Time Varying SFA-4Comp-long

SFACD-4Comp-long Elasticities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ely1 | ely2 | ely3 | elY |
| Country code |  |  |  |  |
| 1.Aust | 0.227 | 0.164 | 0.564 | 0.955 |
| 2.NZ | 0.227 | 0.164 | 0.564 | 0.955 |
| 3.Ontario | 0.227 | 0.164 | 0.564 | 0.955 |
| Total | 0.227 | 0.164 | 0.564 | 0.955 |

SFACD-4Comp-long Efficiency Scores

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| dnsp |  |
| 1 | .9277078 |
| 2 | .9215807 |
| 3 | .9328494 |
| 4 | .9315922 |
| 5 | .9345019 |
| 6 | .9324461 |
| 7 | .9274181 |
| 8 | .931185 |
| 9 | .933522 |
| 10 | .9318911 |
| 11 | .9336524 |
| 12 | .9322247 |
| 13 | .9314464 |
| Total | .9309244 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| dnsp |  |
| 1 | .9989419 |
| 2 | .9989394 |
| 3 | .9989314 |
| 4 | .9989357 |
| 5 | .9989361 |
| 6 | .9989382 |
| 7 | .9989375 |
| 8 | .9989356 |
| 9 | .9989285 |
| 10 | .99893 |
| 11 | .9989342 |
| 12 | .9989303 |
| 13 | .9989299 |
| Total | .9989345 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| Country code |  |
| 1.Aust | .9309244 |
| 2.NZ | .9318135 |
| 3.Ontario | .9342028 |
| Total | .9327599 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| Country code |  |
| 1.Aust | .9989345 |
| 2.NZ | .998935 |
| 3.Ontario | .9989352 |
| Total | .998935 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .936591 | .9355604 | .9428177 | .9413005 | .9566618 | .9641871 | .9636465 | .9670917 | .9723473 | .9680915 | .8909788 | .9068072 | .9301651 | .9194996 | .9040126 | .8785893 | .8843428 | .8360503 | .9277078 |
| 2 | .9554995 | .9320713 | .9674329 | .9583411 | .9673613 | .9623167 | .9682431 | .9453313 | .9561162 | .9678526 | .9580039 | .9424186 | .9119733 | .8958447 | .8571504 | .8345852 | .7907966 | .8171131 | .9215807 |
| 3 | .9226989 | .9224887 | .910464 | .9372644 | .9426318 | .9352035 | .9572902 | .9533018 | .9568191 | .9515359 | .9498588 | .9434353 | .9205791 | .9350199 | .9255223 | .9021503 | .9069455 | .9180794 | .9328494 |
| 4 | .938608 | .9460016 | .9641684 | .9507229 | .9459783 | .946039 | .9551803 | .9352668 | .9534821 | .9513026 | .9539761 | .9349666 | .9204248 | .9223339 | .8867355 | .8919087 | .8862486 | .8853151 | .9315922 |
| 5 | .9260389 | .939687 | .9436031 | .9418352 | .9324818 | .9453721 | .9530079 | .9581379 | .9492751 | .9540683 | .938646 | .932509 | .9329255 | .919297 | .9075138 | .9102463 | .9114876 | .9249009 | .9345019 |
| 6 | .9566543 | .9453898 | .950465 | .9468162 | .9416059 | .9597774 | .9627765 | .9398213 | .9400386 | .9505047 | .9445907 | .9245517 | .9207129 | .9224898 | .9300142 | .872433 | .8722626 | .9031259 | .9324461 |
| 7 | .922008 | .9493425 | .9619921 | .9524332 | .9602395 | .961504 | .9737998 | .9668081 | .9563339 | .9393891 | .8946428 | .8821096 | .8899646 | .915313 | .9042114 | .8946149 | .8746395 | .8941807 | .9274181 |
