Southwestern Public Service Company
Econometric Model Parameters

The parameters associated with SPS's econometric forecasting models are provided in the following tables:

- Table F-1 through F-12 – Retail Energy Sales – Residential;
- Table F-13 through F-27 – Retail Energy Sales - Commercial and Industrial;
- Table F-28 through F-33 – Retail Energy Sales - Street Lighting;
- Table F-34 through F-39 – Retail Energy Sales - Other Public Authority;
- Table F-40 through F-57 – Retail Customers;
- Table F-58 through F-78 – Wholesale Energy Sales;
- Table F-79 through F-81 – Coincident Peak Demand – Retail; and
- Table F-82 through F-90 – Probability Distribution.

Table F-1: Retail Sales - New Mexico Residential Service

Retail Sales - New Mexico Residential Service

Dependent Variable: S_ResService_NM
Method: Least Squares
Sample: 2004M01 2017M12
Included observations: 167
S_ResService_NM = C(1)*CYPperHH_NM + C(2)*(Jan*HDD65B_ROS*C_ResService_NM) + C(3)*(Feb*HDD65B_ROS*C_ResService_NM) + C(4)*Mar*HDD65B_ROS*C_ResService_NM) + C(5)*(Nov*HDD65B_ROS*C_ResService_NM) +C(6)*(Dec*HDD65B_ROS*C_ResService_NM) + C(7)*(Jun*CDD65B_ROS*C_ResService_NM) + C(8)*(Jul*CDD65B_ROS*C_ResService_NM) + C(9)*(Aug*CDD65B_ROS*C_ResService_NM) + C(10)*(Sep*CDD65B_ROS*C_ResService_NM) + C(11)*(Oct*CDD65B_ROS*C_ResService_NM) + C(12)*Bin0706 + C(13)*Bin0117 + C(14)*HolidayVariable +[AR(1)=C(15)]

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	321.227934	5.046278	63.656	0.00%
C(2)	0.000484	0.000020	24.769	0.00%
C(3)	0.000291	0.000024	11.934	0.00%
C(4)	0.000286	0.000029	9.863	0.00%
C(5)	0.000351	0.000243	1.448	14.97%
C(6)	0.000539	0.000094	5.763	0.00%
C(7)	0.000833	0.000039	21.288	0.00%
C(8)	0.000953	0.000030	31.652	0.00%
C(9)	0.001011	0.000029	34.533	0.00%
C(10)	0.000875	0.000041	21.385	0.00%
C(11)	0.000758	0.000089	8.540	0.00%
C(12)	-5223.120915	2468.428698	-2.116	3.60%
C(13)	6792.635836	2459.573709	2.762	0.65%
C(14)	-6018.599092	3056.462748	-1.969	5.08%
C(15)	0.298532	0.077480	3.853	0.02%

Table F-2: Retail Sales - New Mexico Residential Service – Regression Statistics

Model Statistics	
Adjusted Observations	167
R-Squared	0.955
Adjusted R-Squared	0.951
AIC	15.721
BIC	16.001
Log-Likelihood	-1,534.69
Model Sum of Squares	20,145,272,123.34
Sum of Squared Errors	938,337,711.16
Std. Error of Regression	2,484.61
Durbin-Watson Statistic	1.977
Mean dependent var	45,363.20
StdDev dependent var	11,240.86

Table F-3: Retail Sales - New Mexico Residential Service – Definitions

Retail Sales - New Mexico Residential Service

Variable Name	Definition
S_ResSvc_NM	Residential Service sales in New Mexico
CYPperHH_NM_MA12	12 Month Moving Average of Real personal income per household in New Mexico service area
H65_bill_ResSvc_NM_Jan	Heating degree days (January) multiplied by customers
H65_bill_ResSvc_NM_Feb	Heating degree days (February) multiplied by customers
H65_bill_ResSvc_NM_Mar	Heating degree days (March) multiplied by customers
H65_bill_ResSvc_NM_Nov	Heating degree days (November) multiplied by customers
H65_bill_ResSvc_NM_Dec	Heating degree days (December) multiplied by customers
C65_bill_ResSvc_NM_Jun	Cooling degree days (June) multiplied by customers
C65_bill_ResSvc_NM_Jul	Cooling degree days (July) multiplied by customers
C65_bill_ResSvc_NM_Aug	Cooling degree days (August) multiplied by customers
C65_bill_ResSvc_NM_Sep	Cooling degree days (September) multiplied by customers
C65_bill_ResSvc_NM_Oct	Cooling degree days (October) multiplied by customers
Bin0706	Binary variable for July 2006=1, otherwise =0
Bin0117	Binary variable for January 2017=1, otherwise =0
HolidayVariable	Binary variable for November and December=1, otherwise =0
AR(1)	First-order autoregressive term

Table F-4: Retail Sales – New Mexico Residential Space Heating Service

Retail Sales - New Mexico Residential Space Heat Service

Dependent Variable: S_ResSpaceHeat_NM				
Method: Least Squares				
Sample: 2007M01 2017M12				
Included observations: 132				
S_ResSpaceHeat_NM = C(1)*CONST +C(2)*Trend2014 +C(3)*(Jan*HDD65B_ROS*C_ResSpaceHeat_NM) + C(4)*(Feb*HDD65B_ROS*C_ResSpaceHeat_NM) + C(5)*(Mar*HDD65B_ROS*C_ResSpaceHeat_NM) + C(6)*(Nov*HDD65B_ROS*C_ResSpaceHeat_NM) + C(7)*(Dec*HDD65B_ROS*C_ResSpaceHeat_NM) + C(8)*(Jun*CDD65B_ROS*C_ResSpaceHeat_NM) + C(9)*(Jul*CDD65B_ROS*C_ResSpaceHeat_NM) + C(10)*(Aug*CDD65B_ROS*C_ResSpaceHeat_NM) + C(11)*(Sep*CDD65B_ROS*C_ResSpaceHeat_NM) + C(12)*HolidayVariable				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	30539.952812	494.108	61.808	0.00%
C(2)	-50.850286	17.089	-2.976	0.35%
C(3)	0.001460	0.000	37.840	0.00%
C(4)	0.001130	0.000	21.747	0.00%
C(5)	0.001087	0.000	15.577	0.00%
C(6)	0.000830	0.001	1.633	10.51%
C(7)	0.001376	0.000	7.329	0.00%
C(8)	0.000813	0.000	8.665	0.00%
C(9)	0.001060	0.000	16.964	0.00%
C(10)	0.001188	0.000	20.077	0.00%
C(11)	0.000832	0.000	10.217	0.00%
C(12)	-8071.492	3208.038	-2.516	1.32%

