

However, evidence about the potential effectiveness of these program remains scant. To support organizations and governments interested in promoting WFA as a public policy, we examined how Oklahoma's Tulsa Remote program, sponsored by the George Kaiser Family Foundation, affected participants' adherence to the local community, social engagement, and income. To study these issues, we designed and deployed a survey targeting members of the Tulsa Remote program ("Tulsa Remoters"), individuals whose application to the program was not successful, and "near-

members" of Tulsa Remote— individuals who were accepted into the Tulsa Remote program but did not join the program for idiosyncratic reasons or individuals who were accepted into the program and that will soon join the program.

Comparing Tulsa Remoters before versus after they joined the program to "near-Tulsa Remoters" over the same period, we document three findings that are relevant for federal state and local governments considering adopting WFA policies like Tulsa Remote. We find that, relative to "near-Tulsa Remoters," workers who relocate with Tulsa Remote:

1. have a higher chance of staying in their new communities in the mid-to-long-term.
2. have higher pro-social engagement in the community.
3. and have higher real income growth without a (perceived) drop in productivity.

THE TULSA REMOTE PROGRAM

The Tulsa Remote program started in 2018, and its core activity is the attraction of talented individuals to Tulsa (Oklahoma) via providing a financial incentive of $10,000 for remote workers to relocate to the city for at least one year.

Despite its recentness, the origin of Tulsa Remote dates to the late 1990s, when the George Kaiser Family Foundation (GKFF)—a foundation located in the city of Tulsa whose mission is to disrupt the "intergenerational cycle of poverty in Tulsa"—started investing in several initiatives to support local socioeconomic development. Several of these initiatives aimed at attracting talent to Tulsa, as well as fostering new businesses and economic opportunities for current residents.

However, the foundation faced problems associated with: (1) the absence of enough job opportunities for talented workers to move to Tulsa, and (2) a below average number of knowledge-intensive firms and below average share of college graduates. With these challenges as a backdrop, the GKFF began to consider a different type of worker—one that could work from anywhere and bring their job with them when they moved to Tulsa.

Based on the latest information collected by the U.S. Census, Tulsa is a city with a population of 411,401 individuals, a median household income of $49,474 (in 2020 dollars), per capita income of $31,753 (in 2020 dollars). In 2020, Tulsa registered 31.3% of persons aged 25 years or older as having a bachelor's degree or higher.[7] As a basis of comparison, these figures are similar to those of Tucson city (Arizona), which, as mentioned previously, has its own program to attract remote

workers.[8] In comparison, New York City (New York) has a median household income of $67,046 (in 2020 dollars), per capita income of $41,625 (in 2020 dollars), and 39.1% of the population aged 25 years or older has a bachelor's degree.

Inspired by other initiatives to encourage remote workers to relocate,[9] in 2018, the GKFF conceptualized and started implementing the "Tulsa Remote" program. The program provided a $10,000 incentive for remote workers to move to Tulsa, conditional on them staying at least one year in the city.[10] Moreover, a key aspect of Tulsa Remote is to offer a free of charge bundle of services to support the participants' integration to the local community. These services included identification of volunteer opportunities, community organizations, and interesting local businesses, as well as connecting participants to existing community networks, and even hosting events with key community institutions.

By June 2021, Tulsa Remote had received over 20,000 applications when combining their first two recruitment waves (2019 and 2020), invited close to 2,700 applicants to move to Tulsa, and ultimately relocated 763 remote workers.[11]

THE STUDY: SURVEY OF "TULSA REMOTERS" AND BENCHMARK GROUPS

Survey design and deployment

Our team partnered with Tulsa Remote to design and deploy a survey about the economic and social implications of their program. The purpose of the partnership was to assess how participation in the program affected the work and life conditions, behaviors, and preferences of "Tulsa Remoters", i.e., individuals that moved to Tulsa via the Tulsa Remote program.

