Description of Data Files Used in the Estimation, Validation and Policy Simulations

Estimation:

The DPEData folder contains files that are loaded to compute the 1990 equilibrium. These files contain 1990 data at the metropolitan area, district, or neighborhood level as it corresponds. Neighborhoods were constructed as explained in section 4 of the paper.

The first four rows of each file contain the dimensions of the matrix into which the data will be reformatted by the C++ program (the first two figures correspond to the number of rows and columns).

All monetary values are expressed in $10,000 (dollars of 2000). House prices are calculated as average owner-occupied house value times user cost rate.

The file DPEData/Detroit-Districts.xls contains the list of the 83 districts in the data. In the file, "pdist" is the identifier used in the data files described below, "sdkey" is the NCES identifier for each district, and "ag_name" is the district's name. In the files described below that contain district-level data, data are sorted according to pdist. This means that their first row corresponds to the district with pdist=1, the second row to the district with pdist=2, and so on. District identifiers are the same for 1990 and 2000.

As explained in the readme file, the code has capabilities beyond those used for this project. Hence, some data files are loaded which are not necessary for this project.

The files loaded are the following (all of them prefixed with "Detroit-", and with extension txt):

1. aidFactorN, with the adjustment factor for non-residential property used to calculate state aid under DPE (see Appendix for further details). Source: own calculations, based on School District Data Book and Citizens' Research Council of Michigan.
2. aidFactorR, with the adjustment factor for residential property used to calculate state aid under DPE (see Appendix for further details). Source: own calculations, based on School District Data Book and Citizens' Research Council of Michigan.
3. avIncome, with the same content as IncomePublic (and IncomePrivate) – see below.
4. avRValue, with the same content as HousingValuePublic (and HousingValuePrivate) – see below.
5. CommunityStructure, with the number of districts in the metro area and the number of neighborhoods in the district with the largest number of neighborhoods in my computational representation.
6. HHKidPub, with the district-level number of households per child enrolled in public schools. This, and other elements, were subsumed under the aid and spending factors. Hence, this file contains all ones.
7. HousingQuality, with the housing quality for each neighborhood. This file gives rise to a matrix with as many rows as districts (83) and as many columns as the number of neighborhoods in the district with the largest number (10). All ten cells in the first row of the resulting matrix have valid entries. Only the first cell of the remaining rows has valid

entries (the remaining cells in those rows have entries of -99). Source: own calculations, as explained in section 4 and Data-Estimation appendix.

8. IncomePublic, with the district-level average household income for households with children in schools. The name of the file is somewhat misleading, because income data pertains to *all* households with children in school, not just households with children in public schools. Source: SDDB.
9. IncomePrivate, identical to IncomePublic, so that when the code averages between (10) and (11), it obtains exactly the average household income for households with children in school.
10. Income-SDDB, with the 10th, 30th, 50th, 70th and 90th percentile of the metro area income distribution for households with children in grades K-12. Source: authors' own calculations, using SDDB data for the 83 districts.
11. HousingValuePrivate, identical to HousingValuePublic (same logic as IncomePrivate). Source: own calculations based on SDDB.
12. HousingValuePublic, with the district-level average rental value for all households with children in school (same logic as IncomePublic).
13. InitialPrice, with the initial house price used to start the equilibrium computation (all locations have the same initial price). This price is equal to the metro area average price for households with children in school. Source: own calculations, based on SDDB.
14. MetroPrivate, with the metro-level fraction of households with children enrolled in Catholic, religious non-Catholic and private non-sectarian schools. This file is not used.
15. MetroPrivateOnly, with the fraction of private school children enrolled in Catholic, religious non-Catholic, and private non-sectarian schools. This file is not used.
16. MetroWeight, equal to one because the metropolitan area contains 100 percent of its housing units (as opposed to only a fraction, as in the case of districts).
17. NbdQuality, with the same data as HousingQuality but in a different format. This file is not used for estimation.
18. NbdRelativeSize, with the size of each neighborhood relative to the metropolitan area's. Relative size for a neighborhood is calculated as $(n/N) * (5/m)$, where n is the neighborhood actual number of housing units, N is the actual metro area number of housing units, and m is the actual number of housing units in the smallest neighborhood from my computational representation. Multiplication by 5 allows the smallest neighborhood (i.e., the one with the lowest number of housing units) to have a measure of houses equal to 5 in the computational representation.
19. NRRRatio, with the district-level ratio of non-residential to residential assessed value. This, and other elements, were subsumed under the aid and spending factors. Hence, this file contains all ones.
20. NumNbds, with the number of neighborhoods per district in my computational representation.
21. passRate, with the district-level percent of students who passed the 4th grade math exam in 1991. Source: Michigan Department of Education.
22. PercentPublic, with the fraction of households with children in public schools. Since this file is not used in the project, it contains all ones.
23. Price11, with the house price for the neighborhood with the lowest housing quality. This price remains fixed throughout the equilibrium computation. Source: own calculations based on SDDB.

24. religionCCM, with the distribution of religious preferences in the metropolitan area. This file is not used.
25. Spending, with the district-level average local and state revenue per student in public schools. Source: Bulletin 1014.
26. spendingFactorN, with the adjustment factor for non-residential property used to calculate spending under DPE (see Appendix for further details). Source: own calculations, based on School District Data Book and Citizens' Research Council of Michigan.
27. spendingFactorR, with the adjustment factor for residential property used to calculate spending under DPE (see Appendix for further details). Source: own calculations, based on School District Data Book and Citizens' Research Council of Michigan.
28. StateAid, with the state aid per student for each district. Source: Bulletin 1014.

Model Validation, and Policy Simulations:

The PropAData folder contains files loaded to compute the equilibrium for the out-of-sample prediction exercise, and for the policy simulations. These files contain 2000 data at the metropolitan area, district, or neighborhood level as it corresponds. The file names are the same as those in the DPEData folder. In addition, this folder contains the following files, although they are not used:

1. avSLR93, with 1993 average local and state revenue per student. Source: Bulletin 1014.
2. baseRevenue, with 1993 base revenue.
3. foundAllow, with 1999 foundation allowance.