Table F-5: Retail Sales - New Mexico Residential Space Heating Service – Regression Statistics

Model Statistics	
Adjusted Observations	132
R-Squared	0.947
Adjusted R-Squared	0.942
AIC	15.944
BIC	16.206
Log-Likelihood	-1,227.61
Model Sum of Squares	16,492,363,451.91
Sum of Squared Errors	924,851,704.15
Std. Error of Regression	2,776.17
Durbin-Watson Statistic	1.901
Mean dependent var	41,441.06
StdDev dependent var	11,530.65

Table F-6: Retail Sales - New Mexico Residential Space Heating Service – Definitions

Retail Sales - New Mexico Residential Space Heat Service

Variable Name	Definition
S_ResSpaceHeat_NM	Residential Space Heating Service sales in New Mexico
CONST	Constant Variable
Trend2014	Trend Variable beginning in January 2014
H65_bill_ResSpHt_NM_Jan	Heating degree days (January) multiplied by customers
H65_bill_ResSpHt_NM_Feb	Heating degree days (February) multiplied by customers
H65_bill_ResSpHt_NM_Mar	Heating degree days (March) multiplied by customers
H65_bill_ResSpHt_NM_Nov	Heating degree days (November) multiplied by customers
H65_bill_ResSpHt_NM_Dec	Heating degree days (December) multiplied by customers
C65_bill_ResSpHt_NM_Jun	Cooling degree days (June) multiplied by customers
C65_bill_ResSpHt_NM_Jul	Cooling degree days (July) multiplied by customers
C65_bill_ResSpHt_NM_Aug	Cooling degree days (August) multiplied by customers
C65_bill_ResSpHt_NM_Sep	Cooling degree days (September) multiplied by customers
HolidayVariable	Binary variable for November and December=1, otherwise =0

Table F-7: Retail Sales – Texas Residential Service

Retail Sales - Texas Residential Service

Dependent Variable: S_ResService_TX
Method: Least Squares
Sample: 2006M05 2017M12
Included observations: 139

S_ResService_TX = C(1)*CYPperHH_TX + C(2)*(Jan*HDD65B_PAN*C_ResService_TX) + C(3)*(Feb*HDD65B_PAN*C_ResService_TX) + C(4)*Mar*HDD65B_PAN*C_ResService_TX) + C(5)*(Dec*HDD65B_PAN*C_ResService_TX) + C(6)*(May*CDD65B_PAN*C_ResService_TX) + C(7)*(Jun*CDD65B_PAN*C_ResService_TX) + C(8)*(Jul*CDD65B_PAN*C_ResService_TX) + C(9)*(Aug*CDD65B_PAN*C_ResService_TX) + C(10)*(Sep*CDD65B_PAN*C_ResService_TX) + C(11)*(Oct*CDD65B_PAN*C_ResService_TX) + C(12)*Bin0407 + C(13)*Bin0507 + C(14)*Bin0607 + C(15)*Bin0308 + C(16)*Bin0413 +C(17)*Bin0117 + C(18)*BillingDays + C(19)*TXResSvcSales_Shift + [AR(1)=C(20)]

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	305.111	45.954	6.63955	0.00000
C(2)	0.000367	0.000	24.44531	0.00000
C(3)	0.000254	0.000	15.81394	0.00000
C(4)	0.000227	0.000	11.29397	0.00000
C(5)	0.000277	0.000	15.76628	0.00000
C(6)	0.000665	0.000	4.52586	0.00002
C(7)	0.001302	0.000	30.88077	0.00000
C(8)	0.001413	0.000	53.77402	0.00000
C(9)	0.001466	0.000	60.38109	0.00000
C(10)	0.001364	0.000	40.00556	0.00000
C(11)	0.001127	0.000	14.41563	0.00000
C(12)	23814.294	4939.020	4.82166	0.00001
C(13)	44773.770	5062.334	8.84449	0.00000
C(14)	21677.607	4896.203	4.42743	0.00002
C(15)	-10102.504	4933.368	-2.04779	0.04278
C(16)	11090.411	4874.884	2.27501	0.02469
C(17)	16879.163	5157.929	3.27247	0.00140
C(18)	2037.799	169.936	11.99158	0.00000
C(19)	6853.958	1948.361	3.51781	0.00063
C(20)	0.212	0.092	2.31520	0.02231

Table F-8: Retail Sales – Texas Residential Service – Regression Statistics

Retail Sales - Texas Residential Service

Model Statistics	
Adjusted Observations	139
R-Squared	0.985
Adjusted R-Squared	0.983
AIC	17.090
BIC	17.513
Log-Likelihood	-1,365.01
Model Sum of Squares	184,814,946,944.96
Sum of Squared Errors	2,756,085,053.54
Std. Error of Regression	4,812.52
Durbin-Watson Statistic	2.074
Mean dependent var	135,301.06
StdDev dependent var	36,855.46

Table F-9: Retail Sales – Texas Residential Service – Definitions

Retail Sales - Texas Residential Service

Variable Name	Definition
S_ResService_TX	Residential Service sales in Texas
CYP_HH_TX	Real personal income per household in Texas service area
H65_bill_ResSrv_TX_Jan	Heating degree days (January) multiplied by customers
H65_bill_ResSrv_TX_Feb	Heating degree days (February) multiplied by customers
H65_bill_ResSrv_TX_Mar	Heating degree days (March) multiplied by customers
H65_bill_ResSrv_TX_Dec	Heating degree days (December) multiplied by customers
C65_bill_ResSrv_TX_May	Cooling degree days (May) multiplied by customers
C65_bill_ResSrv_TX_Jun	Cooling degree days (June) multiplied by customers
C65_bill_ResSrv_TX_Jul	Cooling degree days (July) multiplied by customers
C65_bill_ResSrv_TX_Aug	Cooling degree days (August) multiplied by customers
C65_bill_ResSrv_TX_Sep	Cooling degree days (September) multiplied by customers
C65_bill_ResSrv_TX_Oct	Cooling degree days (October) multiplied by customers
Bin0407	Binary variable for April 2007=1, otherwise =0
Bin0507	Binary variable for May 2007=1, otherwise =0
Bin0607	Binary variable for June 2007=1, otherwise =0
Bin0308	Binary variable for March 2008=1, otherwise =0
Bin0413	Binary variable for April 2013=1, otherwise =0
Bin0117	Binary variable for January 2017=1, otherwise =0
BILLINGDAYS	Number of scheduled billing day per revenue month
TXResSvcSales_Shift	To account for Res Space Heat customers moving to Res Service
AR(1)	First-order autoregressive term

