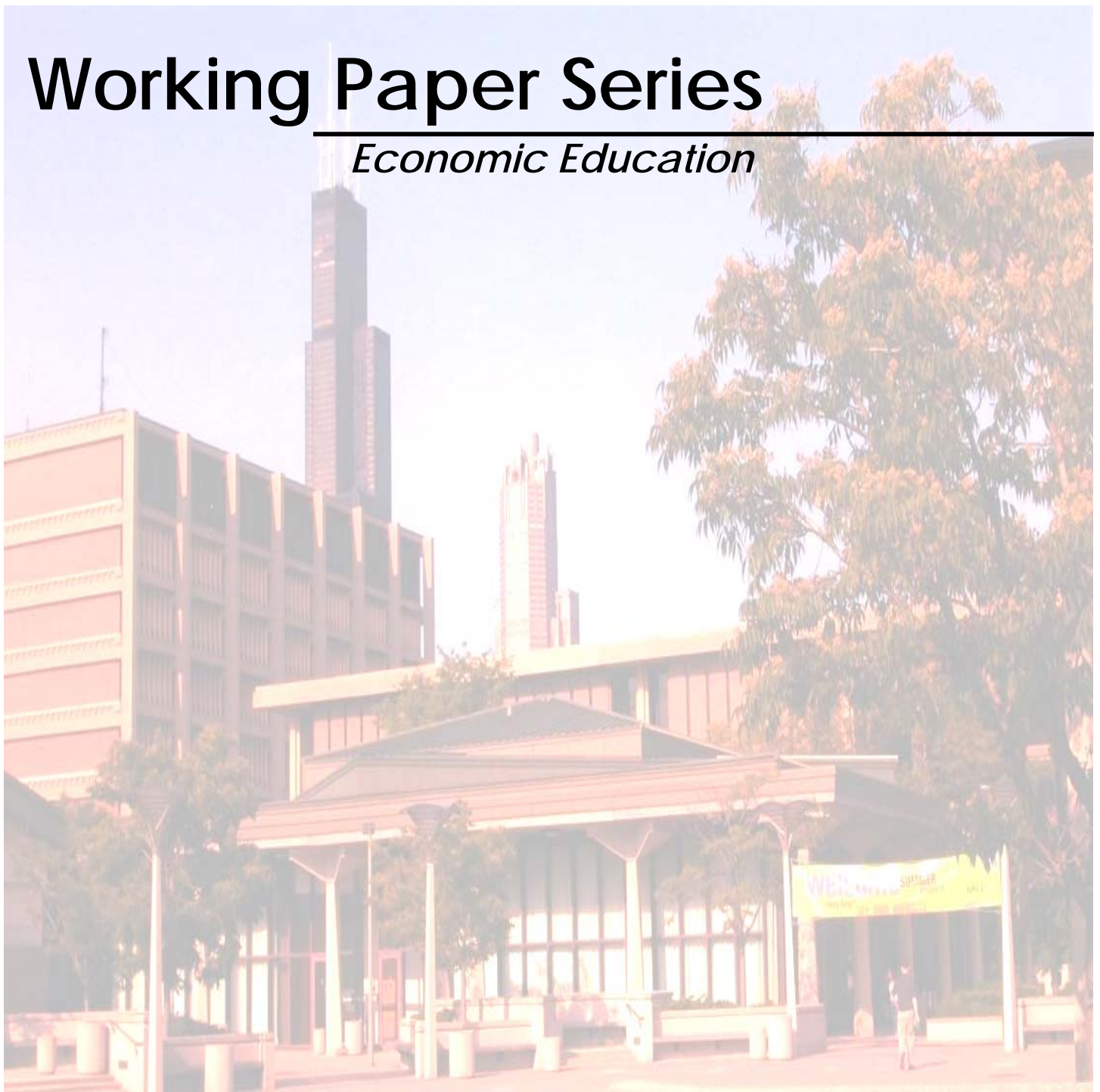


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*Economic Education*



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*The Effect of Administrative Location  
on the Number of Economics Majors*

