**Maestría en Probabilidad y Estadística**

**Modelos Estadísticos I**

**Examen Parcial #2-2. (Numérico)**

**1 de mayo de 2021**

**Nombre:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Ejercicio 1.-Análisis de la Economía Mexicana.**

Los datos del archivo EcoMex.csv, que se presentan en la Tabla 1, muestran la información trimestral para la economía mexicana del consumo privado (CPR), la riqueza real (RQR), el ingreso disponible real (YPD), y el tipo de cambio real (TCR) . Para hacer el análisis de estos datos, de acuerdo con los econometristas, empezamos por considerar la transformación logarítmica de todas las variables y posteriormente consideramos el modelo de regresión lineal múltiple,

(1)

donde,

es el logaritmo del consumo privado real en miles de millones de pesos de 1993.

es el logaritmo de la riqueza real calculada como el cociente del agregado monetario M4 dividido entre el índice de precios al consumidor.

es el logaritmo del ingreso nacional disponible real en miles de millones de pesos de 1993.

es el logaritmo del tipo de cambio real.

De los resultados de la regresión que se muestran a continuación, se desprende que un incremento unitario del logaritmo de la riqueza da lugar a un aumento 15.4% en el consumo , mientras que una variación de la misma magnitud en el ingreso eleva en 71% el consumo. También se observa que el tipo de cambio tiene un efecto negativo en el consumo, pero este resultado no es estadísticamente significativo. Observando los resultados anteriores notamos que es relevante examinar la posible existencia de multicolinealidad en virtud de la fuerte relación que puede existir entre las tres variables explicativas; La riqueza de los individuos se forma a través de su ingreso y estas dos variables son afectadas sensiblemente por lo que ocurre con los precios de bienes importados, cuyo efecto es tomado en cuenta por el tipo de cambio.

> mod1<-lm(lcpr~lrqr+lydr+ltcr,dat)

> summary(mod1)

Call:

lm(formula = lcpr ~ lrqr + lydr + ltcr, data = dat)

Residuals:

Min 1Q Median 3Q Max

-0.061536 -0.017314 -0.001635 0.020202 0.072171

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.90203 0.54239 3.507 0.000703 \*\*\*

lrqr 0.15401 0.03161 4.873 4.57e-06 \*\*\*

lydr 0.71042 0.06637 10.704 < 2e-16 \*\*\*

ltcr -0.03185 0.02053 -1.551 0.124223

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03154 on 92 degrees of freedom

Multiple R-squared: 0.9744, Adjusted R-squared: 0.9735

F-statistic: 1165 on 3 and 92 DF, p-value: < 2.2e-16

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Hacer lo siguiente.

a).-Haga una análisis exhaustivo de la presencia de la muticolinealidad.

b).-Presente soluciones al problema de la multicolinealidad, considerando eliminación de covariables.

c).-Presente soluciones al problema de la multicolinealidad, considerando regresión ridge.

d).-Determine cuál es el modelo estadístico correspondiente si todas las variables se consideran en la escala original, sin transformación logarítmica, partiendo del modelo (1) dado anteriormente.

**Ejercicio 2.-Análisis de mediciones de grasa en puercos**

La medición del porcentaje de grasa (FAT) en puercos es un procedimiento costoso, por lo cual es importante investigar si este porcentaje se puede predecir a partir de otras propiedades del puerco de fácil medición. En la Tabla 2, se muestran 10 predictores de la grasa, en una muestra de 45 carcasas de puercos. Estas variables son:

**AVBF** es un promedio de tres mediciones del grosor de grasa en la espalda.

**MUS** es una puntuación de musculatura para la carcasa .Entre mayor sea este número, hay más musculo y menos grasa.

**LEA** es una medición del área del lomo

**DEP** es un promedio de tres mediciones de la profundidad de la grasa frente a la décima costilla.

**LWT** es el peso vivo de la carcasa.

**CWT** es el peso de la carcasa sacrificada

**WTWAT** es una medida usada para determinar al gravedad especifica.

**DPSL** es el promedio de tres determinaciones de la profundidad del vientre

**LESL** es la medida promedio de la delgadez de tres secciones transversales del vientre

**BELWT** es el peso total del vientre

Los valores observados de estas variables se muestran en la Tabla 2. Enseguida presentamos el resumen del ajuste del modelo de regresión múltiple con las 10 variables explicativas.