Table F-10: Retail Sales - Texas Residential Space Heating Service

Retail Sales - Texas Residential Space Heat Service

Dependent Variable: S_ResSpaceHeat_TX
Method: Least Squares
Sample: 2006M05 2017M12
Included observations: 139

S_ResSpaceHeat_TX = C(1)*Constant + C(2)*Trend Variable + C(3) * (Jan*HDD65B_PAN*C_ResSpaceHeat_TX) + C(4)*(Feb*HDD65B_PAN*C_ResSpaceHeat_TX) + C(5)*(Mar*HDD65B_PAN*C_ResSpaceHeat_TX) + C(6)*(Apr*HDD65B_PAN*C_ResSpaceHeat_TX) + C(7)*(Nov*HDD65B_PAN*C_ResSpaceHeat_TX) + C(8)*(Dec*HDD65B_PAN*C_ResSpaceHeat_TX) + C(9)*(Jun*CDD65B_PAN*C_ResSpaceHeat_TX) + C(10)*(Jul*CDD65B_PAN*C_ResSpaceHeat_TX) + C(11)*(Aug*CDD65B_PAN*C_ResSpaceHeat_TX) + C(12)*(Sep*CDD65B_PAN*C_ResSpaceHeat_TX) + C(13)*(Oct*CDD65B_PAN*C_ResSpaceHeat_TX) + C(14)*Bin0407 + C(15)*Bin0507 + C(16)*Bin0607 + C(17)*TXResSvcSales_Shift + [AR(1)=C(18)] + [SMA(1)=C(19)]

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	53783.997	3580.755	15.02030	0.00000
C(2)	-53.260	13.045	-4.08291	0.00009
C(3)	0.001	0.000	38.94730	0.00000
C(4)	0.001	0.000	27.13475	0.00000
C(5)	0.001	0.000	20.80619	0.00000
C(6)	0.001	0.000	7.42139	0.00000
C(7)	0.000	0.000	2.98323	0.00346
C(8)	0.001	0.000	22.78700	0.00000
C(9)	0.001	0.000	13.44750	0.00000
C(10)	0.002	0.000	21.10055	0.00000
C(11)	0.002	0.000	23.93397	0.00000
C(12)	0.001	0.000	15.04517	0.00000
C(13)	0.001	0.000	6.15459	0.00000
C(14)	-25226.427	2932.468	-8.60246	0.00000
C(15)	-41601.302	3015.312	-13.79668	0.00000
C(16)	-28385.469	2864.067	-9.91090	0.00000
C(17)	-4995.634	1380.671	-3.61827	0.00044
C(18)	0.293	0.094	3.11190	0.00233
C(19)	0.333	0.093	3.59366	0.00048

Table F-11: Retail Sales - Texas Residential Space Heating Service – Regression Statistics

Retail Sales - Texas Residential Space Heat Service

Model Statistics	
Adjusted Observations	139
R-Squared	0.979
Adjusted R-Squared	0.976
AIC	16.113
BIC	16.515
Log-Likelihood	-1,298.12
Model Sum of Squares	48,441,183,123.39
Sum of Squared Errors	1,052,622,880.14
Std. Error of Regression	2,961.73
Durbin-Watson Statistic	2.045
Mean dependent var	62,026.53
StdDev dependent var	18,939.05

Table F-12: Retail Sales - Texas Residential Space Heating Service – Definitions

Retail Sales - Texas Residential Space Heat Service

Variable Name	Definition
S_ResSpaceHeat_TX	Residential Space Heat Service sales in Texas
CONST	Constant Variable
ResSpHtTrend	Trend Variable
H65_bill_ResSpHt_TX_Jan	Heating degree days (January) multiplied by customers
H65_bill_ResSpHt_TX_Feb	Heating degree days (February) multiplied by customers
H65_bill_ResSpHt_TX_Mar	Heating degree days (March) multiplied by customers
H65_bill_ResSpHt_TX_Apr	Heating degree days (April) multiplied by customers
H65_bill_ResSpHt_TX_Nov	Heating degree days (November) multiplied by customers
H65_bill_ResSpHt_TX_Dec	Heating degree days (December) multiplied by customers
C65_bill_ResSpHt_TX_Jun	Cooling degree days (June) multiplied by customers
C65_bill_ResSpHt_TX_Jul	Cooling degree days (July) multiplied by customers
C65_bill_ResSpHt_TX_Aug	Cooling degree days (August) multiplied by customers
C65_bill_ResSpHt_TX_Sep	Cooling degree days (September) multiplied by customers
C65_bill_ResSpHt_TX_Oct	Cooling degree days (October) multiplied by customers
Bin0407	Binary variable for April 2007=1, otherwise =0
Bin0507	Binary variable for May 2007=1, otherwise =0
Bin0607	Binary variable for June 2007=1, otherwise =0
TXResSvcSales_Shift	To account for Res Space Heat customers moving to Res Service
AR(1)	First-order autoregressive term
SMA(1)	First-order Seasonal Moving Average term

Table F-13: Retail Sales – New Mexico Small Commercial and Industrial Service

Retail Sales - New Mexico Small Commercial and Industrial

Dependent Variable: S_SMCI_NM				
Method: Least Squares				
Sample: 2006M01 2017M12				
Included observations: 144				
S_SMCI_NM = C(1)*CYP_NM + C(2)*(Jan*HDD65B_ROS*CUST_SMCI_NM) + C(3)*(Feb) + C(4)*(Jun*CDD65B_ROS*CUST_SMCI_NM) + C(5)*(Jul*CDD65B_ROS*CUST_SMCI_NM) + C(6)*(Aug*CDD65B_ROS*CUST_SMCI_NM) + C(7)*(Sep*CDD65B_ROS*CUST_SMCI_NM) + C(8)*(Nov*HDD65B_ROS*CUST_SMCI_NM + Dec*HDD65B*CUST_SMCI_NM) + C(9)*HolidayVariable + C(10)*CustomerShift2016 + C(11)*BIN0107 + C(12)*BIN0707 + C(13)*BIN0312 + C(14)*(April*PrecipB_ROS*CUST_SMCI_NM+June*PrecipB_ROS*CUST_SMCI_NM+August*PrecipB_ROS*CUST_SMCI_NM)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	11.038	0.105	105.46501	0.00000
C(2)	0.000	0.000	1.76533	0.07986
C(3)	-15324.155	2323.160	-6.59625	0.00000
C(4)	0.002	0.000	6.77845	0.00000
C(5)	0.002	0.000	9.71267	0.00000
C(6)	0.002	0.000	9.48808	0.00000
C(7)	0.001	0.000	5.25081	0.00000
C(8)	0.001	0.000	2.74887	0.00683
C(9)	-18782.781	3551.997	-5.28795	0.00000
C(10)	9725.958	1933.062	5.03137	0.00000
C(11)	22694.774	7511.556	3.02131	0.00304
C(12)	22528.124	7376.649	3.05398	0.00275
C(13)	-17203.861	7280.742	-2.36293	0.01960
C(14)	-0.085	0.049	-1.75233	0.08208