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The Effect of Administrative Location on  
the Number of Economics Majors

by Paul Pieper

About two percent of all bachelor's graduates over the past two decades have chosen to major in economics. The percentage of students majoring in economics varies greatly by school, ranging from near zero to one-fourth of all students. This paper examines whether constraints that students face in their choice of major can partially explain the cross-sectional variation in the number of economics majors. The next section explains how the administrative location of the economics department combined with the availability of a business major might effect the rate of majoring in economics. Section II provides empirical estimates of the number of economics majoring across U.S. colleges and universities. Conclusions are presented in section III.

I. Administrative Location and the Economics Major

A key determinant of the number of economics majors is the availability of alternative majors to students. Given the close association of business and economics and the popularity of business relative to economics, the presence of a business major is likely to be particularly important determinant of the number of economics majors. We use the term "substitute business major" (SBM) to describe students who would prefer to major in business but who major in economics because a business major is not offered by their institution.<sup>1</sup> Since business

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<sup>1</sup>Students may choose to attend an institution that does not offer their preferred major because of location, cost, academic prestige or numerous other reasons. In addition, students often decide upon a major only after entering school. They may choose

majors in the U.S are nine times as numerous as economics majors, the number of SBMs is potentially very large.

Institutions with a business major may also constrain students if there is a separate admissions process for the college of business. If the business college has a higher admissions standard than the college of arts and sciences, some marginal students will be prevented from majoring in business. Many of these students may choose to major in economics because they view economics as the closest substitute to business. Salemi and Eubanks (1996) refer to such students as "discouraged business majors" (DBM). Note that DBMs are a subset of SBMs, since the admission's constraint affects only those students whose academic qualifications are between the college of arts and sciences' threshold and the business college threshold. Based on an examination of the academic records of 300 students, Salemi and Eubanks estimate that roughly thirty percent of all economics majors at the University of North Carolina are DBMs.

Finally, we use the term "pure economics major" (PEM) to describe students whose unconstrained choice of major is economics. PEMs would major in economics even if the option of majoring in business was available to them..

Table 1 summarizes the types of economics majors according to the presence of a business major and the administrative location of the economics department. The term single refers to institutions that are not subdivided into colleges. All schools without a business major will

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to remain in an institution that does not offer their preferred major because of costs involved in transferring to other schools.

have both PEMS and SBMs. An institution that has only a single college and also offers a business major will have only PEMS. All students at these institutions have the choice of majoring in business since there is only a single admissions standard.

Institutions that have a business college but which house the economics department and the economics major in the college of arts and sciences will have PEMS and DBMs. Economics departments located in the business college but which also offer a major to students in the college of arts and sciences will also have PEMS and DBMs. However DBMs will not be present at institutions that offer an economics major only to business college students. All students majoring in economics at these institutions will have met the business college admissions standards and thus have the option to major in business. However it is possible that these institutions will lose some economics majors because of the higher business college admissions standard. We term such students "discouraged economics majors" (DEM).

## II. Empirical Estimates

Table 2 shows the number of economics majors according to administrative location of the economics departments.<sup>2</sup> "Economics" majors are defined to include majors in business economics. The table includes all U.S. colleges and universities that offered a major in either economic or business economics between 1989-1991. This period was chosen because it represents the most recent peak in the number of

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<sup>2</sup> Data on the number of majors and graduates is from the National Center for Education Statistics web site. The administrative location of the economics major was gathered from the web site of each school in our sample, supplemented by direct contact with the department in cases in which the information was incomplete.

economics majors. Schools without a business major account for 22 percent of all economics majors but only eight percent of all students. Thus the raw rate of majoring in economics at these schools is nearly three times higher than average. Institutions which have a business major and which house the economics department either in a single college or in a college of arts and sciences account for 35 percent of all economics majors, which is about equal to their share of students. On the other hand, the rate of majoring in economics is below average at institutions that offer the economics major in the business college, or through both the business college and the college of arts and sciences. These institutions together account for 43 percent of all economics majors but 57 percent of all students.