> mod1<-lm(FAT~.,dat)

> summary(mod1)

Call:

lm(formula = FAT ~ ., data = dat)

Residuals:

Min 1Q Median 3Q Max

-4.8962 -1.4567 0.0092 1.1068 5.3429

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 28.70875 17.26348 1.663 0.1055

AVBF -5.46006 3.64841 -1.497 0.1437

MUS -0.58959 0.30027 -1.964 0.0578 .

LEA -0.85404 1.69859 -0.503 0.6184

DEP 9.16740 4.89726 1.872 0.0698 .

LWT 0.05578 0.11552 0.483 0.6323

CWT 0.10170 0.13567 0.750 0.4586

WTWAT -1.34459 2.90576 -0.463 0.6465

DPSL -1.81235 3.52345 -0.514 0.6103

LESL -0.51201 0.28855 -1.774 0.0850 .

BELWT 0.90209 0.45644 1.976 0.0563 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.511 on 34 degrees of freedom

Multiple R-squared: 0.8052, Adjusted R-squared: 0.7479

F-statistic: 14.06 on 10 and 34 DF, p-value: 2.22e-09

Este modelo de regresión relaciona la variable respuesta FAT con las 10 variables predictivas definidas anteriormente. De acuerdo a los resultados del análisis de regresión, parece haber un problema de multicolinealidad. Nos interesa tener un modelo de regresión lineal múltiple mediante el cual se pueda predecir el valor de la variable respuesta, con un impacto reducido de la multicolinealidad.

a).-Haga un análisis de la existencia de multicolinealidad.

b).-¿Que variables explicativas se pueden eliminar para reducir el impacto de la multicolinealidad? Justifique la eliminación de variables.

c).-Determine qué modelo de regresión lineal múltiple con el menor número de variables predictivas, explica la variable respuesta (FAT), con el mismo poder predictivo que el modelo original (Que contiene 10 variables explicativas.)

d).-¿Qué respuesta se puede dar en términos de la regresión ridge? Explique su respuesta.

