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# Distance and intrastate college student migration

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ABSTRACT

Most studies of student migration focus on *interstate* migration of college students, largely because the aggregate data typically used are limited in geographic specificity to states. However, interstate migration is only a small part of the total student migration. Public institutions generally get most of their students from within their state; for example, 88 percent of first-time freshmen who enrolled in University System of Georgia institutions in 2002 graduated from Georgia schools. Such *intrastate* migration is seldom considered. This paper examines intrastate college student migration, using data for Georgia. Aside from such traditional measures of benefits and costs like tuition, financial aid, and school quality, a crucial explanatory variable in our analysis is the distance from a student's home to the different Georgia state institutions. Our empirical results indicate that student intrastate migration is strongly discouraged by greater distance, but with effects that differ across types of higher education institutions.



## 1. Introduction

Pursuing higher education involves a significant migration decision by students, and most studies of student migration focus on *interstate* migration of college students (e.g., out-migration, in-migration, net migration), largely because the aggregate data that are typically used in these studies are limited in geographic specificity to states. However, interstate migration is only a small part of the total student migration that actually occurs. Public institutions generally get most of their students from within their state; for example, 88 percent of first-time freshmen who enrolled in University System of Georgia (USG) institutions in 2002 graduated from Georgia schools (*Information Digest*, 2002–2003), and many other states exhibit a similar pattern. Such *intrastate* migration is seldom considered. This paper examines intrastate student migration using data for the USG, a statewide system of universities and colleges that includes all public institutions of higher education in Georgia except for technical colleges. Aside from such traditional measures of benefits and costs like tuition, financial aid, and school quality, a crucial explanatory variable in our analysis is the distance from a student's home to the different Georgia state institutions. Our empirical results indicate that student intrastate migration is strongly discouraged by greater distance, but with effects that differ across types of higher education institutions.

Indeed, evidence on USG enrollment rates by school district indicates that distance may in fact affect enrollments in USG institutions. Fig. 1 provides a map of Georgia public school districts and the 33 institutions of the USG. School districts are shaded according to their USG enrollment rate, defined as the number of first-time freshmen enrolling in any institution of the USG divided by the number of high school graduates; location of a USG institution is indicated by an open circle. The shading in Fig. 1 suggests that school districts that contain or are near a USG institution generally have a higher USG enrollment rate. However, this evidence is only suggestive, and more systematic analysis is necessary.

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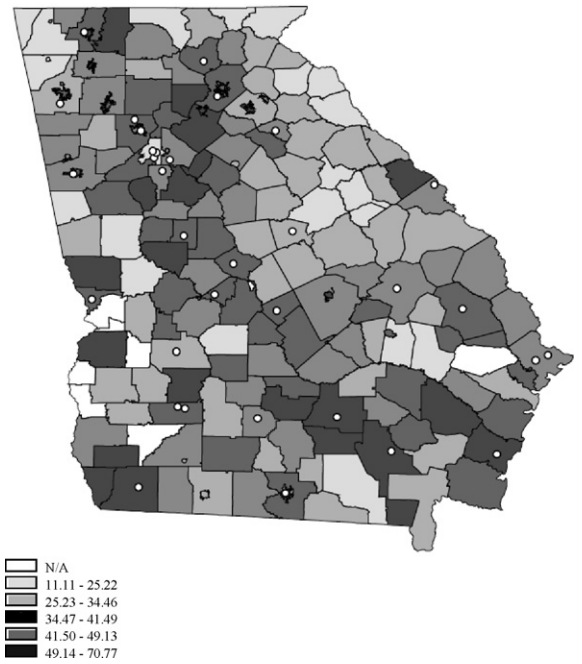


**Fig. 1.** Map of member institutions of the University System of Georgia and Georgia public school districts shaded by participation rates. *Notes*: School districts are shaded according to their USG enrollment rate, defined as the number of first-time freshmen enrolling in any institution of the USG divided by the number of high school graduates. USG institutions are indicated by open circles. The black random shapes around some open circles represent the boundaries for independent city school districts. (Most school districts are coterminous with county boundaries, but a few counties have independent city school districts within them.) Source: constructed by the authors based on data from the USG and the CCD.