| 8 | .9398516 | .9396918 | .8835143 | .8947069 | .9277661 | .9410892 | .9614123 | .9580966 | .9524313 | .9515753 | .9557399 | .9580411 | .9482189 | .9463529 | .922954 | .8967717 | .8840647 | .8990507 | .931185 |
| 9 | .9469913 | .922353 | .9149106 | .9296185 | .9272277 | .9222203 | .9481869 | .9538119 | .9439375 | .9495047 | .9266011 | .9369465 | .9378709 | .9324875 | .92095 | .9216527 | .9253451 | .9427798 | .933522 |
| 10 | .9076409 | .8869579 | .9033253 | .9106262 | .9078798 | .9459127 | .9486966 | .9533926 | .9516336 | .9545434 | .9281433 | .9477847 | .9432535 | .9448861 | .9239499 | .9256929 | .9355257 | .9541949 | .9318911 |
| 11 | .8846465 | .9165092 | .9243697 | .9375691 | .9314668 | .9334471 | .942821 | .9488396 | .9504865 | .9565719 | .9618409 | .9467769 | .9312103 | .9306544 | .9319588 | .9339749 | .9274925 | .9151064 | .9336524 |
| 12 | .9331197 | .9218011 | .9200622 | .9373277 | .9575943 | .953155 | .9621593 | .9282532 | .9291951 | .8796024 | .9003621 | .9495389 | .9437357 | .9277611 | .9359131 | .9409882 | .9376172 | .9218585 | .9322247 |
| 13 | .9556451 | .943476 | .9364962 | .9289863 | .9346017 | .9588562 | .9581912 | .9437208 | .9453853 | .9359629 | .9537985 | .9466128 | .9005132 | .8975663 | .9063515 | .9039216 | .9083594 | .9075894 | .9314464 |
| Total | .9327687 | .9308716 | .9325863 | .9359652 | .9410382 | .9483908 | .9581086 | .9501441 | .9505755 | .946962 | .9351679 | .9348076 | .9255037 | .9238082 | .9120952 | .9005792 | .8957791 | .9014881 | .9309244 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 | .9989419 |
| 2 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 | .9989394 |
| 3 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 | .9989314 |
| 4 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 | .9989357 |
| 5 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 | .9989361 |
| 6 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 | .9989382 |
| 7 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 | .9989375 |
| 8 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 | .9989356 |
| 9 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 | .9989285 |
| 10 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 | .99893 |
| 11 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 | .9989342 |
| 12 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 | .9989303 |
| 13 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 | .9989299 |
| Total | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 |

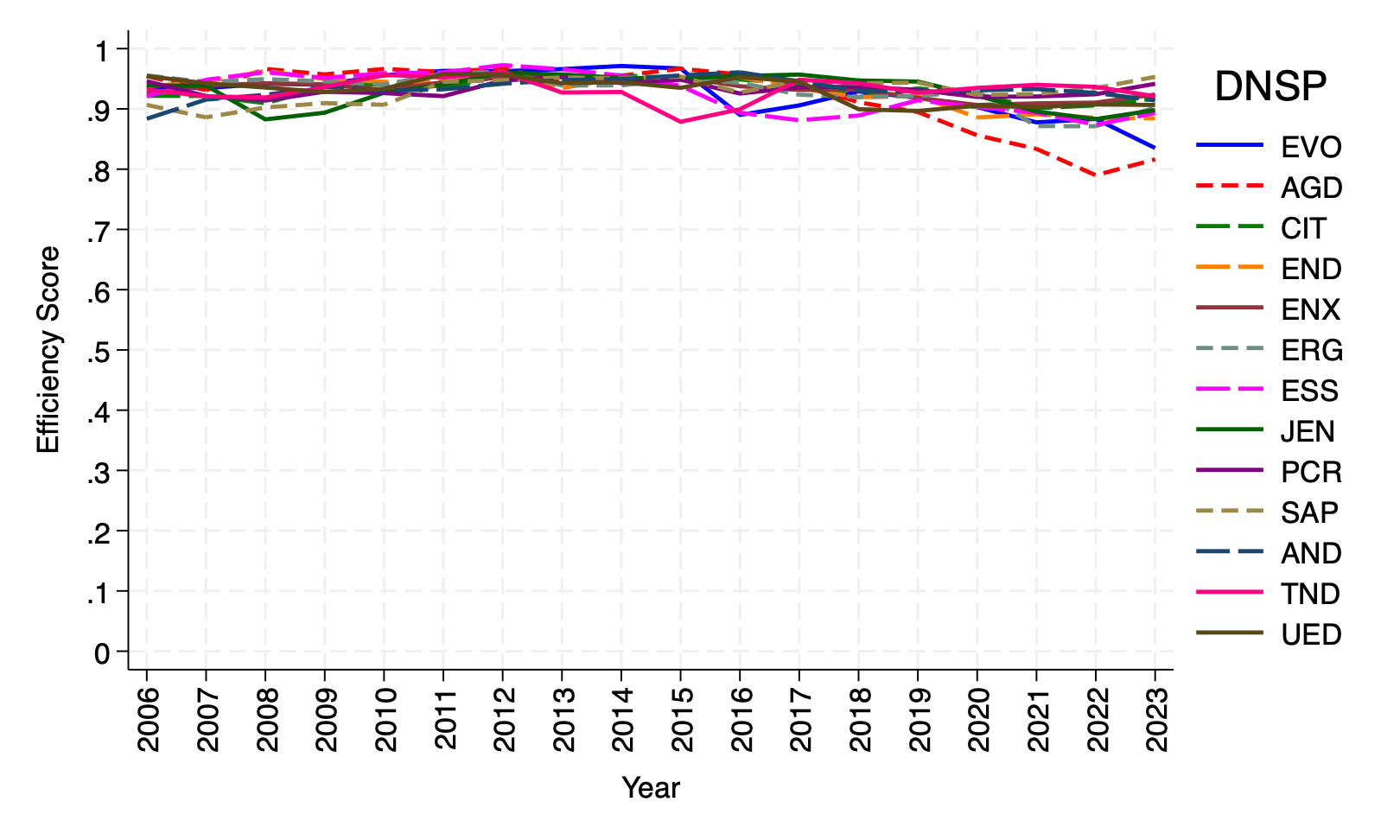
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | | |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| Country code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Aust |  | .9327687 | .9308716 | .9325863 | .9359652 | .9410382 | .9483908 | .9581086 | .9501441 | .9505755 | .946962 | .9351679 | .9348076 | .9255037 | .9238082 | .9120952 | .9005792 | .8957791 | .9014881 | .9309244 |