**DATOS:**

**Tabla 1**.-Datos de consumo, ingreso y riqueza por trimrstre tnMéxico de 1980 a 2003.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| obs | CPR | RQR | YPDR | TCR | lcpr | lrqr | lydr | ltcr |
| 1980.1 | 622669.7 | 257515.6 | 755878.8 | 3.18 | 13.34177 | 12.45884 | 13.53564 | 1.156881 |
| 1980.2 | 656003.9 | 264988.7 | 752659.2 | 3.13 | 13.39392 | 12.48744 | 13.53137 | 1.141033 |
| 1980.3 | 685265.2 | 269365.6 | 744801.2 | 3.03 | 13.43756 | 12.50382 | 13.52087 | 1.108563 |
| 1980.4 | 704087.9 | 284955.7 | 801680.1 | 2.97 | 13.46466 | 12.56009 | 13.59446 | 1.088562 |
| 1981.1 | 669779.5 | 287954.8 | 817319.1 | 2.84 | 13.4147 | 12.57056 | 13.61378 | 1.043804 |
| 1981.2 | 705334.5 | 306438.2 | 828371.4 | 2.82 | 13.46643 | 12.63277 | 13.62722 | 1.036737 |
| 1981.3 | 735406.2 | 320014.9 | 805993.7 | 2.84 | 13.50818 | 12.67612 | 13.59983 | 1.043804 |
| 1981.4 | 741145.2 | 332162.2 | 856771.2 | 2.81 | 13.51595 | 12.71338 | 13.66093 | 1.033184 |
| 1982.1 | 700813.6 | 355152 | 836780.7 | 3.42 | 13.46 | 12.7803 | 13.63732 | 1.229641 |
| 1982.2 | 717005.6 | 329467.3 | 826951.9 | 4.03 | 13.48284 | 12.70523 | 13.6255 | 1.393766 |
| 1982.3 | 706672.2 | 317785.6 | 795470.5 | 4.56 | 13.46832 | 12.66913 | 13.58669 | 1.517323 |
| 1982.4 | 698525.9 | 308598.6 | 811759.7 | 4.48 | 13.45673 | 12.6398 | 13.60696 | 1.499623 |
| 1983.1 | 650790.5 | 271066.7 | 803320.7 | 4.87 | 13.38594 | 12.51012 | 13.59651 | 1.583094 |
| 1983.2 | 679915.9 | 258082.2 | 789757.9 | 4.75 | 13.42972 | 12.46103 | 13.57948 | 1.558145 |
| 1983.3 | 687656.4 | 263054.5 | 764276.7 | 4.7 | 13.44104 | 12.48012 | 13.54669 | 1.547563 |
| 1983.4 | 686711 | 271973.8 | 806153.9 | 4.62 | 13.43967 | 12.51346 | 13.60003 | 1.530395 |
| 1984.1 | 670203.5 | 269165 | 830479.8 | 4.34 | 13.41534 | 12.50308 | 13.62976 | 1.467874 |
| 1984.2 | 692880.8 | 268942.4 | 812778.6 | 4.19 | 13.44861 | 12.50225 | 13.60821 | 1.432701 |
| 1984.3 | 715406.1 | 273121.8 | 800589.7 | 4.14 | 13.48061 | 12.51767 | 13.5931 | 1.420696 |
| 1984.4 | 703133.6 | 285797.5 | 830101 | 4.04 | 13.4633 | 12.56304 | 13.6293 | 1.396245 |
| 1985.1 | 691959.8 | 278633.8 | 845409.5 | 3.77 | 13.44728 | 12.53765 | 13.64758 | 1.327075 |
| 1985.2 | 721202.5 | 278999.1 | 845054.2 | 3.79 | 13.48868 | 12.53896 | 13.64716 | 1.332366 |
