**Appendix A: Data Appendix**

Our data set of retail and service businesses in Texas is uniquely comprehensive. We can identify every entity that collected sales taxes from consumers in the state—and hence every establishment that sold goods or services to end consumers—between 1990 and 2011. We constructed this database by combining information from several downloads of the Texas Sales and Use Tax Permit Holder Information File. After grouping records relating to the same business establishment, eliminating a small set of non-business entities (mostly associations that have some sales activities, as well as some public entities such as school districts), some with missing data (especially on end-of-business dates), and those that are not opened for at least 30 days (on the presumption that these are not real businesses), and 18 observations with missing data on urban status (defined as whether they are established within city limits in the Texas Sales Tax files), we obtain a sample size of 3,200,824 businesses owned by 2,160,391 separate owners. We use this full set of observations when determining owner size, which is measured in terms of number of businesses. Of these businesses, 2,818,505, owned by 1,956,829 separate owners, are started after Jan. 1, 1990 and thus are used in the calculation of number of businesses “established before” the businesses of interest in our analyses.

For our analyses, we reduce the sample to the businesses that indicate that they operate in the retail sector, where we define retail broadly given that the presence of these businesses in the data already indicates that they collect sales taxes.[[1]](#footnote-1) We have 2,780,370 such businesses, owned by 1,890,321 owners, in our original sample of 3,200,824 businesses. Of these, 2,452,311 businesses, owned by 1,715,352 owners, are started from 1990 onward (see also Tables 1 and 2).

Our interest in small business entrepreneurship leads us to focus most of our analyses on those owners with 20 or fewer businesses. Our sample of retail businesses started from 1990 onward and owned by small owners is 2,331,988 businesses for 1,713,112 owners. In other words, we have only 2240 large owners, and these are associated with only 120,323 retail establishments founded since Jan. 1, 1990. Because these establishments have longer duration, they represent about 10 percent of the total number of retail establishments operating at a given point in time (again see Tables 1 and 2).

Table A1: The Distribution of Businesses by 3-digit NAICS for our Retail Sample

|  |  |  |  |
| --- | --- | --- | --- |
| NAICS 2002 Sector | Frequency | Percent | Cumulative |
| 423: Merchant Wholesalers Durable Good | 114,599 | 4.12 | 4.12 |
| 424: Merchant Wholesalers Nondurable Good | 49,950 | 1.80 | 5.92 |
| 425: Wholesale Electronic Markets and A | 4,667 | 0.17 | 6.09 |
| 441: Motor Vehicle and Parts Dealers | 97,016 | 3.49 | 9.58 |
| 442: Furniture and Home Furnishings Stores | 59,022 | 2.12 | 11.70 |
| 443: Electronics and Appliance Stores | 80,483 | 2.89 | 14.59 |
| 444: Building Material and Garden Equipment | 40,417 | 1.45 | 16.05 |
| 445: Food and Beverage Stores | 67,181 | 2.42 | 18.46 |
| 446: Health and Personal Care Stores | 48,002 | 1.73 | 20.19 |
| 447: Gasoline Stations | 69,925 | 2.51 | 22.70 |
| 448: Clothing and Clothing Accessories | 215,140 | 7.74 | 30.44 |
| 451: Sporting Goods Hobby Book and Misc. | 132,346 | 4.76 | 35.20 |
| 452: General Merchandise Stores | 63,145 | 2.27 | 37.47 |
| 453: Miscellaneous Store Retailers | 548,070 | 19.71 | 57.19 |
| 454: Nonstore Retailers | 101,968 | 3.67 | 60.85 |
| 531: Real Estate | 9,672 | 0.35 | 61.20 |
| 532: Rental and Leasing Services | 39,961 | 1.44 | 62.64 |
| 533: Lessors of Nonfinancial Intangible Assets | 128 | 0.00 | 62.64 |
| 541: Professional Scientific and Technical Serv. | 195,188 | 7.02 | 69.66 |
| 551: Management of Companies and Enterprise | 1,351 | 0.05 | 69.71 |
| 561: Administrative and Support Service | 203,687 | 7.33 | 77.04 |
| 562: Waste Management and Remediation Serv. | 3,638 | 0.13 | 77.17 |
| 711: Performing Arts Spectator Sports  | 16,972 | 0.61 | 77.78 |
| 712: Museums Historical Sites  | 998 | 0.04 | 77.81 |
| 713: Amusement Gambling, and Recreation | 24,152 | 0.87 | 78.68 |
| 721: Accommodation | 8,916 | 0.32 | 79.00 |
| 722: Food Services and Drinking Places | 303,126 | 10.90 | 89.91 |
| 811: Repair and Maintenance | 180,234 | 6.48 | 96.39 |
| 812: Personal and Laundry Services | 100,416 | 3.61 | 100.00 |
| Total | 2,780,370 | 100.00 |  |