| 2.NZ |  | .9056616 | .9164243 | .9194304 | .9267296 | .929935 | .9283509 | .9269576 | .9202371 | .9261192 | .9241486 | .9326259 | .9368405 | .9406139 | .9436031 | .9494904 | .9456785 | .9483568 | .9514402 | .9318135 |
| 3.Ontario | .9332451 | .9342947 | .9344347 | .9342652 | .9323883 | .9269764 | .9347541 | .9403379 | .9436435 | .9441593 | .9415802 | .9433497 | .9410344 | .9388435 | .9338354 | .9211664 | .9165273 | .9208147 |  | .9342028 |
| Total | .9332451 | .925051 | .9280656 | .9292867 | .9313881 | .9308947 | .9356658 | .9399574 | .9377384 | .9399076 | .9372976 | .9382659 | .9384011 | .936552 | .9347408 | .9280554 | .9222084 | .9240579 | .9311471 | .9327599 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | | |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| Country code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Aust |  | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 | .9989345 |
| 2.NZ |  | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 |
| 3.Ontario | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 | .9989352 |  | .9989352 |
| Total | .9989352 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .998935 | .9989348 | .998935 |

|  |  |
| --- | --- |
|  | eff |
| dnsp |  |
| 1 | .9267262 |
| 2 | .9206032 |
| 3 | .9318525 |
| 4 | .9306007 |
| 5 | .9335077 |
| 6 | .9314561 |
| 7 | .9264328 |
| 8 | .9301938 |
| 9 | .9325218 |
| 10 | .930894 |
| 11 | .9326573 |
| 12 | .9312276 |
| 13 | .9304496 |
| Total | .9299326 |

|  |  |
| --- | --- |
|  | eff |
| Country code |  |
| 1.Aust | .9299326 |
| 2.NZ | .9308211 |
| 3.Ontario | .9332081 |
| Total | .9317665 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .9356 | .9345705 | .9418201 | .9403045 | .9556496 | .963167 | .9626269 | .9660684 | .9713185 | .9670671 | .890036 | .9058477 | .9291809 | .9185267 | .9030561 | .8776597 | .8834071 | .8351656 | .9267262 |
| 2 | .9544861 | .9310827 | .9664068 | .9573246 | .9663354 | .9612961 | .9672161 | .9443287 | .9551021 | .9668261 | .9569879 | .9414191 | .911006 | .8948945 | .8562413 | .8337001 | .7899579 | .8162464 | .9206032 |
| 3 | .9217129 | .9215029 | .9094911 | .9362629 | .9416245 | .9342042 | .9562672 | .9522831 | .9557967 | .9505191 | .9488438 | .9424272 | .9195954 | .9340208 | .9245332 | .9011862 | .9059763 | .9170983 | .9318525 |
| 4 | .937609 | .9449947 | .9631423 | .949711 | .9449716 | .9450322 | .9541637 | .9342714 | .9524673 | .9502902 | .9529608 | .9339715 | .9194452 | .9213523 | .8857917 | .8909594 | .8853053 | .8843729 | .9306007 |
| 5 | .9250537 | .9386873 | .9425992 | .9408332 | .9314897 | .9443663 | .9519941 | .9571186 | .9482651 | .9530533 | .9376474 | .9315169 | .931933 | .918319 | .9065483 | .9092779 | .9105179 | .9239169 | .9335077 |