| 1985.3 | 731260.5 | 281378.4 | 813892.6 | 4.34 | 13.50253 | 12.54746 | 13.60958 | 1.467874 |
| 1985.4 | 721416.8 | 274409.3 | 849840.1 | 4.65 | 13.48897 | 12.52238 | 13.6528 | 1.536867 |
| 1986.1 | 688204.5 | 258467.6 | 820628.5 | 4.89 | 13.44184 | 12.46253 | 13.61783 | 1.587192 |
| 1986.2 | 716683 | 257031.2 | 840400.9 | 5.17 | 13.48239 | 12.45695 | 13.64163 | 1.642873 |
| 1986.3 | 707108.3 | 256113.8 | 772418.3 | 5.54 | 13.46894 | 12.45338 | 13.55728 | 1.711995 |
| 1986.4 | 692840.3 | 269506.4 | 813479.2 | 5.81 | 13.44855 | 12.50435 | 13.60908 | 1.759581 |
| 1987.1 | 657738.9 | 277360.1 | 812856.3 | 5.78 | 13.39656 | 12.53307 | 13.60831 | 1.754404 |
| 1987.2 | 708041.3 | 283744.9 | 843850.1 | 5.68 | 13.47026 | 12.55583 | 13.64573 | 1.736951 |
| 1987.3 | 719141 | 287041 | 796120.6 | 5.43 | 13.48581 | 12.56738 | 13.58751 | 1.691939 |
| 1987.4 | 724679.6 | 280684.4 | 855320.6 | 5.2 | 13.49348 | 12.54499 | 13.65923 | 1.648659 |
| 1988.1 | 672262.5 | 252680.1 | 834575.8 | 4.78 | 13.4184 | 12.43988 | 13.63468 | 1.564441 |
| 1988.2 | 710845.6 | 267613.2 | 854046.8 | 4.41 | 13.47421 | 12.4973 | 13.65774 | 1.483875 |
| 1988.3 | 716630.2 | 263132.2 | 799259.4 | 4.27 | 13.48232 | 12.48041 | 13.59144 | 1.451614 |
| 1988.4 | 746074.2 | 281594.2 | 867946.7 | 4.19 | 13.52258 | 12.54822 | 13.67389 | 1.432701 |
| 1989.1 | 714711.8 | 293541 | 859009.4 | 4.09 | 13.47963 | 12.58977 | 13.66354 | 1.408545 |
| 1989.2 | 773052.7 | 310033 | 894196.1 | 4.15 | 13.5581 | 12.64443 | 13.70368 | 1.423108 |
| 1989.3 | 784973.8 | 333738.5 | 843125.3 | 4.2 | 13.57341 | 12.71811 | 13.64487 | 1.435085 |
| 1989.4 | 780341.2 | 354932.4 | 896285.1 | 4.21 | 13.56749 | 12.77968 | 13.70601 | 1.437463 |
| 1990.1 | 754406.3 | 352162 | 892604.5 | 4.03 | 13.53369 | 12.77185 | 13.7019 | 1.393766 |
| 1990.2 | 808002.7 | 369719.3 | 934981.1 | 3.99 | 13.60232 | 12.8205 | 13.74828 | 1.383791 |
| 1990.3 | 838931.1 | 381995.4 | 889889.1 | 3.95 | 13.63988 | 12.85316 | 13.69885 | 1.373716 |
| 1990.4 | 848004 | 404554.6 | 962589.2 | 3.88 | 13.65064 | 12.91054 | 13.77738 | 1.355835 |
| 1991.1 | 783902 | 409329.3 | 933329.4 | 3.69 | 13.57204 | 12.92228 | 13.74651 | 1.305626 |
| 1991.2 | 852071.4 | 430837.7 | 981820.3 | 3.63 | 13.65543 | 12.97349 | 13.79716 | 1.289233 |
| 1991.3 | 867844.3 | 437701.2 | 918277.5 | 3.61 | 13.67377 | 12.98929 | 13.73025 | 1.283708 |