Table 3 shows regression estimates of the number of economics majors by school. The dependent variable is the log of the number of economics majors. A dummy variable is introduced for each of the cells of Table 1, representing a combination of administrative location and presence of a business major. Schools with a business major and a single college form the excluded category since they are only the category with only PEMs. The difficulty with interpreting the coefficients of the dummy variables as estimates of the number of SBMs and DBMs is that institutions may differ in the types of students that they attract. For example, schools without a business major may be more likely to specialize in arts and sciences and thus attract more PEMs. The higher number of economics majors at these schools may therefore be due to self selection by students rather than the presence of substitute business majors. We at least partially control for this problem by controlling for other institutional characteristics. In particular,

admission selectivity is likely to be correlated with the degree of specialization in vocational fields (e.g. business, engineering and education) versus non-vocational fields (e.g. arts and sciences). We use Barron's index of admission selectivity, which has six categories ranging from non-competitive to most competitive. We combine the two least selective categories to form the excluded category. We also control for whether an institution is public or private.

The results in Table 3 show that the absence of a business major has a tremendous positive effect on the number of economics majors. The size of the effect ranges from 60 percent (exp .47) at colleges of arts and sciences to 203 percent at departments at single colleges. On the other hand, there are 25 percent fewer economics majors at colleges of arts and sciences with a business major than at single colleges with a business major. This is not consistent with the DBM hypothesis which suggests that arts and sciences colleges will have more majors. Schools in which the economics major is offered through the business college or in both the business college and the college of arts and sciences have the lowest number of economics majors. The former coefficient is consistent with the discouraged business major hypothesis but the latter is not. Schools which offer majors through both colleges should have some discouraged business majors, assuming a higher admissions standard for business, but the estimated coefficient is nearly identical to schools which offer the major through the business college alone.

Single college schools are generally small liberal arts colleges with a limited number of possible major fields of study. The scarcity of alternative major fields may result in a larger number of economics majors at these schools relative to larger schools with a fuller menu of

competing majors. Column two therefore estimates the relationship between administrative location and the number of economics majors using only schools with multiple colleges. The absence of a business major again has a very strong effect, raising the number of economics majors by 158 percent. Schools in which the economics major is located in the business college have 23 percent fewer majors than comparable schools which house the economics major in arts and sciences. However schools which offer an economics major in both colleges have the fewest majors of all, which is inconsistent with the discouraged business major hypothesis.

Finally, column 3 of Table 3 shows the number of majors at single college schools. The results confirm the strong effect of the business major on the number of economics majors. Schools without a competing business major have over four times as many economics majors as schools with a business major, after controlling for admission selectivity.

### III. Conclusion

The presence of a competing business major has a tremendous effect on the number of economics majors. However since most institutions offer a business major, the total number of substitute business majors is rather modest. The point estimates of Table 3 suggest that about three fourths of all economics majors at non-business schools are substitute majors. Multiplied by their 22 percent share of total economics majors, this suggests that about 16 percent of all economics majors are substitute majors.

Schools which offer an economics major in the college of arts and sciences have about 25 percent more majors than schools offering the

major in the business college. However the behavior of schools with economics majors in both colleges suggests that this is due to the administrative location of the department rather than the discouraged business major hypothesis. If the discouraged business major hypothesis is operative, then these schools should have roughly same number of majors as schools with majors in the college of arts and sciences alone. Instead, the rate of majoring in economics at dual college schools is nearly identical to the rate at business college schools. It is possible that only a small number of schools ration their business majors as required by the DBM hypothesis, or that the differential admissions standards affect only a small number of students.

