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# PERCSPECTIVES ON RESEARCH

## INTER-JURISDICTION MIGRATION AND THE FISCAL POLICIES OF LOCAL GOVERNMENTS

The relationship between migration and the economy is of great interest to researchers. One particular area of study is where migration and local government fiscal policy intersect. Where residents have the ultimate choice where to live, will they move to a jurisdiction with lower taxes, or be tempted to stay by nicer amenities? In order to attract immigrants or maintain current residents, how will local governments choose to spend, and how will they choose to finance their spending?

Most of the existing research that studies the effects of migration on the fiscal policies of local governments focuses on tax/debt-driven migration that is endogenously determined. In reality, people may change residence locations for reasons other than tax/debt considerations. For example, people may move to a new location for marriage, a better job opportunity, a hobby or schooling.

In PERC working paper 1901, Dennis W. Jansen, PERC's director, and PERC Research Scientist Liqun Liu, along with co-author Darong Dai (TAMU Ph.D. 2018; Assistant Professor of Economics at the Institute for Advanced Research at Shanghai University of Finance and Economics) analyze the effects of non-tax/debt-driven migration on the fiscal policies of local governments.

They initially focus on a two-period model of two identical local governments that are connected by mutual migration. Local fiscal policies are determined by each jurisdiction's residents in the first period, and the residents in each jurisdiction face a probability of migrating to the other jurisdiction between the two periods. The residents in a jurisdiction have a tendency to run up excessive debt because, once moving to the other jurisdiction, they are no longer responsible for the debt repayment in their original jurisdiction. In this aspect, the analysis is closely related to previous research that has examined the debt-increasing effect of migration.

However, this PERC working paper goes beyond earlier analyses by making a distinction between government spending on public consumption, or short-term goods that directly benefit current residents, and government spending on public investments, or long-term goods that primarily benefit residents in the future.

Since there lies the possibility of migrating to another jurisdiction later in life, and as a result, not being able to benefit from public investment in one's original jurisdiction, the initial residents in a jurisdiction view public investment as less valuable than public consumption. Therefore, spending on public consumption and spending on public investment are viewed separately by each jurisdiction's residents in their first-period decision on the size and composition of the total local government spending, as well as whether the spending should be financed by debt or contemporary taxation.

Making a distinction between these two types of government spending provides new, clear-cut theoretical findings. There are two main results. First, as the level of migration increases, both spending on public consumption and total spending increase,

"In response to a heightened probability of migration, public investment actually decreases exactly when the total government spending increases."

whereas spending on public investment decreases. Spending in the first period is 100% financed by government borrowing. The implication is that increased human mobility is another reason for excessive government debt. Second, the situation just described is inefficient, and the first-best allocation – the efficient solution – can be obtained by imposing the restriction that public consumption should be exclusively financed with contemporary taxation, while public investment is allowed to be financed with debt. This result provides a theoretical justification for various national governments imposing debt limits on local governments.

In the real world, and especially when the jurisdictions are countries rather than subnational

regions within a country, migration is often one-directional, where one of the two linked jurisdictions is the migration destination (e.g., the U.S., Australia or Canada) and the other is the migration origin (e.g., Puerto Rico, Mexico, China or India).

The authors also consider one-directional migration and obtain results on how migration affects the fiscal policies of both the jurisdiction of migration destination and the jurisdiction of migration origin. Results here are similar to those obtained in the model with mutual migration, and the effect of this migration, or possibility of migration, on the originating location critically depend on how responsive the fiscal policies of the migration destination are to migration.




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## AM I THE BIG FISH? THE EFFECTS OF ORDINAL RANK ON STUDENT ACADEMIC PERFORMANCE IN MIDDLE SCHOOL

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Every person wants to believe that through perseverance and hard work, one can achieve his or her dreams. For those who reach the top, it may be the stepping stone to bigger and better things, or will the top performer just stay a big fish in a little pond? In academia, there is already a great amount of literature that studies the link between relative achievement and individual outcomes. In the classroom setting, however, evidence on how the relative achievement of students affects educational outcomes, like future test scores, is rare.

Of the handful of papers on educational relative

achievement, the focus of most prior research hinges on how a student's academic class rank among his/her peers affects that student's future test scores, studying habits, and behavior.

These prior studies show that academic class rank has a positive effect on future student achievement: a higher rank among peers in elementary school leads to higher test scores in middle school. Also, if an elementary school student had a higher rank in a particular subject, they were more likely to study that subject in high school and in college. Students who were top of the class had a greater probability

“...In comparison to the ordinal [academic] class rank, the self-perceived rank is a dominant determinant of students future test scores through various channels.”

of graduating high school and attending college. Indeed, high-ranking high schoolers were also shown to smoke, drink, and get into fights less than their low-ranking peers. Although these studies give insight into relative achievement in schools, results were limited to industrialized countries and subject to sorting effects caused by school choice.

In working paper 1811, PERC Postdoctoral Associate Han Yu adds to this previous research by providing the first evidence from a developing country by studying the effects of academic class rank for 7<sup>th</sup> and 8<sup>th</sup> grade students from China.

This paper also breaks new ground by providing the first direct evidence on the relationship between objective academic class rank and the rank perceived by students, as well as the impact of self-perceived rank on a student’s future academic attainments. Various mechanisms are also investigated, such as self-confidence, interaction with peers and teachers, as well as parental expectations.

The analyses implemented in the study were completed using survey data for specific class subjects obtained from the China Educational Panel Survey, the first and largest nationally representative longitudinal survey of middle school students in China. To mitigate sorting issues caused by higher achieving students choosing to enroll in better quality schools, only students who were randomly assigned to a classroom and who stayed in that class for two consecutive years were used in the sample.

Beyond solely looking at what effects class rank has on future academic performance, the analysis also delves into other mechanisms surrounding a student’s academic rank. These include student self-

confidence and self-expectations, expectations of parents and their investments of time and money, inputs from fellow classmates and teachers, the impact of friends and the quality of friends, as well as measuring a student’s own study efforts and leisure time. Of these, a student’s own perceptions of his or her academic rank among classmates is especially important if those intrinsic beliefs influence his or her future academic success.

For class rank effects on future academic achievements, findings show that academic class rank has a significant and positive impact on middle school students’ future test scores in math, Chinese and English. The effects also differ by student class rank, gender, and class size. For instance, math scores for female students are considerably more affected by their academic class rank than for male students. The effect of class rank on test scores was also generally larger for those in a bigger class.

The results from the various internal and external mechanisms suggest that perceiving a higher rank raises a student’s confidence in studying, as well as expectations of his/her own educational and occupational achievement in the future. A student with a higher perceived rank also receives more support from parents, teachers, and classmates. Results also show that students with a higher rank are more likely to be friends with higher quality peers. In addition, students who believe that they are among the worst students significantly reduce their study efforts and increase their time spent on entertainment.

These findings imply that tracking student academic rank would hurt lower-ranking students, but benefit high-ranking students. This would further widen the educational inequality gap and could lead to an increase in the segregation of lower-achieving students from their higher-achieving peers. Lower-ranking students would also be negatively affected in various other aspects, including motivation, self-concept and self-expectations, support from family and teachers, etc., and eventually educational achievement.

As a result, these findings are against student tracking, which would reveal substantial information on students’ relative academic achievement and performance. It remains, however, for future studies to investigate what causes students to form different perceptions on their ranks based on their true class rank and GPA.



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