

Comparable districts to Dresden School District

Statement of Purpose

This analysis provides four lists of districts comparable to Dresden Interstate District based on a different criteria. Because the district is unique in its structure and employment base as the home of Dartmouth College and Dartmouth-Hitchcock Medical Center, as an interstate district, as a component district, and its location in a rural area, this report uses a number of variables to define comparability.

Methodology

Data Sources

Data was collected from three national data series. The first dataset includes demographic, housing, and social variables from School District Demographics, produced by the Census Bureau for the National Commission on Education Statistics (NCES), the statistical agency of the U.S. Department of Education. The demographic data is for 2000. The variables used from School District Demographics were

- Total population of the school district,
- Percentage of persons employed in Management, professional, and related occupations,
- Percentage of persons employed in professional occupations of Education, training, and library,
- Percentage of persons employed in professional occupations of Healthcare practitioners, i.e. doctors and nurses,
- Median household income,
- Percentage of persons with a Master's degree, Professional degree, or PhD.,
- Percentage of black and Hispanic population (not significant),
- Percentage of persons 18 to 24 (proxy for college town),
- Value of owner-occupied housing (this is a proxy for wealth),

The second dataset is the Common Core of Data (CCD) from NCES. The CCD survey annually collects data about all public elementary and secondary schools and school districts throughout the United States. The variables used from CCD were

- Grades included in the district,
- Number of students enrolled,
- Locale codes. Locale codes are used to differentiate between central city, suburban, and rural districts. Locale codes also differentiate between schools in rural areas of urban counties (for example, fringe areas of large cities) and rural areas that are more isolated. Dresden has a locale code of 6, Small town: An incorporated place with population between 2,500 and 25,000 located outside a major metropolitan area. For the comparison of Dresden, data was also used for locale code 7: Rural district outside a metropolitan county. More information on Locale Codes is available from Supplemental Notes for the Condition of Education, <http://nces.ed.gov/programs/coe/2003/notes/n01.asp>)
- School district type code. Dresden is defined as a component school district, that is, "a component of a supervisory union sharing a superintendent and administrative services with other local school districts."

The third data set is the 2001-2002 Census of Governments, collected by the Census Bureau from 2001 Annual Survey of Local Governments. This data set includes public elementary-secondary education finance data, such as revenues, expenditures, debt, and assets (cash and security holdings)

for all elementary and secondary public school systems. The variables collected from the Census of Governments are

- Per Pupil Expenditures (calculated by dividing the total expenditures by the number of students),
- Student enrollment,
- Revenue dependence on state or local sources. In terms of comparisons, this does not turn out to be significant. In fact, residents who live in states dependent on local property collections receive larger tax deductions from their federal taxes than residents of states where school aid comes from a state's General Fund.

Comparison of Variables using rankings

Part I compares Dresden to comparable K-12 districts based on social and demographic characteristics. I have combined data from Dresden, Hanover, and Norwich to create a K-12 district, entitled Consolidated Dresden. There are 10,334 K-12 districts recognized by NCES. Note Consolidated Dresden will differ from data reported for Dresden in the NCES reports.

Part 1 includes 10,334 districts. To compare variables, a ranking system was created. The 10,334 districts were ranked from highest to lowest for each major variable. Twenty groups of equal size were constructed. These twenty groups divided districts into ventiles. A ventile is 1/20th of the total. Each ventile included 517 districts (10,334 divided by 20). For all the major social and economic variables, Dresden ranked in the top two ventiles, so only 5 ventiles were used for the household income, percentage of persons with Master's degree or higher, percentage of persons in professional and management occupations, and median value of owner-occupied housing. In other words, for demographic and economic major variables, Dresden ranks in the top 5% or 10% of all K-12 districts in the U.S.

However, for Per Pupil Expenditures, Consolidated Dresden ranks in the 4th ventile. In other words, out of 10,334 districts, about 1,500 districts spend more per capita than does Dresden. Ranking all K-12 districts in the US, Dresden is in the bottom of the top fifth.

With a ranking system, I was able to divide districts into comparable groups. These new groups were used to compare Dresden Consolidated with comparable districts. The major variables that were used for this comparison and Dresden's position relative to other districts are:

Educational Attainment of a Master's degree or higher: 43%, ventile 1 (top 5%)

Median Household income: \$70,877, ventile 1 (top 5%)

Percentage of persons in professional and management occupations: 67%, ventile 1 (top 5%)

Locale code: 6 or 7 (small town in rural area or rural area)

Median value of owner-occupied housing (this is a proxy for wealth): \$252,497, ventile 1 (top 5%)

Per Pupil Expenditures: \$11,101, ventile 4 (top fifth).

