

PS8

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March 2020

1 Problem Set Answers

Problem 5. The betas calculated here are almost identical to the vector in equation 1

Problem 9: The beta calculated here are almost identical to the true betas, probably because the relationship is very close to linear.

Table 1:

| | <i>Dependent variable:</i> |
|-------------------------|-----------------------------------|
| | Y |
| X1 | 1.499*** (0.002) |
| X2 | -0.998*** (0.002) |
| X3 | -0.250*** (0.002) |
| X4 | 0.749*** (0.002) |
| X5 | 3.500*** (0.002) |
| X6 | -1.999*** (0.002) |
| X7 | 0.501*** (0.002) |
| X8 | 1.001*** (0.002) |
| X9 | 1.249*** (0.002) |
| X10 | 1.998*** (0.002) |
| Observations | 100,000 |
| R ² | 0.991 |
| Adjusted R ² | 0.991 |
| Residual Std. Error | 0.502 (df = 99990) |
| F Statistic | 1,060,049.000*** (df = 10; 99990) |
| <i>Note:</i> | *p<0.1; **p<0.05; ***p<0.01 |