The survey instrument asked respondents to compare their current selves (as of June 2021) to themselves three years prior (June 2018, a date before the first cohort of the Tulsa Remote program moved to Tulsa) on topics such as:

- Location of residence
- Expectations about moving from where they are/were living
- Income and perceived productivity
- Engagement in pro-social activities (e.g., volunteering, sponsoring local businesses)
- Perceived change in preferences about characteristics of place of residence and jobs

- Basic demographic variables such as race, gender, and educational background

As in all program evaluations, a key challenge to identifying the causal effects of the program is to understand what would have happened to the participating individuals if they had not participated in Tulsa Remote. The question is which group might represent this unobserved counterfactual. Since those who applied to Tulsa Remote are likely different than those who did not apply—because, e.g., those who chose to apply were at least likely already considering a move—we focus our attention on two comparison groups, both of whom applied to Tulsa Remote: those who were not accepted into the program, and those who were accepted but have yet to come (either because they ultimately decided not to move at that point in time or because they have already scheduled their move to Tulsa and were yet to move). If the reasons for rejection from the program or the reasons for delayed entry/non-participation are exogenous to the outcomes we study (e.g., COVID-19 restrictions that made moving across states harder), then these comparisons better reflect the counterfactual of interest. Since those who were rejected are likely to be different from those who were accepted but who have not yet joined the program, we leverage both comparisons in our empirical work below.

Sample

Using the mailing list of all 2019 and 2020 applicants to the Tulsa Remote program, Tulsa Remote invited former Tulsa Remote applicants (current and previous Tulsa Remoters, previously accepted participants that have yet to participate, and rejected applicants) via email to respond to the survey. Participation was incentivized via a lottery of Amazon vouchers for non-Tulsa Remoters and a lottery of local perks and experiences (e.g., tickets to prestigious events in Tulsa) for Tulsa Remoters. Participation on the lottery was contingent on survey completion.

In total, 1243 individuals responded to our survey, of which 411 were Tulsa Remoters (response rate of 53.9%) and 832 were non-Tulsa Remoters: 417 being accepted applicants that have yet to participate ("near" Tulsa Remoters, response rate of 21.8%), and 415 being rejected applicants (response rate of 1.4%).

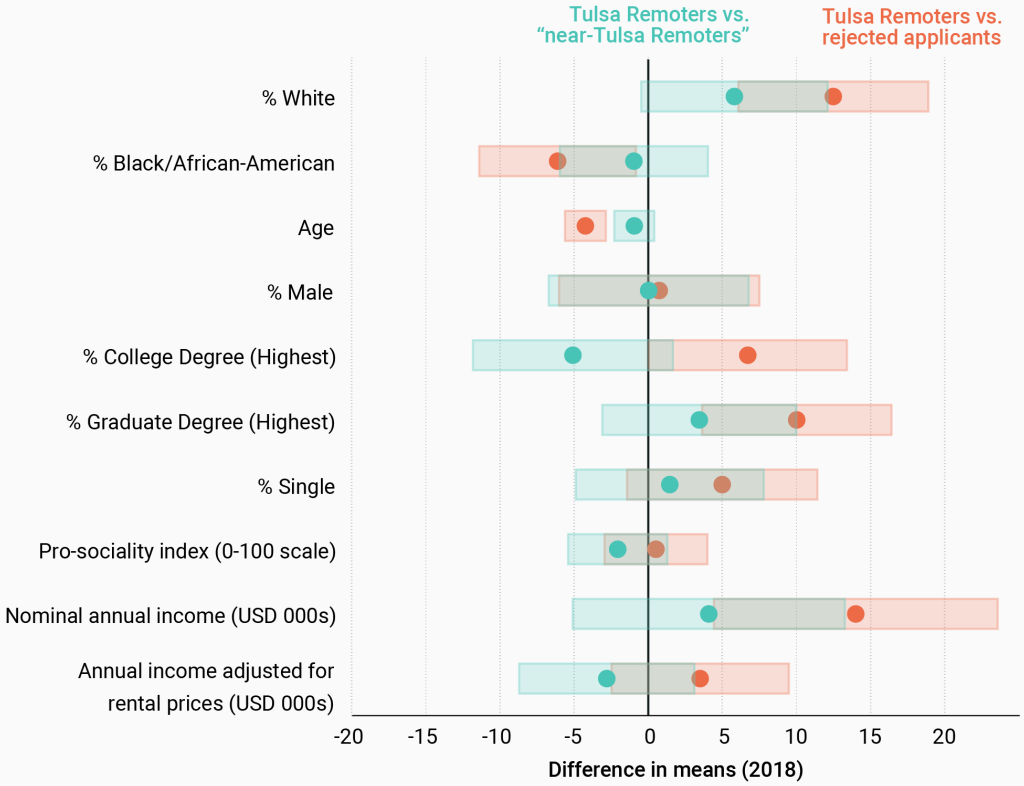
Figure 1 summarizes differences in covariates between the Tulsa Remoters, those who were rejected, and those were accepted but have not yet moved. In general, Tulsa Remoters were more similar to those who were accepted into the program but have not yet moved than to those who were rejected from the Tulsa Remote program. Relative to those who were rejected, Tulsa Remoters (within our sample) were more educated, younger, more likely to be white, and were earning higher nominal annual income—although the difference in baseline income was not

statistically significant once we adjusted nominal income by rental prices. In contrast, Tulsa Remoters and accepted applicants that had not moved were not statistically different in any of the baseline variables or socioeconomic characteristics. Because these groups are relatively balanced in terms of baseline characteristics, such characteristics cannot bias estimates of mean differences across these groups in terms of outcomes of interest. Nevertheless, we also control for these baseline covariates in our results reported below.