| 1991.4 | 897554.9 | 450445.6 | 1000744 | 3.51 | 13.70743 | 13.01799 | 13.81625 | 1.255616 |
| 1992.1 | 818616.8 | 443679.3 | 975989 | 3.35 | 13.61537 | 13.00286 | 13.79121 | 1.20896 |
| 1992.2 | 893219.9 | 447532.7 | 1007555 | 3.32 | 13.70259 | 13.0115 | 13.82304 | 1.199965 |
| 1992.3 | 906955.1 | 451118.8 | 958306.4 | 3.28 | 13.71785 | 13.01949 | 13.77292 | 1.187843 |
| 1992.4 | 941726.4 | 472486.1 | 1028608 | 3.25 | 13.75547 | 13.06576 | 13.84372 | 1.178655 |
| 1993.1 | 897029.1 | 495617.5 | 1005264 | 3.16 | 13.70684 | 13.11356 | 13.82076 | 1.150572 |
| 1993.2 | 902693.2 | 516769.1 | 1014621 | 3.13 | 13.71314 | 13.15535 | 13.83003 | 1.141033 |
| 1993.3 | 895346.6 | 530718.2 | 973658.8 | 3.1 | 13.70497 | 13.18199 | 13.78882 | 1.131402 |
| 1993.4 | 933207.8 | 553572 | 1050608 | 3.08 | 13.74638 | 13.22415 | 13.86488 | 1.12493 |
| 1994.1 | 918003.6 | 580689.7 | 1027437 | 3.08 | 13.72996 | 13.27197 | 13.84258 | 1.12493 |
| 1994.2 | 956209.5 | 578320 | 1070253 | 3.22 | 13.77073 | 13.26788 | 13.88341 | 1.169381 |
| 1994.3 | 939831.5 | 589366.3 | 1018217 | 3.25 | 13.75346 | 13.2868 | 13.83356 | 1.178655 |
| 1994.4 | 988635.5 | 626517.1 | 1104246 | 3.4 | 13.80408 | 13.34793 | 13.91467 | 1.223775 |
| 1995.1 | 887916.1 | 607586.7 | 1018324 | 5.18 | 13.69663 | 13.31725 | 13.83367 | 1.644805 |
| 1995.2 | 854404.5 | 517861.1 | 967239.4 | 4.58 | 13.65816 | 13.15746 | 13.7822 | 1.521699 |
| 1995.3 | 848686.5 | 504470.6 | 932833.2 | 4.31 | 13.65145 | 13.13126 | 13.74598 | 1.460938 |
| 1995.4 | 897618.8 | 519514.4 | 1023285 | 4.79 | 13.7075 | 13.16065 | 13.83853 | 1.56653 |
| 1996.1 | 868736.3 | 511034.2 | 1018860 | 4.54 | 13.67479 | 13.14419 | 13.83419 | 1.512927 |
| 1996.2 | 878233.1 | 509943.6 | 1033707 | 4.26 | 13.68567 | 13.14206 | 13.84866 | 1.449269 |
| 1996.3 | 875418.5 | 516108.9 | 1002126 | 4.14 | 13.68246 | 13.15407 | 13.81763 | 1.420696 |
| 1996.4 | 937754.7 | 532438 | 1095429 | 4.11 | 13.75124 | 13.18522 | 13.90666 | 1.413423 |
| 1997.1 | 887254.1 | 548660.1 | 1069624 | 3.89 | 13.69589 | 13.21523 | 13.88282 | 1.358409 |
| 1997.2 | 950626.4 | 567997.9 | 1123386 | 3.8 | 13.76488 | 13.24987 | 13.93186 | 1.335001 |
| 1997.3 | 940579.2 | 578073.6 | 1079928 | 3.67 | 13.75425 | 13.26746 | 13.8924 | 1.300192 |