Part II, including Tables 3 and 4 uses data only for secondary districts. There are only 93 6th grade or 7th grade through 12th grade districts in the U.S. In this section, districts were divided into five groups (quintiles) with rankings from 1 to 5. Dresden was the only district always in the top quintile. Most of the secondary districts are in New England with one quarter being in Vermont and New Hampshire. Tables 3 and 4 compare only secondary districts. Table Four has data only for secondary districts that are also component districts. Note, the rankings for tables 3 and 4 are not comparable to those in Tables 1 and 2.

Data Analysis

Part I: Comparison of Dresden Interstate K-12 District with 10,334 K-12 Districts throughout the United States. These tables include the five schools which comprise the Dresden Interstate District.

Table 1 compares Dresden based on its unique status as a small school district in a community with a high percentage of college-aged students, a high percentage of persons with graduate or professional degrees, and a high percentage of persons employed in education. In other words, Table 1 shows comparable school districts in college towns in rural areas. This table identifies Dresden's peers based on with high Educational Attainment, a high proportion of persons 18 to 24, and a high percentage of people working in education, and comparable population size and K-12 enrollment to Dresden.

However, on other important variables, most of the districts are not comparable to Dresden. Dresden is in the top ventile for persons in professional and management occupations. Also, Dresden has a higher median household income than all but two of the districts (Three Village Central, on Long Island, NY and Princeton). This is important since income is the best predictor of educational outcomes; that is, children in high income families with parents with high educational attainment are more likely to succeed in school. In addition, the housing values are considerably higher in Dresden indicating higher wealth than other districts in Table 1.

Table 2 compares K-12 districts based on a ranking household income, persons with advanced degrees, persons with management or professional occupations, median value of owner occupied housing, population size, and enrollment similar Dresden. All the districts on Table 2 rank in the top 5% of all K-12 districts in the US based on the percentage of persons employed in Management or Professional occupations, percentage of persons with Graduate or Professional degrees, and for household wealth (as defined by the value of their homes). There are 205 districts which share these elite characteristics. Per Pupil expenditures were then sorted by rank order. Dresden spends much less pupil than most of the other districts on this elite list.

On these key indicators, the school districts that are most comparable to Dresden are classified as suburban communities. Dresden is the only district on this list that really rural.

Part 2: Comparison of Dresden with grade 6/7to 12 secondary districts

Tables 3 and 4 narrow the search criteria to only those secondary school districts that include either grades 6 to 12 or 7 to 12. For these districts, the percentage of revenue from local property taxes has been included. Table 3 includes school districts in rural counties. *These tables do not include information for the two elementary districts of Hanover and Norwich.*

Table 3 ranks secondary districts first by the percentage of persons with a Graduate or Professional degree, then by the percentage of persons working in professional or managerial occupations, then by the size of the district. Compared to only secondary districts, Dresden has significantly higher percentage of persons with advanced degrees who work in professional or managerial occupations, higher median household income, and the higher wealth as reflected in the housing values. Parents in Dresden are likely to have higher expectations for student achievement. Nine school districts are somewhat similar: Regional High School in CT., Mount Greylock (home of Williams College), Frontier in Mass. (close to universities in Amherst), Middlebury UHSD (Middlebury College), Maranacook CSD (ME), Hampshire (MASS), UHSD32 (Monpelier), and Harwood UHSD19 (Duxbury, VT).

On pages 3 and 4 of Table 3 are the Per Pupil Expenditures and their ranking. Compared to other 6/7 through 12th grade schools, Dresden ranks in the 3rd fifth (right in the middle).

Table 4 compares Dresden by the administrative structure of the district. Table 4 began with all component districts in the U.S. The original list was refined to include only grades 6 or 7 to 12 and similar population size. Because the edited list includes only 25 districts, no rankings were necessary. Table 4 shows smaller secondary school districts that share administrative services with other districts. While Dresden has a comparable administrative structure, again, households have higher median income, greater educational attainment, and a higher percentage of the people working in professional or other managerial positions than the other districts.

Final Thoughts

Dresden's comparable districts are those districts shown in Table 2. These are the districts in which parents are likely to have aspirations for their children similar to those of parents in Dresden. Out of the 205 elite districts – where we would expect students to be competing for spaces in the nation's top colleges and later for positions in the nation's top firms, Dresden is the only district in a rural area. Every other district is a suburban district. Dresden also receives great value for its per pupil expenditures. Half of the districts on this list are in the top 5% of per pupil expenditures while Dresden ranks in the bottom of the top half.

Each table can inform your search for comparable districts.

Table 1 includes the most obvious comparable districts: college towns outside of large urban areas.

Table 2 uses the preferred methodology for comparable districts: educational attainment, managerial and professional occupations, household income, size of the district, size of the district, and household wealth using housing values as a proxy.

Table 3 limits the search to secondary districts with a grade 6 or 7 to 12 configuration. This grouping is unique in that most of these districts receive most of their funds from local sources. The secondary districts that are also classified as rural are shown in Table 3.

Table 4 shows the results of a narrow search for comparability. It includes only component districts in rural areas comparable by size regardless of social and demographic characteristics.

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