| 6 | .9556385 | .944386 | .9494558 | .9458109 | .9406061 | .9587583 | .9617542 | .9388234 | .9390405 | .9494955 | .9435878 | .92357 | .9197353 | .9215103 | .9290267 | .8715066 | .8713365 | .902167 | .9314561 |
| 7 | .9210283 | .9483338 | .96097 | .9514213 | .9592192 | .9604824 | .9727651 | .9657809 | .9553177 | .9383909 | .8936923 | .8811724 | .889019 | .9143405 | .9032507 | .8936644 | .8737102 | .8932306 | .9264328 |
| 8 | .9388513 | .9386917 | .882574 | .8937546 | .9267786 | .9400876 | .960389 | .9570768 | .9514175 | .9505625 | .9547226 | .9570214 | .9472097 | .9453456 | .9219716 | .8958172 | .8831237 | .8980938 | .9301938 |
| 9 | .9459766 | .9213648 | .9139303 | .9286225 | .9262342 | .9212322 | .947171 | .9527899 | .9429262 | .9484874 | .9256083 | .9359425 | .936866 | .9314885 | .9199632 | .9206652 | .9243537 | .9417697 | .9325218 |
| 10 | .9066697 | .8860089 | .9023587 | .9096518 | .9069083 | .9449006 | .9476815 | .9523724 | .9506153 | .953522 | .9271502 | .9467705 | .9422442 | .9438751 | .9229612 | .9247023 | .9345246 | .9531739 | .930894 |
| 11 | .8837036 | .9155324 | .9233845 | .9365698 | .930474 | .9324523 | .9418161 | .9478284 | .9494735 | .9555525 | .9608157 | .9457679 | .9302179 | .9296625 | .9309655 | .9329795 | .926504 | .914131 | .9326573 |
| 12 | .9321216 | .9208151 | .9190781 | .9363251 | .95657 | .9521355 | .9611301 | .9272603 | .9282012 | .8786616 | .899399 | .9485232 | .9427263 | .9267687 | .934912 | .9399817 | .9366143 | .9208724 | .9312276 |
| 13 | .9546224 | .9424664 | .935494 | .9279921 | .9336015 | .9578301 | .9571658 | .9427108 | .9443736 | .9349613 | .9527778 | .9455999 | .8995495 | .8966058 | .9053816 | .9029543 | .9073873 | .9066182 | .9304496 |
| Total | .9317749 | .9298798 | .9315927 | .934968 | .9400356 | .9473804 | .9570878 | .9491318 | .9495627 | .945953 | .9341715 | .9338115 | .9245175 | .9228239 | .9111233 | .8996196 | .8948245 | .9005275 | .9299326 |



SFATLG-4Comp-long- Elasticities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ely1 | ely2 | ely3 | elY |
| Country code |  |  |  |  |
| 1.Aust | 0.098 | 0.244 | 0.492 | 0.834 |
| 2.NZ | 0.426 | 0.157 | 0.490 | 1.073 |
| 3.Ontario | 0.264 | 0.146 | 0.586 | 0.995 |
| Total | 0.279 | 0.170 | 0.536 | 0.985 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ely1 | ely2 | ely3 | elY |
| dnsp |  |  |  |  |
| 1 | 0.276 | 0.170 | 0.471 | 0.917 |
| 2 | 0.030 | 0.253 | 0.436 | 0.719 |
| 3 | 0.225 | 0.168 | 0.443 | 0.835 |
| 4 | -0.045 | 0.269 | 0.562 | 0.786 |
| 5 | 0.023 | 0.264 | 0.465 | 0.753 |
| 6 | -0.284 | 0.360 | 0.810 | 0.885 |
| 7 | -0.076 | 0.328 | 0.618 | 0.870 |
| 8 | 0.467 | 0.135 | 0.246 | 0.848 |
| 9 | 0.064 | 0.274 | 0.505 | 0.843 |
| 10 | -0.051 | 0.299 | 0.590 | 0.838 |
| 11 | 0.255 | 0.225 | 0.354 | 0.835 |
