Estadísticas descriptivas finales y prueba Kruskall-Wallis

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## 1. Base Censo Económico 2019

**Estadística descriptiva: productividad**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. obs. | Media | Desv. estándar | Mínimo | Q1 | Q3 | Máximo |
| 1,516,688 | 3,413.14 | 102,245.9 | -7,740,439 | 70 | 562 | 52,688,348 |

**Estadística descriptiva: productividad todas las empresas TAMAÑO 2**

Productividad todos los sectores y empresas

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Micro | 1307093 | 138.6564 | 32516.6932 | -261711.0833 | 17.96237 | 82.13455 | 33932313.07 |
| Pequeña | 111339 | 191.0506 | 2126.2531 | -702.2222 | 43.97831 | 180.45369 | 533747.91 |
| Mediana | 79354 | 219.8227 | 807.6649 | -84635.0843 | 52.05797 | 213.36373 | 88970.53 |
| Grande | 18902 | 345.5503 | 1316.0393 | -33949.2939 | 79.61206 | 338.21016 | 93304.67 |

Productividad sector comercio

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Comercio | Micro | 639881 | 78.65283 | 897.2669 | -627.45098 | 13.44669 | 64.5343 | 223620.09 |
| Comercio | Pequeña | 45556 | 256.47627 | 2599.6838 | -66.86081 | 51.24447 | 252.0952 | 533747.91 |
| Comercio | Mediana | 29831 | 261.86247 | 612.0982 | -14.26025 | 59.99274 | 260.5220 | 32109.36 |
| Comercio | Grande | 6789 | 298.19242 | 1446.2877 | 0.00000 | 70.31288 | 305.5000 | 93304.67 |

Productividad sector servicios

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | | tamano\_2 | | Obs | | Mean | | Sd | | Min | | Q1 | | Q3 | | Max |
| Servicios | Micro | | 559589 | | 215.4950 | | 49686.9829 | | -261711.0833 | | 24.23531 | | 92.80016 | | 33932313.07 | |
| Servicios | Pequeña | | 53386 | | 141.6848 | | 1905.5951 | | -702.2222 | | 37.72651 | | 124.48954 | | 411918.61 | |
| Servicios | Mediana | | 39179 | | 168.8877 | | 771.2014 | | -84635.0843 | | 42.07377 | | 164.81753 | | 85782.78 | |
| Servicios | Grande | | 7624 | | 215.2424 | | 1119.7322 | | -33949.2939 | | 65.49268 | | 227.08098 | | 86623.74 | |

Productividad sector manufacturas

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Manufacturas | Micro | 107623 | 95.8871 | 211.8172 | -43.59862 | 27.83613 | 116.6667 | 34232.50 |
| Manufacturas | Pequeña | 12397 | 163.2146 | 322.0407 | 0.00000 | 57.02756 | 180.8824 | 24769.25 |
| Manufacturas | Mediana | 10344 | 291.5064 | 1285.0079 | 0.00000 | 81.36396 | 285.8067 | 88970.53 |
| Manufacturas | Grande | 4489 | 638.4842 | 1372.1005 | 0.00000 | 163.39869 | 664.0449 | 43189.06 |

**Estadística descriptiva: productividad todas las empresas TAMAÑO 1**

Productividad todos los sectores y empresas

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| tamano\_1 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Micro | 1418432 | 142.7690 | 31220.1124 | -261711.08 | 18.97846 | 87.88903 | 33932313.07 |
| Pequeña | 79354 | 219.8227 | 807.6649 | -84635.08 | 52.05797 | 213.36373 | 88970.53 |
| Mediana | 15621 | 340.5087 | 1408.6255 | -33949.29 | 80.49059 | 335.52334 | 93304.67 |
| Grande | 3281 | 369.5535 | 728.3188 | 0.00 | 74.50336 | 347.88610 | 11125.38 |

Productividad sector comercio

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_1 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Comercio | Micro | 685437 | 90.47146 | 1096.6818 | -627.45098 | 14.26814 | 71.38366 | 533747.905 |
| Comercio | Pequeña | 29831 | 261.86247 | 612.0982 | -14.26025 | 59.99274 | 260.52195 | 32109.364 |
| Comercio | Mediana | 6184 | 308.67161 | 1506.1837 | 0.00000 | 76.86794 | 314.42249 | 93304.667 |
| Comercio | Grande | 605 | 191.07952 | 521.8374 | 0.00000 | 28.63099 | 192.57531 | 8715.788 |