| 1997.4 | 1007977 | 596459.8 | 1173176 | 3.69 | 13.82346 | 13.29877 | 13.97522 | 1.305626 |
| 1998.1 | 963077.3 | 594183.2 | 1152403 | 3.66 | 13.77789 | 13.29494 | 13.95736 | 1.297463 |
| 1998.2 | 1005846 | 605807.6 | 1171820 | 3.67 | 13.82134 | 13.31432 | 13.97407 | 1.300192 |
| 1998.3 | 994129.7 | 610258.8 | 1136266 | 3.9 | 13.80962 | 13.32164 | 13.94326 | 1.360977 |
| 1998.4 | 1025673 | 617850.9 | 1205113 | 3.95 | 13.84086 | 13.334 | 14.00208 | 1.373716 |
| 1999.1 | 978525.5 | 618867.1 | 1173787 | 3.72 | 13.7938 | 13.33565 | 13.97575 | 1.313724 |
| 1999.2 | 1039474 | 633830.1 | 1212878 | 3.47 | 13.85423 | 13.35954 | 14.00851 | 1.244155 |
| 1999.3 | 1035155 | 655890.1 | 1188100 | 3.39 | 13.85006 | 13.39375 | 13.98787 | 1.22083 |
| 1999.4 | 1099457 | 671967.6 | 1271036 | 3.37 | 13.91033 | 13.41797 | 14.05534 | 1.214913 |
| 2000.1 | 1058679 | 636787.7 | 1259796 | 3.28 | 13.87253 | 13.36419 | 14.04646 | 1.187843 |
| 2000.2 | 1128677 | 677733.8 | 1303438 | 3.31 | 13.93656 | 13.42651 | 14.08052 | 1.196948 |
| 2000.3 | 1125998 | 693186.4 | 1273989 | 3.22 | 13.93418 | 13.44905 | 14.05766 | 1.169381 |
| 2000.4 | 1170851 | 669718 | 1329702 | 3.21 | 13.97324 | 13.41461 | 14.10047 | 1.166271 |
| 2001.1 | 1126404 | 677853.3 | 1289098 | 3.25 | 13.93454 | 13.42669 | 14.06945 | 1.178655 |
| 2001.2 | 1172622 | 690784.9 | 1306958 | 3.08 | 13.97475 | 13.44558 | 14.08321 | 1.12493 |
| 2001.3 | 1143377 | 718270.9 | 1256358 | 3.07 | 13.9495 | 13.4846 | 14.04373 | 1.121678 |
| 2001.4 | 1186378 | 739958 | 1311660 | 3.03 | 13.98642 | 13.51435 | 14.0868 | 1.108563 |
| 2002.1 | 1106926 | 743661.5 | 1265439 | 2.96 | 13.9171 | 13.51934 | 14.05093 | 1.085189 |
| 2002.2 | 1205981 | 751074.1 | 1335539 | 3.06 | 14.0028 | 13.52926 | 14.10485 | 1.118415 |
| 2002.3 | 1164410 | 781571 | 1277667 | 3.260111 | 13.96773 | 13.56906 | 14.06055 | 1.181761 |
| 2002.4 | 1213524 | 808604 | 1343183 | 3.013615 | 14.00904 | 13.60306 | 14.11055 | 1.10314 |
| 2003.1 | 1150610 | 803990.5 | 1306291 | 3.100431 | 13.9558 | 13.59734 | 14.0827 | 1.131541 |
| 2003.2 | 1238314 | 818772.7 | 1354562 | 3.397831 | 14.02926 | 13.61556 | 14.11899 | 1.223137 |
| 2003.3 | 1200142 | 854935 | 1313379 | 3.349285 | 13.99795 | 13.65878 | 14.08811 | 1.208747 |
| 2003.4 | 1257638 | 913690.9 | 1410397 | 3.131975 | 14.04475 | 13.72525 | 14.15938 | 1.141664 |