| 12 | 0.046 | 0.252 | 0.627 | 0.924 |
| 13 | 0.343 | 0.172 | 0.274 | 0.789 |
| Total | 0.098 | 0.244 | 0.492 | 0.834 |

SFATLG-4Comp-long Monotonicity Violations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | mon1 | mon2 | mon3 | montot |
| Country code |  |  |  |  |
| 1.Aust | 0.342 | 0.000 | 0.000 | 0.342 |
| 2.NZ | 0.000 | 0.000 | 0.000 | 0.000 |
| 3.Ontario | 0.121 | 0.000 | 0.000 | 0.121 |
| Total | 0.130 | 0.000 | 0.000 | 0.130 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | mon1 | mon2 | mon3 | montot |
| dnsp |  |  |  |  |
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.056 | 0.000 | 0.000 | 0.056 |
| 3 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | 0.889 | 0.000 | 0.000 | 0.889 |
| 5 | 0.333 | 0.000 | 0.000 | 0.333 |
| 6 | 1.000 | 0.000 | 0.000 | 1.000 |
| 7 | 1.000 | 0.000 | 0.000 | 1.000 |
| 8 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | 0.056 | 0.000 | 0.000 | 0.056 |
| 10 | 1.000 | 0.000 | 0.000 | 1.000 |
| 11 | 0.000 | 0.000 | 0.000 | 0.000 |
| 12 | 0.111 | 0.000 | 0.000 | 0.111 |
| 13 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 0.342 | 0.000 | 0.000 | 0.342 |

SFATLG-4Comp-long-Efficiency Scores

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| dnsp |  |
| 1 | .930014 |
| 2 | .9255636 |
| 3 | .9349798 |
| 4 | .9348972 |
| 5 | .9374914 |
| 6 | .9348158 |
| 7 | .9297117 |
| 8 | .9327442 |
| 9 | .9354094 |
| 10 | .9334377 |
| 11 | .9353637 |
| 12 | .9338978 |
| 13 | .933769 |
| Total | .9332381 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| dnsp |  |
| 1 | .9990185 |
| 2 | .9990209 |
| 3 | .9990121 |
| 4 | .9990164 |
| 5 | .9990175 |
| 6 | .9990143 |
| 7 | .9990146 |
| 8 | .999014 |
| 9 | .9990098 |
| 10 | .9990107 |
| 11 | .9990137 |
| 12 | .9990103 |
| 13 | .9990115 |
| Total | .9990142 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| Country code |  |
| 1.Aust | .9332381 |
| 2.NZ | .934157 |
| 3.Ontario | .9361453 |
| Total | .9349064 |

|  |  |
| --- | --- |
|  | technical efficiency via E[exp(-su)|e] |
| Country code |  |
| 1.Aust | .9990142 |
| 2.NZ | .9990146 |
| 3.Ontario | .9990146 |
| Total | .9990145 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .9375796 | .9364803 | .9435667 | .9418957 | .956988 | .9643515 | .9645232 | .9678133 | .9729393 | .9689423 | .8936559 | .9086204 | .9330788 | .9226775 | .9075095 | .8837029 | .8899239 | .8460039 | .930014 |
| 2 | .9558342 | .9327031 | .9681296 | .9594473 | .9682803 | .9636453 | .969395 | .9476147 | .9580384 | .9693139 | .960218 | .9458823 | .9177778 | .9029949 | .8663327 | .844704 | .80189 | .8279428 | .9255636 |
| 3 | .9224871 | .9229197 | .9120735 | .9388493 | .9441419 | .9369001 | .9584427 | .954578 | .9579934 | .9528679 | .9512102 | .9453433 | .9241732 | .9379653 | .9291583 | .9068731 | .9115065 | .9221531 | .9349798 |