Table F-14: Retail Sales - New Mexico Small Commercial and Industrial – Regression Statistics

Retail Sales - New Mexico Small Commercial and Industrial

Model Statistics	
Adjusted Observations	144
R-Squared	0.833
Adjusted R-Squared	0.816
AIC	17.853
BIC	18.142
Log-Likelihood	-1,475.75
Model Sum of Squares	33,551,142,948.82
Sum of Squared Errors	6,720,590,402.83
Std. Error of Regression	7,190.05
Durbin-Watson Statistic	1.932
Mean dependent var	118,362.91
StdDev dependent var	16,781.55

Table F-15: Retail Sales - New Mexico Small Commercial and Industrial Service – Definitions

Retail Sales - New Mexico Small Commercial and Industrial

Variable Name	Definition
S_SMCI_NM	Small Commercial & Industrial sales in New Mexico
CYP_NM	Real Personal Income for New Mexico Service Territory
H65_bill_SMCI_NM_Jan	Heating degree days (January) multiplied by customers
Feb	Binary variable for February, otherwise =0
C65_bill_SMCI_NM_Jun	Cooling degree days (June) multiplied by customers
C65_bill_SMCI_NM_Jul	Cooling degree days (July) multiplied by customers
C65_bill_SMCI_NM_Aug	Cooling degree days (August) multiplied by customers
C65_bill_SMCI_NM_Sep	Cooling degree days (September) multiplied by customers
H65_bill_SMCI_NM_NovDec	Heating degree days (November and December) multiplied by customers
HolidayVariable	Binary variable for November and December=1, otherwise =0
CustomerShift2016	Shift effective September 2016 forward=1, prior values =0
Bin0107	Binary variable for January 2007=1, otherwise =0
Bin0707	Binary variable for July 2007=1, otherwise =0
Bin0312	Binary variable for March 2012=1, otherwise =0
Precip_bill_SMCI_NM_Agg	Precipitation (April) multiplied by customers, Precipitation (June) multiplied by customers Precipitation (August) multiplied by customers

Table F-16: Retail Sales – Texas Small Commercial and Industrial Service

Retail Sales - Texas Small Commercial and Industrial				
Dependent Variable: S_SMCI_TX				
Method: Least Squares				
Sample: 2006M01 2017M12				
Included observations: 144				
S_SMCI_TX = C(1)*EE_TX + C(2)*TX_Com_Cooling + C(3)*(JUN*CDD65B_ROS*CUST_SMCI_TX) + C(4)*(JUL*CDD65B_ROS*CUST_SMCI_TX) + C(5)*(AUG*CDD65B_ROS*CUST_SMCI_TX) + C(6)*(SEP*CDD65B_ROS*CUST_SMCI_TX) + C(7) * (OCT*CDD65B_ROS*CUST_SMCI_TX) + C(8) * (JAN*HDD65B_ROS*CUST_SMCI_TX) + C(9) * (NOV*CDD65B_ROS*CUST_SMCI_TX+DEC*CDD65B_ROS*CUST_SMCI_TX) + C(10) * (APR*PRECIPB_ROS*CUST_SMCI_TX) + [MA(1) = C(11)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	157.288	88.183	1.78365	0.07677
C(2)	5.406	0.534	10.12131	0.00000
C(3)	0.003	0.000	7.93251	0.00000
C(4)	0.004	0.000	12.82133	0.00000
C(5)	0.004	0.000	16.24419	0.00000
C(6)	0.004	0.000	10.53613	0.00000
C(7)	0.004	0.001	4.99241	0.00000
C(8)	0.001	0.000	8.10167	0.00000
C(9)	0.001	0.000	5.47691	0.00000
C(10)	-0.207	0.071	-2.91341	0.00420
C(11)	0.313	0.089	3.52218	0.00060

Table F-17: Retail Sales - Texas Small Commercial and Industrial Service – Regression Statistics

Retail Sales - Texas Small Commercial and Industrial

Model Statistics	
Adjusted Observations	144
R-Squared	0.806
Adjusted R-Squared	0.791
AIC	19.625
BIC	19.852
Log-Likelihood	-1,606.33
Model Sum of Squares	170,769,044,837.60
Sum of Squared Errors	41,217,090,976.27
Std. Error of Regression	17,604.06
Durbin-Watson Statistic	2.069
Mean dependent var	277,424.15
StdDev dependent var	38,502.21

Table F-18: Retail Sales - Texas Small Commercial and Industrial Service – Definitions

Retail Sales - Texas Small Commercial and Industrial

Variable Name	Definition
S_SMCI_TX	Small Commercial and Industrial Service sales in Texas
EE_TX	Non-Farm Employment for TX service territory
TX_Com_Cooling	Cooling Efficiency Variable from Itron
C65_bill_SMCI_TX_Jun	Cooling degree days (June) multiplied by customers
C65_bill_SMCI_TX_Jul	Cooling degree days (July) multiplied by customers
C65_bill_SMCI_TX_Aug	Cooling degree days (August) multiplied by customers
C65_bill_SMCI_TX_Sep	Cooling degree days (September) multiplied by customers
C65_bill_SMCI_TX_Oct	Cooling degree days (October) multiplied by customers
H65_bill_SMCI_TX_Jan	Heating degree days (January) multiplied by customers
H65_bill_SMCI_TX_Aggregate	Heating degree days (November and December) multiplied by customers
Precip_bill_SMCI_TX_Apr	Precipitation (April) multiplied by customers
MA(1)	First-order Moving Average term