Productividad sector servicios

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_1 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Servicios | Micro | 612975 | 209.0667 | 47477.3320 | -261711.08 | 25.33309 | 95.28507 | 33932313.07 |
| Servicios | Pequeña | 39179 | 168.8877 | 771.2014 | -84635.08 | 42.07377 | 164.81753 | 85782.78 |
| Servicios | Mediana | 6395 | 226.0737 | 1210.2120 | -33949.29 | 67.06165 | 241.95516 | 86623.74 |
| Servicios | Grande | 1229 | 158.8823 | 391.6136 | 0.00 | 58.69745 | 161.80334 | 11071.81 |

Productividad sector manufacturas

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_1 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Manufacturas | Micro | 120020 | 102.8414 | 226.6354 | -43.59862 | 29.71700 | 123.5294 | 34232.50 |
| Manufacturas | Pequeña | 10344 | 291.5064 | 1285.0079 | 0.00000 | 81.36396 | 285.8067 | 88970.53 |
| Manufacturas | Mediana | 3042 | 645.7988 | 1541.7729 | 0.00000 | 166.97737 | 652.2172 | 43189.06 |
| Manufacturas | Grande | 1447 | 623.1068 | 918.6186 | 0.00000 | 160.14838 | 699.4688 | 11125.38 |

**Productividad todos los sectores, empresas formales**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Micro | 30719 | 270.3071 | 4375.5562 | -42.21453 | 61.43051 | 189.6250 | 698311.00 |
| Pequeña | 15953 | 209.2703 | 626.4131 | -702.22222 | 65.35948 | 193.9600 | 28653.39 |
| Mediana | 19136 | 230.1579 | 856.1482 | 0.00000 | 65.43150 | 225.6928 | 88970.53 |
| Grande | 4346 | 352.5920 | 863.0147 | 0.00000 | 95.31865 | 354.1447 | 43189.06 |

Productividad sector comercio, empresas formales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Comercio | Micro | 17612 | 251.3241 | 2016.5407 | -42.21453 | 57.93475 | 186.1568 | 108012.000 |
| Comercio | Pequeña | 7789 | 214.5608 | 629.8151 | -66.86081 | 65.44118 | 197.0435 | 24889.583 |
| Comercio | Mediana | 8590 | 222.8248 | 492.4311 | 0.00000 | 63.10989 | 225.2229 | 18090.764 |
| Comercio | Grande | 1056 | 236.7939 | 307.9426 | 0.00000 | 88.38630 | 281.8729 | 4433.072 |

Productividad sector servicios, empresas formales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Servicios | Micro | 11028 | 314.4348 | 6841.9131 | 0.0000 | 65.88235 | 184.5444 | 698311.000 |
| Servicios | Pequeña | 6590 | 200.4780 | 676.5358 | -702.2222 | 61.70243 | 176.5867 | 28653.389 |
| Servicios | Mediana | 8003 | 195.6261 | 559.4411 | 0.0000 | 61.09049 | 193.8574 | 29411.765 |
| Servicios | Grande | 1743 | 201.7577 | 297.4542 | 0.0000 | 72.69943 | 225.2395 | 5673.779 |

Productividad sector manufacturas, empresas formales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Manufacturas | Micro | 2079 | 197.0448 | 356.9762 | 0 | 77.81264 | 235.2941 | 12265.000 |
| Manufacturas | Pequeña | 1574 | 219.9019 | 312.4055 | 0 | 88.58862 | 255.0841 | 5797.625 |
| Manufacturas | Mediana | 2543 | 363.6020 | 1921.2788 | 0 | 107.42022 | 336.1046 | 88970.531 |
| Manufacturas | Grande | 1547 | 601.5817 | 1353.5048 | 0 | 171.78367 | 627.6532 | 43189.058 |