FIGURE 1

Tulsa Remoters more similar to "near-Tulsa Remoters" than to rejected applicants

Difference in 2018 baseline characteristics of Tulsa Remoters vs. accepted applicants that have not moved ("near-Tulsa Remoters") and Tulsa Remoters vs. rejected applicants



Note: Dots represent the difference in means (from a t-test model) between Tulsa Remoters and the group indicated in the legend, while bars represent 95% confidence intervals.

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In the next section, we report the three key lessons learned about the potential implications of Tulsa Remote to individuals engaging in the program.

RESULTS: THREE KEY FINDINGS FROM THE TULSA REMOTE PROGRAM

Finding #1: Workers who relocate with Tulsa Remote reported a higher chance of staying in their new communities in the mid-to-long-term relative to "near-Tulsa Remoters."

The potential for WFA as a public policy to reverse the hollowing out of Middle America depends crucially on whether workers who relocate plan to stay. It's possible that workers are only interested in the financial incentives provided by these programs, such that after satisfying any minimum-stay requirements those workers move away. It's also possible that workers that move become embedded in the community, contributing to long-term increases in its social and economic prosperity.

To address this question, we asked all respondents to rate how likely they believe they are to continue residing in the city where they lived one year in the future (2022), five years in the future (2026), and 10 years in the future (2031).

Figure 2 provides a summary of the responses and shows the difference between Tulsa Remoters and "near" Tulsa Remoters in terms of their preferences for staying in the same city where they live in the short and in the long-run.[12] To mitigate biases arising from Tulsa Remoters having "just moved" to a new city, we also use the sample of "recent movers" in the benchmark groups. Specifically, we only use data for respondents who reported living in an area in 2021 that had a different zip code than the area they resided in 2018.

WFA public policies may lead to a longer-term attachment of workers to new regions

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In the short-term and only considering individuals who moved between 2018 and 2021, 77% of Tulsa Remoters believed they were more likely to stay in Tulsa within the next year, compared to 52% of "near" Tulsa Remoters and 55% for rejected applicants. This short-term difference suggests

that the requirements for Tulsa Remoters to stay in Tulsa for a year to receive the full financial benefit is successful (as suggested by the fact that approximately 95% of those who join Tulsa Remote complete the program).

More important, however, is that 54% of Tulsa Remoters expected to be in Tulsa for at least 5 years, and 37% for at least 10 years. In contrast, just 35% and 30% of near-Tulsa Remoters expected to stay for at least 5 and 10 years, and the numbers were even lower for those rejected from the program (34% and 25%, respectively). Moreover, while the proportion of those who were "neutral" about staying in the same city was fairly stable for non-Tulsa Remoters, Tulsa Remoters exhibited an increasing neutrality to moving from their city when moving from assessments about the near future (2% neutral for a one-year prospect) to those about the long-term (20% neutral for a 10-year prospect).

Taken together, these results underly our first finding that WFA public policies may lead to a longer-term attachment of workers to new regions—and not only to a short-term reallocation associated with the one-year financial incentive to move.[13]

Finding #2: Workers who relocate with Tulsa Remote had higher pro-social engagement in the community, relative to "near-Tulsa Remoters."

Part of the reason that WFA public policies may retain reallocated workers is because they can increase worker engagement with the local community. By facilitating access to local organizations – both to support professional networking but also to facilitate the creation of ties between remote workers and the local population – relocating workers to less dense areas can change how they use any additional free time. Such policies may also increase local engagement during the COVID-19 pandemic because the reduced population density also reduces the likelihood that the virus is transmitted within the community.