Table F-19: Retail Sales – New Mexico Large Commercial and Industrial Service

Retail Sales - New Mexico Large Commercial and Industrial

Dependent Variable: S_LGCI_NM				
Method: Least Squares				
Sample: 2006M01 2017M12				
Included observations: 143				
S_LGCI_NM = C(1)*IPSG211A3 + C(2)*NM_Large_Adj + C(3)*BIN0309 + C(4)*BIN0709 + C(5)*BinJan + C(6)*BinFeb + C(7)*BinMar + C(8)*BinJun + C(9)*BinAug + C(10)*BinSep + [AR(1) = C(11)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1645.881	15.304	107.54808	0.00000
C(2)	37157.027	3091.849	12.01774	0.00000
C(3)	-16420.940	9033.813	-1.81772	0.07138
C(4)	34785.409	8778.752	3.96245	0.00013
C(5)	4680.500	2883.586	1.62315	0.10695
C(6)	-11179.820	2970.232	-3.76396	0.00026
C(7)	-8764.159	2870.304	-3.05339	0.00274
C(8)	5362.931	2572.363	2.08483	0.03901
C(9)	6644.302	2754.892	2.41182	0.01724
C(10)	6606.163	2736.857	2.41378	0.01715
C(11)	0.342	0.082	4.14155	0.00007

Table F-20: Retail Sales - New Mexico Large Commercial and Industrial Service – Regression Statistics

Retail Sales - New Mexico Large Commercial and Industrial

Model Statistics	
Adjusted Observations	143
R-Squared	0.910
Adjusted R-Squared	0.903
AIC	18.321
BIC	18.549
Log-Likelihood	-1,501.89
Model Sum of Squares	112,379,817,563.34
Sum of Squared Errors	11,102,769,666.30
Std. Error of Regression	9,171.25
Durbin-Watson Statistic	2.113
Mean dependent var	165,803.92
StdDev dependent var	29,478.91

Table F-21: Retail Sales - New Mexico Large Commercial and Industrial Service – Definitions

Retail Sales - New Mexico Large Commercial and Industrial

Variable Name	Definition
S_LGCI_NM	Large Commercial & Industrial sales in New Mexico
IPSG211A3	Oil and Gas Extraction Index
NM_Large_Adj	Shift effective January 2016 forward=1, prior values =0
Bin0309	Binary for March 2009=1, otherwise =0
Bin0709	Binary for July 2009=1, otherwise =0
Jan	Binary variable for January, otherwise =0
Feb	Binary variable for February, otherwise =0
Mar	Binary variable for March, otherwise =0
Jun	Binary variable for June, otherwise =0
Aug	Binary variable for August, otherwise =0
Sep	Binary variable for September, otherwise =0
AR(1)	First-order autoregressive term

Table F-22: Retail Sales – Texas Large Commercial and Industrial Service

Retail Sales - Texas Large Commercial and Industrial-Other

Dependent Variable: S_LGCI_TX				
Method: Least Squares				
Sample: 2008M03 2017M12				
Included observations: 118				
S_LGCI_TX = C(1)*CONST + C(2)*Log_Extraction_Index + C(3)*GDPR_MA + C(4)*LoadShift + C(5)*BINFEB + C(6)*BINMAR + C(7)*BINMAY + C(8)*BINAUG + C(9)*BINSEP + C(10)*BINNOV+ C(11)*BIN0308 + C(12)*BIN1208 + C(13)*BIN0509 + C(14)*BIN0110 + C(15)*BIN0612 + C(16)*BIN0712 + C(17)*BIN1212				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	115111.814	38336.934	3.003	0.34%
C(2)	41068.392	12667.389	3.242	0.16%
C(3)	5.031	2.035	2.472	1.51%
C(4)	-39504.669	6646.069	-5.944	0.00%
C(5)	-15725.758	3806.038	-4.132	0.01%
C(6)	-29720.698	3805.980	-7.809	0.00%
C(7)	-12589.777	3807.307	-3.307	0.13%
C(8)	15792.000	3639.784	4.339	0.00%
C(9)	22705.338	3640.196	6.237	0.00%
C(10)	-8248.768	3654.770	-2.257	2.62%
C(11)	45032.512	11193.256	4.023	0.01%
C(12)	28252.432	10735.534	2.632	0.98%
C(13)	-37733.452	11279.649	-3.345	0.12%
C(14)	-41074.880	10753.520	-3.820	0.02%
C(15)	-55714.647	10666.726	-5.223	0.00%
C(16)	48122.312	10667.321	4.511	0.00%
C(17)	-46391.157	10685.544	-4.341	0.00%

Table F-23: Retail Sales - Texas Large Commercial and Industrial Service – Regression Statistics

Retail Sales - Texas Large Commercial and Industrial-Other

Model Statistics	
Adjusted Observations	118
R-Squared	0.799
Adjusted R-Squared	0.767
AIC	18.660
BIC	19.060
Log-Likelihood	-1,251.395
Model Sum of Squares	44,742,654,119.353
Sum of Squared Errors	11,241,577,295.24
Std. Error of Regression	10,550.01
Durbin-Watson Statistic	1.92
Mean dependent var	378,444.46
StdDev dependent var	21,874.59

Table F-24: Retail Sales - Texas Large Commercial and Industrial Service – Definitions

Retail Sales - Texas Large Commercial and Industrial-Other

Variable Name	Definition
S_LGCI_TX	Large Commercial and Industrial sales in Texas
CONST	Constant variable
Log_Extraction_Index	Log of the oil and gas extraction index
GDPR_MA	Six month moving average of Real Gross Domestic Product
LoadShift	Customer moved effective October 2017=1, prior values =0
Feb	Seasonal binary variable, February=1, otherwise =0
Mar	Seasonal binary variable, March=1, otherwise =1
May	Seasonal binary variable, May=1, otherwise =2
Aug	Seasonal binary variable, August=1, otherwise =3
Sep	Seasonal binary variable, September=1, otherwise =4
Nov	Seasonal binary variable, November=1, otherwise =5
Bin0308	Binary variable for March 2008=1, otherwise =0
Bin1208	Binary variable for December 2008=1, otherwise =0
Bin0509	Binary variable for May 2009=1, otherwise =0
Bin0110	Binary variable for January 2010=1, otherwise =0
Bin0612	Binary variable for June 2012=1, otherwise =0
Bin0712	Binary variable for July 2012=1, otherwise =0
Bin1212	Binary variable for December 2012=1, otherwise =0

Table F-25: Retail Sales – Texas Large Commercial and Industrial Service

Retail Sales - Texas Large Commercial and Industrial -OXY

Dependent Variable: S_LGCI_OXY_TX				
Method: Least Squares				
Sample: 2003M01 2017M12				
Included observations: 107				
S_LGCI_OXY_TX = C(1)*Constant + C(2)*GDPR + C(3)*CalDays_lag + C(4)*LoadShift + C(5)*BIN1009 + C(6)*BIN1109 + C(7)*BIN1110 + C(8)*BIN0613 + C(9)*BIN1113 + [AR(1)=C(10)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-91561.934	19547.001	-4.68419	0.00001
C(2)	5.723	1.023	5.59641	0.00000
C(3)	9110.709	377.846	24.11225	0.00000
C(4)	33533.184	3680.207	9.11176	0.00000
C(5)	-18907.645	4094.436	-4.61789	0.00001
C(6)	19426.458	4093.385	4.74582	0.00001
C(7)	-35714.708	3735.621	-9.56058	0.00000
C(8)	-13589.125	3726.737	-3.64639	0.00044
C(9)	-21457.380	3726.818	-5.75756	0.00000
C(10)	0.525	0.086	6.11058	0.00000