**Estadística descriptiva: productividad empresas informales**

Productividad todos los sectores, empresas informales

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Micro | 1205394 | 131.3830 | 33836.6640 | -261711.08333 | 16.77942 | 75.3508 | 33932313.07 |
| Pequeña | 55577 | 149.2945 | 1866.8747 | -54.90196 | 31.40988 | 121.7814 | 411918.61 |
| Mediana | 28818 | 204.2188 | 905.3945 | -84635.08428 | 35.85434 | 191.3185 | 85782.78 |
| Grande | 6118 | 385.7028 | 1552.2877 | 0.00000 | 68.69954 | 322.4707 | 86623.74 |

Productividad sector comercio, empresas informales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Comercio | Micro | 590094 | 66.58409 | 705.1937 | -627.45098 | 12.47471 | 57.36559 | 223620.09 |
| Comercio | Pequeña | 17860 | 201.12431 | 697.3790 | -54.90196 | 33.67208 | 180.99939 | 41658.20 |
| Comercio | Mediana | 9521 | 293.35339 | 662.5403 | -14.26025 | 56.85985 | 281.11214 | 21417.96 |
| Comercio | Grande | 3294 | 302.00354 | 804.0640 | 0.00000 | 67.57874 | 305.50001 | 15429.17 |

Productividad sector servicios, informales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Servicios | Micro | 517361 | 213.3453 | 51642.556 | -261711.08 | 22.73958 | 87.93639 | 33932313.07 |
| Servicios | Pequeña | 31705 | 124.0500 | 2413.208 | 0.00 | 28.86710 | 101.55665 | 411918.61 |
| Servicios | Mediana | 16758 | 144.1210 | 1027.924 | -84635.08 | 26.21970 | 137.59409 | 85782.78 |
| Servicios | Grande | 2086 | 249.0695 | 1938.733 | 0.00 | 58.89016 | 207.69689 | 86623.74 |

Productividad sector manufacturas, informales

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | tamano\_2 | Obs | Mean | Sd | Min | Q1 | Q3 | Max |
| Manufacturas | Micro | 97939 | 88.84015 | 192.7417 | -43.59862 | 26.09863 | 110.0801 | 34232.500 |
| Manufacturas | Pequeña | 6012 | 128.45262 | 226.2775 | 0.00000 | 43.21429 | 136.0013 | 4820.332 |
| Manufacturas | Mediana | 2539 | 266.63238 | 791.8928 | 0.00000 | 49.01961 | 216.3200 | 14062.394 |
| Manufacturas | Grande | 738 | 1145.48919 | 2411.4191 | 0.00000 | 198.07578 | 1178.7384 | 31013.133 |

**Tablas productividad**

Tabla 1

|  |  |  |  |
| --- | --- | --- | --- |
| Micro | Pequeña | Mediana | Grande |
| 137.2037 | 184.4053 | 210.5114 | 348.9271 |

tab6\_k

Tabla 3

|  |  |  |
| --- | --- | --- |
| Formal | Informal | Mixta |
| 249.2501 | 130.662 | 235.7844 |

tab8\_k

Tabla 5

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Micro\_Formal | Micro\_Informal | Micro\_Mixta | Pequeña\_Formal | Pequeña\_Informal | Pequeña\_Mixta | Mediana\_Formal | Mediana\_Informal | Mediana\_Mixta | Grande\_Formal | Grande\_Informal | Grande\_Mixta |
| 262.7148 | 128.938 | 237.2025 | 213.4582 | 145.2334 | 242.8891 | 229.0613 | 189.9326 | 224.6858 | 392.9768 | 387.1932 | 302.774 |

**Pruebas Kruskall-Wallis**

Todos los sectores

Kruskal-Wallis rank sum test

data: productividad by tamano\_2

Kruskal-Wallis chi-squared = 1256.8, df = 3, p-value < 2.2e-16

Sector comercio

Kruskal-Wallis rank sum test

data: productividad by tamano\_2

Kruskal-Wallis chi-squared = 392.99, df = 3, p-value < 2.2e-16

Sector manufacturas

Kruskal-Wallis rank sum test

data: productividad by tamano\_2

Kruskal-Wallis chi-squared = 174.66, df = 3, p-value < 2.2e-16

Sector servicios

Kruskal-Wallis rank sum test

data: productividad by tamano\_2

Kruskal-Wallis chi-squared = 657.44, df = 3, p-value < 2.2e-16