All of the schools with dual college majors locate their economics department within the college of business.<sup>3</sup> Schools with dual college majors may behave similarly to schools with majors in the business college because they share a common administrative location. The administrative location of the department may in turn affect the incentives that the department faces. For example, business colleges may emphasize core economics classes in support of the business major, rather than advanced courses in support of the economics major, particularly if economics majors are disproportionately from the college of arts and sciences. While admittedly speculative, this hypothesis deserves further investigation.

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<sup>3</sup> We know of no example of an economics department located in a college of arts and sciences which also offers an economics major in a business college.



## Reference

Salemi, Michael K. and Eubanks, Carlie. "Accounting for the Rise and Fall in the Number of Economics Majors with the Discouraged-Business-Major Hypothesis. Journal of Economic Education, Fall 1996.

Table 1. Classification of Economics Majors

| <u>College Location of<br/>the Economics Major</u> | <u>Business Major Present</u> |            |
|--|-------------------------------|------------|
|  | <u>No</u>                     | <u>Yes</u> |
| Single   | PEM + SBM                     | PEM        |
| Arts & Sciences                                    | PEM + SBM                     | PEM + DBM  |
| Business   | -                             | PEM - DEM  |
| Business & Arts & Sciences                         | -                             | PEM + DBM  |

Abbreviations:

PEM Pure Economics Major  
 SBM Substitute Business Major  
 DBM Discouraged Business Major  
 DEM Discouraged Economics Major

Table 2. Economics Majors by Administrative Location

| <u>College</u>           | <u>Number of<br/>Schools</u> | <u>Percentage of</u>   |                     |
|--------------------------|------------------------------|------------------------|---------------------|
|                          |                              | <u>All Econ Majors</u> | <u>All Students</u> |
| <u>No Business Major</u> | 107                          | 22.2                   | 8.3                 |
| Single                   | 81                           | 11.6                   | 3.6                 |
| Arts & Sciences          | 26                           | 10.6                   | 4.7                 |
| <u>Business Major</u>    | 696                          | 77.8                   | 91.7                |
| Single                   | 165                          | 5.0                    | 4.8                 |
| Arts & Sciences          | 134                          | 30.1                   | 29.8                |
| Business                 | 311                          | 32.5                   | 39.1                |
| Bus & CAS                | 86                           | 10.2                   | 18.0                |

Table 3. Determinants of the Number of Economics Majors

| <u>Independent Variable</u>  |                  |                  |                  |
|------------------------------|------------------|------------------|------------------|
| Constant                     | -4.06<br>(-4.80) | -6.25<br>(-11.4) | -2.52<br>(-2.42) |
| Private                      | -0.01<br>(-0.13) | 0.17<br>(1.59)   | -0.18<br>(-0.52) |
| <u>Admission Selectivity</u> |                  |                  |                  |
| Competitive                  | 0.28<br>(2.84)   | 0.12<br>(1.11)   | 0.31<br>(1.52)   |
| Very Competitive             | 0.90<br>(6.54)   | 0.80<br>(5.34)   | 0.62<br>(2.21)   |
| Highly Competitive           | 1.10<br>(5.81)   | 1.28<br>(5.14)   | 0.66<br>(1.98)   |
| <u>College Location</u>      |                  |                  |                  |
| NOBUS-SINGLE                 | 1.11<br>(6.78)   |                  | 1.49<br>(7.42)   |
| NOBUS-CAS                    | 0.47<br>(1.85)   | 0.95<br>(4.22)   |                  |
| BUSMAJ-CAS                   | -0.25<br>(-1.57) |                  |                  |
| BUSMAJ-BUS                   | -0.55<br>(-4.37) | -0.23<br>(-2.02) |                  |
| BUSMAJ-BUS&CAS               | -0.57<br>(-3.19) | -0.33<br>(-2.28) |                  |
| N                            | 802              | 556              | 245              |
| R <sup>2</sup>               | .56              | .51              | .58              |

The dependent variable is the log of the number of economics majors. The regression was estimated by ordinary least squares. T-statistics are shown in parentheses.