We addressed how WFA policies relate to worker engagement in pro-social activities, such as volunteering, participation in local organizations, and sponsoring local businesses, among others. We asked respondents to mark which of nine "pro-social" activities they used to engage in on monthly basis in 2018 and which of these activities they engaged in monthly in 2021.[14] Using participants' responses, we created a summary 0-100-point index to estimate if and how the Tulsa Remoters' engagement in pro-social activities following their participation in Tulsa Remote was different than that of "near-Tulsa Remoters".[15]

Figure 3 compares the evolution of this pro-sociality index for Tulsa Remoters and non-Tulsa Remoters, controlling for baseline covariates.

The graph shows that even amidst a pandemic where individuals had incentives to seclude themselves from pro-social activities (even if in open space), Tulsa Remoters effectively experienced an increase of 1.6 percentage points in the pro-sociality index (a 3.6% increase). Meanwhile, both groups of non-Tulsa Remoters experienced a decrease in their pro-sociality (-11.7% for accepted applicants that have not yet moved and -9% for rejected applicants). Such increase was driven by Tulsa Remoters having a higher probability of engaging in volunteering (+21.9 percentage points), of participating in local organizations (+17.5 percentage points), of patronizing small and/or local establishments (+8.7 percentage points), and of engaging in personal conversations about discrimination (+8.9 percentage points).

Finding #3: Workers who relocate with Tulsa Remote had higher real income growth without a (perceived) drop in productivity, relative to "near-Tulsa Remoters."

Finally, one of the main potential benefits for workers of WFA policies—and a key reason they are likely to stay—is to increase individual purchasing power by moving from dense and expensive metropolitan areas towards more affordable cities. However, some workers could also suffer wage losses following the move if they become less productive as a result (because, e.g., they are further away from the company's headquarter).

Tulsa Remoters had an increase in their real income that was $26.5k/year larger than that of accepted applicants that have yet to move

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To understand how Tulsa Remoters fared in terms of their nominal and real income, our team collected data on respondents' nominal annual income. We created a measure of real annual income that adjusts income to account for differences in the cost of living across different locations using data on zip codes where the workers lived in 2018 and 2021.[16] Furthermore, to address whether Tulsa Remoters may have become less productive once they moved to Tulsa, we asked respondents to reflect and answer the following questions (using a 7-point scale) "*Compared to three years ago, how has your…*":

- "*… Ability to focus on day-to-day work activities changed?*"
- "*… Ability to complete your day-to-day work activities changed?*"
- "*… Productivity in your day-to-day work activities changed?*"

Figure 4 presents the comparison between 2018 to 2021 changes in nominal income and real income across Tulsa Remoters, rejected applicants, and accepted applicants that have yet to move to Tulsa, controlling for baseline covariates.

In terms of nominal income, Tulsa Remoters experienced a higher increase when compared to rejected applicants (+$ 12.7k/year) but not with applicants that Tulsa Remote effectively invited to move to Tulsa but that did not or have yet to move (-$2.4k/year). We interpret these results as reflecting a Tulsa Remote's selection process, which screens applicants based on their expected ability and prospects—whether they moved to Tulsa or not.

In terms of real income (based on rental price differences across zip codes), however, the second graph shows that Tulsa Remoters had an increase in their real income that was $26.5k/year larger than that of accepted applicants that have yet to move, even though these groups had similar 2018 income.

Finally, Figure 5 shows that Tulsa Remoters also did not report experiencing a drop in (self-reported) productivity that was any different from either of the comparison groups, a perception also supported by there being no negative difference in nominal wage change.

These last results lead to the third finding about how a program to promote WFA as a public policy can affect its participants: Not only can participants enjoy an increase in real income, but they also may not incur productivity losses.

Conclusion

Our analysis of the Tulsa Remote program provides preliminary evidence that recent work-from-anywhere public policies may help reverse ongoing brain drain to large cities while increasing real worker income and their connection to the local community. These results suggest that local governments interested in bringing in high-skilled talent might consider policy approaches like Tulsa Remote, which combines a financial incentive for highly educated knowledge workers to move to Tulsa with a set of ancillary activities which support their engagement with the local community. A key limitation of our analysis is that we are studying a bundle of fixed services in a single city; as a result, we are unable to distinguish features of the Tulsa Remote program or the city itself to ascertain which are the most effective.

Work-From-Anywhere public policies may help reverse ongoing brain drain to large cities while increasing real worker income and their connection to the local community.

This research connects to the broader stream of literature focused on "place-based policies."[17] Given a future in which remote work looks increasingly likely to stick around,[18] we hope this analysis inspires other researchers to evaluate the effectiveness of WFA public policies in terms of their economic and social benefits to workers but also extend the study of potential impacts on local communities and organizations.

