|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Method** | **sMAPE** | | | | | | |
|  | **Yearly**  (23,000) | **Quarterly**  (24,000) | **Monthly**  (48,000) | **Weekly**  (359) | **Daily**  (4227) | **Hourly**  (414) | **All**  (100,000) |
| Naïve | 16.3422 | 11.6103 | 15.2565 | 9.1613 | 3.0453 | 43.003 | 14.2079 |
| sNaïve | 16.3422 | 12.5214 | 15.9883 | 9.1613 | 3.0453 | 13.9123 | 14.6574 |
| Naïve2 | 16.3422 | 11.0116 | 14.4268 | 9.1613 | 3.0453 | 18.3829 | 13.5641 |
| SES | 16.3982 | 10.6004 | 13.6182 | 9.0121 | 3.045 | **18.0939** | 13.0884 |
| Holt | 16.5347 | 10.9548 | 14.8282 | 9.7065 | 3.07 | 29.4737 | 13.8363 |
| Damped | 15.1626 | 10.2429 | 13.4726 | 8.8671 | 3.0631 | 19.2767 | 12.6537 |
| Theta | **14.5636** | 10.3132 | **13.0118** | 9.0889 | 3.0526 | 18.1381 | **12.3072** |
| Comb | 14.8743 | **10.1966** | 13.4339 | 8.947 | **2.9854** | 22.114 | 12.5664 |
|  |  | **Quarterly’** (2,400) | **Monthly’** (4,800) |  |  | **Hourly’** (42) | **Average** (weighted) |
| Naïve2’ |  | 10.8665 | 14.4595 |  |  | 21.2282 |  |
| Comb’ |  | 10.0628 | 13.4611 |  |  | 22.6851 |  |
| ARIMA | 15.1561 | 10.1525 | 13.5356 | 8.5913 | 3.186 | 16.8975 | 12.6551 |
| ETS | 15.3558 | 10.1163 | 13.5351 | 8.7266 | 3.046 | 19.5307 | 12.6975 |
| ETSARIMA | 14.8145 | **9.8515** | **12.9769** | **8.444** | 3.0814 | **17.3744** | **12.2331** |
| MLP\* |  |  |  |  |  |  |  |
| DeepAR\_pw\* |  |  |  |  |  |  |  |
| DeepAR\* |  |  |  |  |  |  |  |
| MQ-CNN\* |  |  |  |  |  |  |  |
| Bold numbers highlight the best performing method within respective dataset  ‘ indicates subset  \*\*epochs = 100, num\_batches\_per\_epoch = 64 | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Method** | **MASE** | | | | | | |
|  | **Micro** (25,121) | **Industry** (18798) | **Macro** (19,402) | **Finance** (24,534) | **Demographic** (8,708) | **Other** (3,437) | **All** (100,000) |
| Naïve | 2.0868 | 1.8446 | 1.8947 | 2.2374 | 1.485 | 3.6907 | 2.0437 |
| sNaïve | 2.1423 | 1.8747 | 1.9356 | 2.3458 | 1.4989 | 2.4629 | 2.0568 |
| Naïve2 | 1.9975 | 1.7201 | 1.7776 | 2.1779 | 1.3754 | 2.56 | 1.9121 |
| SES | 1.9864 | 1.6856 | 1.7432 | 2.1474 | 1.3311 | 2.5599 | 1.8848 |
| Holt | 1.8297 | 1.6514 | 1.6156 | 1.93 | 1.2632 | **3.261** | 1.7791 |
| Damped | 1.7423 | 1.5786 | 1.5506 | 1.8612 | 1.2269 | 2.4102 | 1.6816 |
| Theta | 1.7031 | 1.5847 | 1.5685 | 1.9373 | 1.2327 | 2.3931 | 1.6949 |
| Comb | **1.6734** | **1.5628** | **1.5381** | **1.8558** | **1.2214** | 2.6044 | 1.6637 |