Table F-26: Retail Sales - Texas Large Commercial and Industrial Service – Regression Statistics

Retail Sales - Texas Large Commercial and Industrial -OXY

Model Statistics	
Adjusted Observations	107
R-Squared	0.914
Adjusted R-Squared	0.906
AIC	16.774
BIC	17.024
Log-Likelihood	-1,039.249
Model Sum of Squares	18,215,018,473.420
Sum of Squared Errors	1,710,703,128.71
Std. Error of Regression	4,199.54
Durbin-Watson Statistic	2.04
Mean dependent var	275,809.34
StdDev dependent var	13,686.78

Table F-27: Retail Sales - Texas Large Commercial and Industrial Service – Definitions

Retail Sales - Texas Large Commercial and Industrial -OXY

Variable Name	Definition
S_LGCI_OXY_TX	Large Commercial and Industrial sales in Texas - OXY
CONST	Constant variable
GDPR	Real Gross Domestic Product
CalDays_lag	Calendar Days lagged one-month
LoadShift	Customer moved effective October 2017=1, prior values =0
Bin1009	Binary variable for October 2009=1, otherwise =0
Bin1109	Binary variable for November 2009=1, otherwise =0
Bin1110	Binary variable for November 2010=1, otherwise =0
Bin0613	Binary variable for June 2013=1, otherwise =0
Bin1113	Binary variable for November 2013=1, otherwise =1
AR(1)	First-order autoregressive term

Table F-28: Retail Sales – New Mexico Street Lighting

Retail Sales - New Mexico Street Lighting

Dependent Variable: S_STLIGHT_NM				
Method: Least Squares				
Sample: 2001M05 2017M12				
Included observations: 154				
S_STLIGHT_NM=C(1)*BINJAN + C(2)*BINMAR + C(3)*BINFEB + C(4)*BINAPR + C(5)*BINMAY + C(6)*BINJUN + C(7)*BINJUL + C(8)*BINAUG + C(9)*BINSEP + C(10)*BINOCT + C(11)*BINNOV + C(12)*BINDEC + C(13)*BIN0910+ [AR(1)=C(14)] + [AR(2)=C(15)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	8.286	0.980	8.45700	0.00000
C(2)	935.825	55.664	16.81200	0.00000
C(3)	937.778	55.690	16.83900	0.00000
C(4)	931.840	55.699	16.73000	0.00000
C(5)	936.256	55.715	16.80400	0.00000
C(6)	935.793	55.732	16.79100	0.00000
C(7)	938.242	55.745	16.83100	0.00000
C(8)	938.420	55.712	16.84400	0.00000
C(9)	938.707	55.713	16.84900	0.00000
C(10)	937.575	55.674	16.84000	0.00000
C(11)	937.184	55.688	16.82900	0.00000
C(12)	938.236	55.661	16.85600	0.00000
C(13)	938.114	55.609	16.87000	0.00000
C(14)	-45.498	8.805	-5.16700	0.00000
C(15)	0.677	0.082	8.29700	0.00000
C(16)	0.306	0.081	3.77600	0.00020

Table F-29: Retail Sales - New Mexico Street Lighting – Regression Statistics

Retail Sales - New Mexico Street Lighting

Model Statistics	
Adjusted Observations	154
R-Squared	0.9926
Adjusted R-Squared	0.9918
AIC	4.026
BIC	4.341
Log-Likelihood	-512.492
Model Sum of Squares	938,457.880
Sum of Squared Errors	7,008.04
Std. Error of Regression	7.13
Durbin-Watson Statistic	1.99
Mean dependent var	1,181.69
StdDev dependent var	78.51

Table F-30: Retail Sales - New Mexico Street Lighting – Definitions

Retail Sales - New Mexico Street Lighting

Variable Name	Definition
C_StreetLight	Street Lighting Service sales in the New Mexico service area
Jan	Seasonal binary variable, January=1, otherwise =0
Mar	Seasonal binary variable, March=1, otherwise =0
Feb	Seasonal binary variable, February=1, otherwise =0
Apr	Seasonal binary variable, April=1, otherwise =0
May	Seasonal binary variable, May=1, otherwise =0
Jun	Seasonal binary variable, June=1, otherwise =0
Jul	Seasonal binary variable, July=1, otherwise =0
Aug	Seasonal binary variable, August=1, otherwise =0
Sep	Seasonal binary variable, September=1, otherwise =0
Oct	Seasonal binary variable, October=1, otherwise =0
Nov	Seasonal binary variable, November=1, otherwise =0
Dec	Seasonal binary variable, December=1, otherwise =0
Bin0910	Binary variable for September 2010=1, otherwise =0
AR(1)	First-order autoregressive term
AR(2)	Second-order autoregressive term

Table F-31: Retail Sales - Texas Street Lighting

Retail Sales - Texas Street Lighting

Dependent Variable: S_STLIGHT_TX				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 155				
S_STREET_TX = C(1)* TX_NR_TX/lag(TX_NR_TX,12) + C(2)*BIN0807 + C(3)*BIN0409 + C(4)*BIN0409 + C(5)*BIN0715 + C(64) BINSTREET_TXJUN2011 + [AR(1)=C(7)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	2865.386	39.765	72.05867	0.00000
C(2)	49.275	3.522	13.99136	0.00000
C(3)	20.238	3.523	5.74379	0.00000
C(4)	-131.336	3.525	-37.25978	0.00000
C(5)	-52.907	3.522	-15.02303	0.00000
C(6)	-44.748	4.984	-8.97867	0.00000
C(7)	0.985	0.015	67.22946	0.00000

Table F-32: Retail Sales - Texas Street Lighting – Regression Statistics

Retail Sales - Texas Street Lighting

Model Statistics	
Adjusted Observations	155
R-Squared	0.9921
Adjusted R-Squared	0.9918
AIC	3.246
BIC	3.384
Log-Likelihood	-464.533
Model Sum of Squares	456,956.520
Sum of Squared Errors	3,639.22
Std. Error of Regression	4.96
Durbin-Watson Statistic	2.05
Mean dependent var	2,888.30
StdDev dependent var	54.76