**Tabla 2**.-Variables predictivas del contenido de grasa (FAT) en la piel de una muestra de 45 puercos

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **AVBF** | **MUS** | **LEA** | **DEP** | **LWT** | **CWT** | **WTWAT** | **DPSL** | **LESL** | **BELWT** | **FAT** | | 1.3 | 14 | 5 | 1.27 | 239 | 187 | 4.1 | 1.5 | 10 | 14.35 | 51.4 | | 1.57 | 9 | 4.1 | 1.47 | 229 | 175 | 3.83 | 1.567 | 6 | 13.76 | 58 | | 1.68 | 11 | 4.2 | 1.6 | 223 | 172 | 3.38 | 1.533 | 5 | 12.99 | 51 | | 1.58 | 9 | 4.3 | 1.73 | 210 | 160 | 3.38 | 1.4 | 8.667 | 12.42 | 54.5 | | 1.18 | 13 | 5 | 1.13 | 234 | 178 | 3.86 | 1.533 | 8 | 13.77 | 53.1 | | 1.98 | 13 | 4.2 | 1.97 | 239 | 185 | 3.24 | 1.6 | 4.333 | 14.06 | 57.1 | | 1.28 | 9 | 4.8 | 1.23 | 226 | 172 | 3.83 | 1.3 | 5.667 | 12.32 | 55.3 | | 1.62 | 11 | 5.5 | 1.57 | 225 | 172 | 4.14 | 1.5 | 9.333 | 12.82 | 49.9 | | 1.53 | 10 | 4.1 | 1.8 | 227 | 173 | 3.1 | 1.767 | 4.667 | 10.93 | 57.3 | | 1.2 | 10 | 5.5 | 1 | 215 | 164 | 4.21 | 1.467 | 12 | 11.1 | 46 | | 1.67 | 10 | 5.1 | 1.6 | 210 | 180 | 3.95 | 1.667 | 7.667 | 12.49 | 54.1 | | 1.88 | 10 | 4.7 | 1.67 | 233 | 181 | 3.82 | 1.433 | 5.333 | 12.72 | 61.6 | | 1.5 | 9 | 4.9 | 1.6 | 212 | 162 | 3.71 | 1.6 | 6.667 | 12.87 | 56.1 | | 1.47 | 14 | 5.4 | 1.17 | 244 | 192 | 4.32 | 1.367 | 8.333 | 13.93 | 51.7 | | 1.38 | 11 | 5.05 | 1.2 | 236 | 180 | 4.43 | 1.4 | 12 | 13.19 | 50.9 | | 1.88 | 8 | 3.3 | 2.17 | 217 | 166 | 2.61 | 1.6 | 4 | 12.02 | 64.8 | | 1.72 | 12 | 4.9 | 1.6 | 223 | 171 | 3.64 | 1.333 | 8.333 | 12.61 | 56.1 | | 1.88 | 6 | 4.4 | 1.8 | 226 | 175 | 3.69 | 1.533 | 8 | 11.65 | 57.5 | | 1.73 | 12 | 4 | 1.57 | 232 | 177 | 3.82 | 1.667 | 5.667 | 12.99 | 54.4 | | 1.33 | 9 | 4.9 | 1.33 | 221 | 170 | 3.96 | 1.3 | 7 | 12.44 | 50.9 | | 1.42 | 6 | 5 | 1.37 | 219 | 166 | 3.87 | 1.3 | 10 | 12.05 | 49.5 | | 1.35 | 9 | 4.8 | 1.43 | 228 | 175 | 3.7 | 1.433 | 10 | 12.34 | 56.6 | | 1.78 | 11 | 5.1 | 1.43 | 226 | 176 | 3.95 | 1.567 | 9.667 | 13.37 | 49.8 | | 1.35 | 15 | 4.6 | 1.37 | 230 | 178 | 3.52 | 1.533 | 7 | 15.25 | 58.5 | | 1.18 | 9 | 3.9 | 1.2 | 224 | 168 | 3.73 | 1.6 | 7.333 | 13.03 | 55.4 | | 1.58 | 10 | 4 | 1.6 | 223 | 167 | 3.6 | 1.767 | 7 | 11.24 | 50.3 | | 1.7 | 12 | 3.5 | 2.07 | 240 | 188 | 3.1 | 1.7 | 5 | 14.78 | 65.4 | | 1.52 | 10 | 4.45 | 1.47 | 231 | 178 | 3.72 | 1.667 | 6.333 | 13.39 | 55.3 | | 1.3 | 15 | 4.8 | 1.33 | 235 | 183 | 3.61 | 1.433 | 6.667 | 13.1 | 50.3 | | 1.68 | 10 | 4.05 | 1.8 | 241 | 195 | 3.63 | 1.867 | 6.667 | 14.56 | 60.1 | | 1.8 | 11 | 3.05 | 2.07 | 222 | 166 | 2.33 | 1.733 | 3.667 | 11.77 | 58.7 | | 1.78 | 11 | 5.1 | 1.43 | 226 | 176 | 3.95 | 1.6 | 7 | 13.21 | 49.8 | | 1.18 | 9 | 3.9 | 1.2 | 224 | 168 | 3.73 | 1.567 | 5.667 | 13.84 | 58.3 | | 1.68 | 11 | 4.2 | 1.6 | 223 | 172 | 3.38 | 1.5 | 9.667 | 15.63 | 55.1 | | 1.18 | 13 | 5 | 1.13 | 234 | 178 | 3.86 | 1.467 | 8 | 14.62 | 53.1 | | 1.98 | 13 | 4.2 | 1.97 | 239 | 185 | 3.24 | 1.467 | 6.333 | 15.17 | 59.8 | | 1.35 | 9 | 4.85 | 1.1 | 214 | 164 | 4.27 | 1.5 | 9.667 | 12.17 | 46.7 | | 1.2 | 10 | 5.5 | 1 | 215 | 164 | 4.21 | 1.567 | 12.667 | 12.43 | 46 | | 1.47 | 14 | 5.4 | 1.17 | 244 | 192 | 4.32 | 1.8 | 7.667 | 11.66 | 53 | | 1.88 | 8 | 3.3 | 2.17 | 217 | 166 | 2.61 | 1.667 | 4.667 | 13.97 | 65.8 | | 1.88 | 8 | 4.4 | 1.8 | 226 | 175 | 3.69 | 1.567 | 6.667 | 11.63 | 57.4 | | 1.33 | 9 | 4.9 | 1.33 | 221 | 170 | 3.96 | 1.367 | 7 | 12.14 | 50.9 | | 1.35 | 9 | 4.8 | 1.43 | 228 | 175 | 3.7 | 1.267 | 6.333 | 13.57 | 56.6 | | 1.7 | 12 | 3.5 | 2.07 | 240 | 188 | 3.1 | 1.567 | 5.333 | 14.87 | 65.2 | | 1.68 | 10 | 4.05 | 1.8 | 241 | 195 | 3.63 | 1.833 | 6.333 | 14.8 | 59.4 | |