|  | **Micro’** (2,453) | **Industry’** (1,880) | **Macro’** (1,940) | **Finance’** (2,453) | **Demographic’** (1,000) | **Other’** (1,000) |  |
| Naive2’ | 2.0282 | 1.7744 | 1.8386 | 2.2167 | 1.3648 | 2.5899 |  |
| Comb’ | **1.6874** | 1.6248 | 1.6064 | 1.8752 | 1.2211 | 2.6206 |  |
| ARIMA’ | 1.7493 | 1.6258 | 1.6029 | 1.887 | 1.1948 | 2.2346 |  |
| ETS’ | 1.7812 | 1.6243 | 1.6005 | 1.906 | 1.1975 | 2.2991 |  |
| ETSARIMA’ | 1.7167 | **1.5866** | **1.5544** | **1.8432** | **1.1687** | **2.2075** |  |
| MLP\* |  |  |  |  |  |  |  |
| DeepAR\_pw\* |  |  |  |  |  |  |  |
| DeepAR\* |  |  |  |  |  |  |  |
| MQ-CNN\* |  |  |  |  |  |  |  |
| Bold numbers highlight the best performing method  ` indicates that sample was taken according ni’ = max{1000, [0.1\*ni] }, i={Micro, Industry, …}  \*epochs=100, num\_batches\_per\_epoch=64 | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Method** | **OWA** | | | | | | |
|  | **Micro** (25,121) | **Industry** (18798) | **Macro** (19,402) | **Finance** (24,534) | **Demographic** (8,708) | **Other** (3,437) | **Average** (100,000) |
| Naïve | 1.0397 | 1.0667 | 1.0509 | 1.0284 | 1.0767 | 1.355 | 1.0581 |
| sNaïve | 1.0635 | 1.0877 | 1.0934 | 1.0879 | 1.091 | 0.9653 | 1.0781 |
| Naïve2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| SES | 0.9916 | 0.9634 | 0.9759 | 0.9683 | 0.9599 | 0.9943 | 0.9753 |
| Holt | 0.9805 | 0.9887 | 0.9737 | 0.9311 | 0.953 | 1.2108 | 0.9753 |
| Damped | 0.9104 | 0.9299 | 0.9088 | 0.8773 | 0.9059 | 0.9554 | 0.9062 |
| Theta | **0.8707** | 0.9256 | **0.8949** | 0.8961 | 0.9057 | **0.9399** | 0.8969 |
| Comb | 0.8867 | **0.9212** | 0.9017 | **0.8751** | **0.902** | 1.0046 | 0.8983 |
|  | **Micro’** (2,453) | **Industry’** (1,880) | **Macro’** (1,940) | **Finance’** (2,453) | **Demographic’** (1,000) | **Other’** (1,000) |  |
| Naïve2’ | 1 | 1 | 1 | 1 | 1 | 1 |  |
| Comb’ | 0.8791 | 0.9249 | 0.9117 | 0.8683 | 0.9132 | 0.9974 |  |
| ARIMA’ | 0.891 | 0.9346 | 0.917 | 0.8835 | 0.9119 | 0.9023 |  |
| ETS’ | 0.9107 | 0.9408 | 0.9146 | 0.888 | 0.9167 | 0.9196 |  |
| ETSARIMA’ | **0.8693** | **0.916** | **0.8811** | **0.8622** | **0.8947** | **0.88** |  |
| MLP\* |  |  |  |  |  |  |  |
| DeepAR\_pw\* |  |  |  |  |  |  |  |
| DeepAR\* |  |  |  |  |  |  |  |
| MQ-CNN\* |  |  |  |  |  |  |  |
| Bold numbers highlight the best performing method  ’ indicates that a random sample was taken with ni’ = max{1000, [0.1\*ni] }, i={Micro, Industry, …}  \*epochs=100, num\_batches\_per\_epoch=64 | | | | | | | |