| 4 | .937843 | .9456559 | .9642418 | .9507732 | .9462278 | .9463736 | .9556928 | .9365016 | .9549312 | .9531652 | .9559401 | .9383141 | .925402 | .9278672 | .895514 | .9011425 | .8963955 | .8961687 | .9348972 |
| 5 | .9221013 | .9383872 | .9432766 | .9422804 | .9338367 | .9467917 | .9544495 | .9595905 | .9513417 | .956164 | .9419147 | .936578 | .937354 | .9250198 | .914593 | .9174749 | .9205735 | .933117 | .9374914 |
| 6 | .9546162 | .9426771 | .9464645 | .9438601 | .9374835 | .9583154 | .9620574 | .9400188 | .9413471 | .9519024 | .9471859 | .9288736 | .9263317 | .9285836 | .9358574 | .8829248 | .8841407 | .9140432 | .9348158 |
| 7 | .9191558 | .9485872 | .9621588 | .9526266 | .9605026 | .9618223 | .9741537 | .9672901 | .9564191 | .9400737 | .8968631 | .8858194 | .8947206 | .9195157 | .9096332 | .901195 | .8827657 | .9015079 | .9297117 |
| 8 | .9368004 | .9397254 | .8880559 | .9026943 | .9329696 | .9454567 | .9637581 | .9603511 | .9546407 | .953398 | .9569165 | .9586931 | .9484162 | .9461925 | .9233551 | .8969779 | .8834234 | .8975711 | .9327442 |
| 9 | .9448031 | .919856 | .9133188 | .9284911 | .9266427 | .922857 | .949008 | .9547765 | .9454972 | .9511628 | .9298254 | .9400213 | .9414982 | .9368454 | .9265386 | .9275048 | .9313352 | .9473881 | .9354094 |
| 10 | .9061695 | .8852284 | .9009638 | .9099643 | .908153 | .9466068 | .9496434 | .9543728 | .9527807 | .9556995 | .9300758 | .9499526 | .946223 | .9482107 | .929086 | .9309625 | .9402748 | .9575112 | .9334377 |
| 11 | .8803533 | .9146663 | .9249681 | .9397031 | .9338751 | .9357346 | .9446857 | .9504656 | .95203 | .9578243 | .962938 | .9480907 | .9327157 | .9333684 | .9360736 | .9378593 | .9315962 | .9195985 | .9353637 |
| 12 | .9329931 | .9208268 | .9199287 | .9379283 | .9582905 | .954105 | .9630248 | .9299487 | .9308669 | .8826955 | .9032678 | .9511793 | .9455876 | .9303578 | .9384871 | .9437307 | .9408441 | .9260983 | .9338978 |
| 13 | .9520325 | .940921 | .9368063 | .9335042 | .9386262 | .9611017 | .9604126 | .9467367 | .9483635 | .9393898 | .9560817 | .9490458 | .9047782 | .9014116 | .9096831 | .9072382 | .9113397 | .9103691 | .933769 |
| Total | .9309822 | .929895 | .9326118 | .9370783 | .9420014 | .9495432 | .9591729 | .951543 | .9520915 | .9486615 | .9373918 | .9374165 | .9290813 | .92777 | .9170632 | .90633 | .9020007 | .9076518 | .9332381 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 | .9990185 |
| 2 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 | .9990209 |
| 3 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 | .9990121 |
| 4 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 | .9990164 |
| 5 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 | .9990175 |
| 6 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 | .9990143 |
| 7 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 |