Footnotes

1. 1 Edward L. Glaeser, *Triumph of the City* (London: Pan Books, 2012).
2. 2 Patrick J. Carr and Maria Kefalas, *Hollowing Out the Middle: The Rural Brain Drain and What It Means for America* (Boston, Mass: Beacon Press, 2011).
3. 3 Richard L. Florida, *Cities and the Creative Class* (New York: Routledge, 2005).
4. 4 Enrico Moretti, "Local Multipliers," *American Economic Review* 100, no. 2 (May 1, 2010): 373–77, https://doi.org/10.1257/aer.100.2.373.
5. 5 Choudhury, P. (2020). "Our work-from-anywhere future." *Harvard Business Review,* 98 (6).
6. 6 Arjun Ramani and Nicholas Bloom, "The Donut Effect of Covid-19 on Cities" (working paper, National Bureau of Economic Research, Cambridge, MA, May 2021), https://doi.org/10.3386/w28876.
7. 7 United States Census Bureau, "QuickFacts: New York City, New York; Tucson City, Arizona; Tulsa City, Oklahoma," accessed June 1, 2021, https://www.census.gov/quickfacts/fact/table/newyorkcitynewyork,tucsoncityarizona,tulsacityoklahoma/BZA210220.
8. 8 The latest numbers for Tucson city (Arizona) are: population of 543,242 individual; median household income of $45,227 (in 2020 dollars); per capita income of $24,468 (in 2020 dollars), and 28.2% of persons aged 25 years or older had a bachelor's degree or higher.
9. 9 "Worker Relocation Grant Program," Agency of Commerce and Community Development, State of Vermont, accessed August 23, 2022, https://accd.vermont.gov/economic-development/newrelocatingworkergrant; "Hawaii's 'Movers and Shakas,'" accessed August 1, 2021, https://www.moversandshakas.org/; "Work and Travel Abroad Programs for Professionals," Remote Year, accessed May 1, 2020, https://www.remoteyear.com.
10. 10 "Tulsa Remote, Frequently Asked Questions," accessed September 7, 2022, https://tulsaremote.com/faq/
11. 11 This information is based on Tulsa Remote's proprietary data. As of September 2022, Tulsa Remote already had over 1,600 members, as advertised on their public website (https://tulsaremote.com/, accessed September 7, 2022)
12. 12 For simplicity, Figure 2 reports mean responses across the different group of respondents. In the full version of the manuscript, which is under development, the authors will report analyses showing the statistical significance of the differences in response patterns across the groups. For all other analyses that follow, the figures contain 95% confidence intervals.
13. 13 The differences between groups reported in Figure 2 are aligned with other statistical tests for differences in ordinal outcomes not reported here for ease of exposition.
14. 14 The list of activities were: volunteering, local charity giving, leadership of private/public organizations, participation in local organizations, patronize a small or locally owned establishment, personal conversations about discrimination/inclusion, virtual/social media social activism, in-person social activism, and active participation in organizations associated to social activism.
15. 15 Our team used item-response theory to compute an index with mean 0 and standard deviation of one, followed by a normalization where the maximum value took value 100 and the minimum value assumed value 0.

16. 16 The transformation of nominal income to real income uses a denominator that considers the 2018 average rent of a 2-bedroom apartment in Tulsa as base 1 and all other prices as multiples of this value. For instance: if an individual reported an annual income of US$100,000 in 2018 and was living in an area whose average rental was 2x higher than the mean rent in Tulsa, we divided their nominal income by 2 to reach an adjusted income of US$50,000.
17. 17 Patrick Kline and Enrico Moretti, "Place Based Policies with Unemployment," *American Economic Review* 103, no. 3 (May 1, 2013): 238–43, https://doi.org/10.1257/aer.103.3.238; Benjamin Austin, Edward Glaeser, and Lawrence Summers, "Jobs for the Heartland: Place-Based Policies in 21st Century America" (working paper, National Bureau of Economic Research, Cambridge, MA, April 2018), https://doi.org/10.3386/w24548; Eric Chyn and Lawrence F. Katz, "Neighborhoods Matter: Assessing the Evidence for Place Effects," *Journal of Economic Perspectives* 35, no. 4 (November 1, 2021): 197–222, https://doi.org/10.1257/jep.35.4.197.
18. 18 Jose Maria Barrero, Nicholas Bloom, and Steven Davis, "Why Working from Home Will Stick" (working paper, National Bureau of Economic Research, Cambridge, MA, April 2021), https://doi.org/10.3386/w28731.