In-state students face two, sequential migration decisions, both of which seem likely to be affected by distance. First, a student must decide whether to pursue any type of higher education. Second, conditional upon deciding to pursue postsecondary education, the student must decide which institution to attend. If there is no postsecondary institution near a student's home, then pursuing higher education necessarily involves moving to a new place or commuting long distances; even when there are higher education options near the student's home, the student still has to decide if the best choice is a nearby institution or one further away. If the student chooses an institution in his or her home state, the institution may still be as far away as two or three hundred miles in an average size state.

In this paper we examine these intrastate migration decisions for first-time freshmen who graduate from Georgia public high schools and attend a USG institution. Georgia public high school graduates account for 81 percent of first-time freshmen enrolled in the USG in 2002 (*Information Digest*, 2002–2003).[1] We are interested in two related questions. First, what factors affect a student's probability of enrolling in a USG institution? Second, conditional upon enrollment in a USG institution, what factors affect a student's choice among USG institutions? In both cases, an important variable is the distance to the nearest USG institution, and, along the lines of gravity models of international trade (e.g., Bergstrand, 1985), we hypothesize that the likelihood of attendance decreases as the distance to the nearest USG institution increases. It seems likely that individuals are more likely to enroll at all when they live closer to an institution, and also that they are more likely to enroll in institutions that are located closer to their home.[2]

We estimate the elasticity of higher education attendance with respect to distance from home to college, using a basic gravity model approach. We find that the overall probability of attending any USG institution is decreasing with the distance to the nearest USG college, with an enrollment-distance elasticity of −0.12. We also estimate the distance elasticity for enrollment in individual institutions separately for each institution, and we find that demand for more prestigious institutions is less elastic with respect to distance than less prestigious institutions.

In the next section we discuss previous research on student migration. We then present in Section 3 our approach and our data. In Section 4 we present our estimation results, and we conclude in Section 5.

## 2. Previous work on student migration[3]

Much of the literature on student migration focuses on the role of tuition and financial aid policies in the student migration process, and most of this work focuses upon *interstate* student migration. For example, using data on U.S. states Tuckman (1970) finds that higher average tuition and fees in a state increase out-migration from the state, while levels of financial aid do not affect out-migration; Mixon (1992a, 1992b) also estimates that higher in-state tuition repels students from their home state. In general, most other studies conclude that student enrollment responds in predictable ways to changes in tuition and financial aid policies.[4] However, there are exceptions. Baryla and Dotterweich (2001) find that higher tuition increases the percentage of non-resident students in the U.S. South and West.[5] Other variables that have been examined include regional amenities such as climate and participation in NCAA athletics (Mixon, 1992a; Mixon & Hsing, 1994a, 1994b). Mixon and Hsing (1994a, 1994b) also

[1] Graduates of Georgia private high schools account for an additional seven percent.

[2] Distance might also affect student retention and degree completion. If the "costs" of attendance continue to be higher for students from further away, we might expect distance to have a negative effect on both retention and completion. A few previous studies support this notion. Card (1995) finds that proximity to a college while in high school increases years of completed education, and other research suggests that increases in college costs in general have a negative effect on college completion (Hoxby, 2004). However, an analysis of the effects of distance on student retention and degree completion is beyond the scope of this paper.

[3] See Greenwood (1975) and Ghatak, Levine, and Price (1996) for general surveys of the migration literature.

[4] For reviews of the literature, see Leslie and Brinkman (1987), Heller (1997), and Hoxby (2004).

[5] One explanation offered by McHugh and Morgan (1984) and Baryla and Dotterweich (2001) is that tuition levels are correlated with educational quality and that the quality effect may offset the price effect.