| 8 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 | .999014 |
| 9 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 | .9990098 |
| 10 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 | .9990107 |
| 11 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 | .9990137 |
| 12 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 | .9990103 |
| 13 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 | .9990115 |
| Total | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | | |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| Country code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Aust |  | .9309822 | .929895 | .9326118 | .9370783 | .9420014 | .9495432 | .9591729 | .951543 | .9520915 | .9486615 | .9373918 | .9374165 | .9290813 | .92777 | .9170632 | .90633 | .9020007 | .9076518 | .9332381 |
| 2.NZ |  | .9100905 | .9207095 | .9232519 | .9296564 | .9328149 | .930887 | .9298983 | .9233816 | .9292553 | .9270565 | .9349605 | .9387396 | .94203 | .9447722 | .9503767 | .9462182 | .9488546 | .9518714 | .934157 |
| 3.Ontario | .935321 | .9362654 | .9363657 | .9363252 | .9345226 | .929476 | .9369684 | .9422426 | .945334 | .9458097 | .9433193 | .9449739 | .9427027 | .9405896 | .9356164 | .9232847 | .9186976 | .9227999 |  | .9361453 |
| Total | .935321 | .9269866 | .9301102 | .9314618 | .9335515 | .9331853 | .9377541 | .9420057 | .9398196 | .9419922 | .9393923 | .9402391 | .9403417 | .9385857 | .936796 | .9303973 | .9246339 | .9264827 | .9339071 | .9349064 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | | |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| Country code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Aust |  | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 | .9990142 |
| 2.NZ |  | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 |
| 3.Ontario | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 | .9990146 |  | .9990146 |
| Total | .9990146 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990145 | .9990144 | .9990145 |

|  |  |
| --- | --- |
|  | eff |
| dnsp |  |
| 1 | .9291012 |
| 2 | .9246574 |
| 3 | .9340562 |
| 4 | .9339777 |
| 5 | .9365703 |
| 6 | .9338943 |
| 7 | .9287956 |
| 8 | .9318245 |
| 9 | .9344832 |
| 10 | .9325143 |
| 11 | .9344411 |
| 12 | .9329735 |
| 13 | .932846 |
| Total | .9323181 |

|  |  |
| --- | --- |
|  | eff |
| Country code |  |
| 1.Aust | .9323181 |
| 2.NZ | .9332364 |
| 3.Ontario | .9352228 |
| Total | .9339851 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reporting year | | | | | | | | | | | | | | | | | | |
|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| dnsp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | .9366593 | .9355611 | .9426405 | .9409712 | .9560487 | .963405 | .9635765 | .9668633 | .9719843 | .9679913 | .8927788 | .9077286 | .9321629 | .9217718 | .9066188 | .8828355 | .8890505 | .8451736 | .9291012 |