**Appendix B: Robustness Analysis**

**Table A2: Weibull Duration Regressions, with Industry (3-digit NAICS) Fixed Effects**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Number Opened | 0.978\*\*\* | 0.952\*\*\* |  |  | 0.956\*\*\* | 0.916\*\*\* |
|  Before | (0.001) | (0.002) |  |  | (0.003) | (0.003) |
| Squared (Number |  | 1.004\*\*\* |  |  |  | 1.009\*\*\* |
|  Opened Before) |  | (0.000) |  |  |  | (0.001) |
| Number Opened |  |  | 0.997 | 1.002 |  |  |
|  Before Still Open |  |  | (0.003) | (0.004) |  |  |
| Sq. (Number Opened |  |  |  | 0.999\* |  |  |
|  Before Still Open) |  |  |  | (0.001) |  |  |
| Number Opened |  |  | 0.963\*\*\* | 0.927\*\*\* |  |  |
|  Before but Closed |  |  | (0.001) | (0.002) |  |  |
| Sq. (Number Opened |  |  |  | 1.011\*\*\* |  |  |
|  Before but Closed) |  |  |  | (0.000) |  |  |
| Opened in recession | 0.927\*\*\* | 0.927\*\*\* | 0.927\*\*\* | 0.927\*\*\* | 0.931\*\*\* | 0.928\*\*\* |
|  | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Major Chain | 0.697\*\*\* | 0.696\*\*\* | 0.691\*\*\* | 0.690\*\*\* | 0.689\*\*\* | 0.692\*\*\* |
|  | (0.007) | (0.007) | (0.007) | (0.007) | (0.006) | (0.007) |
| Urban Establishment | 1.203\*\*\* | 1.203\*\*\* | 1.202\*\*\* | 1.202\*\*\* | 1.192\*\*\* | 1.190\*\*\* |
|  | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Proprietorship | 1.621\*\*\* | 1.624\*\*\* | 1.628\*\*\* | 1.631\*\*\* | 1.621\*\*\* | 1.624\*\*\* |
|  | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) |
| Partnership | 1.717\*\*\* | 1.715\*\*\* | 1.719\*\*\* | 1.719\*\*\* | 1.717\*\*\* | 1.716\*\*\* |
|  | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |
| Number Opened  |  |  |  |  | 0.991\*\*\* | 1.002 |
|  Before \* Recession |  |  |  |  | (0.003) | (0.005) |
| Number Opened  |  |  |  |  | 1.012\*\* | 1.016 |
|  Before \* Chain |  |  |  |  | (0.006) | (0.011) |
| Number Opened  |  |  |  |  | 1.025\*\*\* | 1.044\*\*\* |
|  Before \* Urban |  |  |  |  | (0.003) | (0.004) |
| Sq. (Number Opened |  |  |  |  |  | 0.998\*\*\* |
|  Before \* Recession) |  |  |  |  |  | (0.001) |
| Sq. (Number Opened |  |  |  |  |  | 0.998\* |
|  Before \* Chain) |  |  |  |  |  | (0.001) |
| Sq. (Number Opened |  |  |  |  |  | 0.995\*\*\* |
|  Before \* Urban) |  |  |  |  |  | (0.001) |
| NAICS Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of obs | 2,331,988 | 2,331,988 | 2,331,988 | 2,331,988 | 2,331,988 | 2,331,988 |
| No. of failures | 1,849,592 | 1,849,592 | 1,849,592 | 1,849,592 | 1,849,592 | 1,849,592 |
| p (Weibull) | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |

Notes: Standard errors, clustered at the owner level, in parentheses. \* *p*<0.1; \*\* *p*<0.05; \*\*\* *p*<0.01

1. Specifically, we include wholesalers as well as all retail trade, and food services and entertainment and all personal services in our definition of retail. See Table A1 below for a list of 3-digit NAICS industries we include. [↑](#footnote-ref-1)