Table F-33: Retail Sales - Texas Street Lighting – Definitions

Retail Sales - Texas Street Lighting

Variable Name	Definition
S_STREET_TX	Street Lighting Service sales in Texas
NR_TX_Growth	Texas Service Area Population growth
Bin0807	Binary variable for August 2007=1, otherwise =0
Bin0109	Binary variable for January 2009=1, otherwise =0
Bin0409	Binary variable for April 2009=1, otherwise =0
Bin0715	Binary variable for July 2015=1, otherwise =0
Street_TXJun2011	Binary for sales shift starting June 2011=1, otherwise =0
AR(1)	First-order autoregressive term

Table F-34: Retail Sales – New Mexico Other Public Authority

Retail Sales - New Mexico Other Public Authority

Dependent Variable: S_MUNISCHOOL_NM				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 143				
S_MUNISCHOOL_NM = C(1)*Constant + C(2)*(CDD65B*JUN*MUNISCHOOL_CUST_NM) + C(3)*(CDD65B*JUL*MUNISCHOOL_CUST_NM) + C(4)*(CDD65B*AUG*MUNISCHOOL_CUST_NM) + C(5)*(CDD65B*SEP*MUNISCHOOL_CUST_NM) + C(6)*BINOCT + C(7)*BIN1206 + C(8)*BIN0607 + C(9)*BIN0907 + C(10)*BIN1207 + C(11)*BIN0108 + C(12)*BIN0308 + C(13)*0408 + C(14)*BIN0608 + C(15)*BIN1108 + C(16)*TREND2012 + [AR(1)=C(27)] + [SAR(1)=C(18)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	10171.906	174.550	58.27489	0.00000
C(2)	4.947	1.680	2.94487	0.00386
C(3)	3.415	1.221	2.79673	0.00598
C(4)	7.675	1.207	6.35874	0.00000
C(5)	6.018	1.641	3.66753	0.00037
C(6)	3918.144	595.603	6.57845	0.00000
C(7)	-5420.312	1151.656	-4.70654	0.00001
C(8)	-3047.394	1155.702	-2.63683	0.00943
C(9)	-2086.987	1128.555	-1.84926	0.06679
C(10)	-8050.866	1250.266	-6.43932	0.00000
C(11)	5449.674	1186.078	4.59470	0.00001
C(12)	-4712.909	1205.168	-3.91058	0.00016
C(13)	4022.575	1198.962	3.35505	0.00106
C(14)	2641.299	1182.687	2.23330	0.02730
C(15)	-7124.298	1099.540	-6.47934	0.00000
C(16)	-10.401	4.207	-2.47205	0.01477
C(17)	-0.533	0.076	-6.97928	0.00000
C(18)	0.329	0.075	4.37421	0.00003

Table F-35: Retail Sales - New Mexico Other Public Authority – Regression Statistics

Retail Sales - New Mexico Other Public Authority

Model Statistics	
Adjusted Observations	143
R-Squared	0.7564
Adjusted R-Squared	0.7233
AIC	14.528
BIC	14.901
Log-Likelihood	-1,223.638
Model Sum of Squares	703,824,778.055
Sum of Squared Errors	226,619,734.35
Std. Error of Regression	1,346.46
Durbin-Watson Statistic	1.99
Mean dependent var	10,864.00
StdDev dependent var	2,530.04

Table F-36: Retail Sales - New Mexico Other Public Authority – Definitions

Retail Sales - New Mexico Other Public Authority

Variable Name	Definition
S_MUNISCHOOL_NM	Municipal and School Service sales in the New Mexico service area
CONST	Constant variable
C65_bill_ROS_NM_Jun	Cooling degree days (June) multiplied by customers
C65_bill_ROS_NM_Jul	Cooling degree days (July) multiplied by customers
C65_bill_ROS_NM_Aug	Cooling degree days (August) multiplied by customers
C65_bill_ROS_NM_Sep	Cooling degree days (September) multiplied by customers
Oct	Seasonal binary variable, October=1, otherwise =0
Bin1206	Binary variable, December 2006=1, otherwise =1
Bin0607	Binary variable, June 2007=1, otherwise =0
Bin0907	Binary variable, September 2007=1, otherwise =0
Bin1207	Binary variable, December 2007=1, otherwise =0
Bin0108	Binary variable, January 2008=1, otherwise =0
Bin0308	Binary variable, March 2008=1, otherwise =0
Bin0408	Binary variable, April 2008=1, otherwise =0
Bin0608	Binary variable, June 2008=1, otherwise =0
Bin1108	Binary variable, November 2008=1, otherwise =0
Trend2012	Binary for sales shift starting January 2012=1, otherwise =0
AR(1)	First-order autoregressive term
SAR(1)	First-order seasonal autoregressive term

Table F-37: Retail Sales – Texas Other Public Authority

Retail Sales - Texas Other Public Authority

Dependent Variable: S_MUNISCHOOL_TX				
Method: Least Squares				
Sample: 2009M01 2017M12				
Included observations: 108				
S_MUNISCHOOL_TX = C(1)*CONSTANT + C(2)*TRENDVAR + C(3)*(BINJUN *CDD65B*C_MUNISCH_TX) + C(4)*(BINJUL *CDD65B*C_MUNISCH_TX) + C(5)*(BINAUG *CDD65B*C_MUNISCH_TX) + C(6)*(BINSEP *CDD65B*C_MUNISCH_TX) + C(7)*(BINOCT *CDD65B*C_MUNISCH_TX) + C(8)*(BINAPR *PRECIPB*C_MUNISCH_TX+BINMAY *PRECIPB*C_MUNISCH_TX+BINJUN *PRECIPB*C_MUNISCH_TX+BINJUL *PRECIPB*C_MUNISCH_TX+BINAUG *PRECIPB*C_MUNISCH_TX) + C(9)*CUSTOMERSHIFTMAR17				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	33209.411	2076.638	15.99191	0.00000
C(2)	-12.399	7.481	-1.65734	0.10062
C(3)	0.003	0.001	4.88939	0.00000
C(4)	0.002	0.000	5.90137	0.00000
C(5)	0.003	0.000	8.23487	0.00000
C(6)	0.005	0.000	10.25022	0.00000
C(7)	0.012	0.001	10.38554	0.00000
C(8)	-0.065	0.031	-2.06578	0.04146
C(9)	-1636.029	765.801	-2.13636	0.03511