| 2 | .9548983 | .9317899 | .9671818 | .9585079 | .9673323 | .9627019 | .968446 | .9466869 | .9571005 | .9683648 | .9592778 | .9449562 | .9168793 | .9021108 | .8654845 | .843877 | .8011049 | .8271322 | .9246574 |
| 3 | .9215758 | .922008 | .9111724 | .9379218 | .9432092 | .9359746 | .9574959 | .953635 | .957047 | .9519265 | .9502705 | .9444094 | .9232602 | .9370387 | .9282404 | .9059772 | .910606 | .9212421 | .9340562 |
| 4 | .9369205 | .9447258 | .9632934 | .949838 | .9452971 | .9454427 | .9547528 | .9355805 | .9539919 | .9522277 | .9549998 | .9373912 | .9244918 | .9269545 | .8946331 | .9002561 | .8955138 | .8952872 | .9339777 |
| 5 | .9211954 | .9374653 | .9423499 | .9413546 | .9329193 | .9458615 | .9535118 | .9586477 | .9504071 | .9552246 | .9409893 | .9356578 | .9364331 | .924111 | .9136945 | .9165735 | .9196691 | .9322002 | .9365703 |
| 6 | .9536753 | .941748 | .9455316 | .9429297 | .9365594 | .9573708 | .9611091 | .9390923 | .9404193 | .9509641 | .9462522 | .927958 | .9254186 | .9276683 | .934935 | .8820545 | .8832693 | .9131423 | .9338943 |
| 7 | .9182501 | .9476525 | .9612107 | .9516879 | .9595561 | .9608746 | .9731938 | .966337 | .9554766 | .9391474 | .8959793 | .8849465 | .8938389 | .9186096 | .9087368 | .9003069 | .8818958 | .9006196 | .9287956 |
| 8 | .9358767 | .9387988 | .8871802 | .9018042 | .9320496 | .9445245 | .9628078 | .9594042 | .9536994 | .952458 | .9559729 | .9577478 | .947481 | .9452595 | .9224446 | .8960934 | .8825523 | .8966861 | .9318245 |
| 9 | .9438675 | .9189451 | .9124144 | .9275717 | .9257252 | .9219432 | .9480683 | .9538311 | .9445609 | .9502209 | .9289047 | .9390904 | .9405659 | .9359177 | .9256211 | .9265863 | .9304129 | .9464499 | .9344832 |
| 10 | .9052731 | .8843527 | .9000726 | .9090641 | .9072546 | .9456703 | .948704 | .9534286 | .9518382 | .9547541 | .9291557 | .9490129 | .9452869 | .9472727 | .9281669 | .9300416 | .9393446 | .9565639 | .9325143 |
| 11 | .879485 | .9137641 | .9240558 | .9387763 | .932954 | .9348116 | .9437539 | .9495281 | .951091 | .9568796 | .9619882 | .9471556 | .9317957 | .9324478 | .9351503 | .9369342 | .9306773 | .9186915 | .9344411 |
| 12 | .9320697 | .9199154 | .9190183 | .937 | .957342 | .9531606 | .9620717 | .9290283 | .9299456 | .8818219 | .9023738 | .9502379 | .9446518 | .929437 | .9375582 | .9427966 | .9399129 | .9251817 | .9329735 |
| 13 | .9510914 | .9399909 | .9358803 | .9325814 | .9376984 | .9601517 | .9594633 | .9458008 | .9474261 | .9384612 | .9551366 | .9481077 | .9038838 | .9005206 | .9087839 | .9063414 | .9104388 | .9094692 | .932846 |
| Total | .9300645 | .9289783 | .9316924 | .9361545 | .9410728 | .9486072 | .9582273 | .9506049 | .9511529 | .9477263 | .9364677 | .9364923 | .9281654 | .9268554 | .9161591 | .9054365 | .9011114 | .9067569 | .9323181 |