Table F-38: Retail Sales - Texas Other Public Authority – Regression Statistics

Retail Sales - Texas Other Public Authority

Model Statistics	
Adjusted Observations	108
R-Squared	0.7277
Adjusted R-Squared	0.7057
AIC	15.329
BIC	15.553
Log-Likelihood	-972.020
Model Sum of Squares	1,110,145,868.112
Sum of Squared Errors	415,343,397.26
Std. Error of Regression	2,048.26
Durbin-Watson Statistic	1.97
Mean dependent var	31,714.75
StdDev dependent var	3,775.83

Table F-39: Retail Sales - Texas Other Public Authority – Definitions

Retail Sales - Texas Other Public Authority

Variable Name	Definition
S_MUNISCHOOL_TX	Municipal and School Service sales in Texas
CONST	Constant variable
TrendVar	Trend variable
C65_bill_MSS_TX_Jun	Cooling degree days (June) multiplied by customers
C65_bill_MSS_TX_Jul	Cooling degree days (July) multiplied by customers
C65_bill_MSS_TX_Aug	Cooling degree days (August) multiplied by customers
C65_bill_MSS_TX_Sep	Cooling degree days (September) multiplied by customers
C65_bill_MSS_TX_Oct	Cooling degree days (October) multiplied by customers
Precip_bill_MSS_TX_Aggr	Precipitation (April) multiplied by customers + Precipitation (May) multiplied by customers + Precipitation (June) multiplied by customers + Precipitation (July) multiplied by customers + Precipitation (August) multiplied by customers
CustomerShiftMar17	Binary for customer shift starting March 2017=1, otherwise =0

Table F-40: Retail Customers – New Mexico Total Residential

Retail Customers - New Mexico Total FERC Residential

Dependent Variable: Res_Cust_NM				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 155				
RES_CUST_NM = C(1)*HH_NM + C(2)*BIN0808 + [AR(1)=C(3)] + [MA(1)=C(4)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	933.014	28.640	32.57712	0.0%
C(2)	107.614	57.113	1.88422	6.1%
C(3)	0.991	0.005	187.16930	0.0%
C(4)	0.345	0.077	4.48034	0.0%

Table F-41: Retail Customers - New Mexico Total Residential – Regression Statistics

Retail Customers - New Mexico Total FERC Residential	
Model Statistics	
Adjusted Observations	155
R-Squared	0.9991
Adjusted R-Squared	0.9991
AIC	9.214
BIC	9.293
Log-Likelihood	-930.051
Model Sum of Squares	1,688,565,834.073
Sum of Squared Errors	1,478,004.92
Std. Error of Regression	98.93
Durbin-Watson Statistic	1.87
Mean dependent var	84,352.31
StdDev dependent var	3,336.51

Table F-42: Retail Customers- New Mexico Total Residential – Definitions

Retail Customers - New Mexico Total FERC Residential

Variable Name	Definition
Res_Cust_NM	New Mexico residential customers
HH_NM	Households in New Mexico service area
Bin0808	Binary variable for August 2008=1, otherwise =0
AR(1)	First-order autoregressive term
MA(1)	First-order moving average term

Table F-43: Retail Customers – Texas Total Residential

Retail Customers - Texas Total FERC Residential

Dependent Variable: TX_Res_Cust				
Method: Least Squares				
Sample: 2005M06 2017M12				
Included observations: 150				
TX_RES_CUST = C(1)*NR_TX_MA12 + C(2)*BIN0307 + C(3)*BIN0808 + C(4)*BIN0908 + [AR(1)=C(5)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	353.487	4.181	84.55591	0.0%
C(2)	-2571.925	136.717	-18.81204	0.0%
C(3)	379.077	157.919	2.40045	1.8%
C(4)	579.107	157.919	3.66712	0.0%
C(5)	0.988	0.007	147.13318	0.0%

Table F-44: Retail Customers - Texas Total Residential – Regression Statistics

Retail Customers - Texas Total FERC Residential

Model Statistics	
Adjusted Observations	150
R-Squared	0.9990
Adjusted R-Squared	0.9990
AIC	10.556
BIC	10.657
Log-Likelihood	-999.573
Model Sum of Squares	5,474,458,157.332
Sum of Squared Errors	5,391,847.23
Std. Error of Regression	192.83
Durbin-Watson Statistic	1.91
Mean dependent var	194,640.689
StdDev dependent var	6,117.718

Table F-45: Retail Customers - Texas Total Residential – Definitions

Retail Customers - Texas Total FERC Residential

Variable Name	Definition
TX_Res_Cust	Texas residential customer counts
NR_TX_MA12	12-month moving average of Population in Texas service area
Bin0307	Binary variable for March 2007=1, otherwise =0
Bin0808	Binary variable for August 2008=1, otherwise =0
Bin0908	Binary variable for September 2008=1, otherwise =0
AR(1)	First-order autoregressive term

Table F-46: Retail Customers – New Mexico Small Commercial and Industrial

Retail Customers - New Mexico FERC Small Commercial and Industrial

Dependent Variable: Sm_CI				
Method: Least Squares				
Sample: 2008M01 2017M12				
Included observations: 118				
SM_CI = C(1)*CONSTANT + C(2)*RESCSTMA + [AR(1)=C(3)] + [AR(2)=C(4)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-23513.574	3571.273	-6.58409	0.0%
C(2)	0.496	0.041	12.11258	0.0%
C(3)	1.375	0.085	16.25350	0.0%
C(4)	-0.407	0.081	-5.02539	0.0%

Table F-47: Retail Customers - New Mexico Small Commercial and Industrial – Regression Statistics

Retail Customers - New Mexico FERC Small Commercial and Industrial

Model Statistics	
Adjusted Observations	118
R-Squared	0.9993
Adjusted R-Squared	0.9993
AIC	6.649
BIC	6.743
Log-Likelihood	-555.754
Model Sum of Squares	123,179,080.283
Sum of Squared Errors	85,167.07
Std. Error of Regression	27.33
Durbin-Watson Statistic	2.09
Mean dependent var	19,144.97
StdDev dependent var	1,037.03

Table F-48: Retail Customers- New Mexico Small Commercial and Industrial – Definitions

Retail Customers - New Mexico FERC Small Commercial and Industrial

Variable Name	Definition
Sm_CI	Small Commercial & Industrial FERC Class New Mexico customer counts
Constant	Constant variable
ResCstMA	Five-month moving average of residential customers
AR(1)	First-order autoregressive term
AR(2)	Second-order autoregressive term

Table F-49: Retail Customers – Texas Small Commercial and Industrial

Retail Customers - Texas FERC Small Commercial and Industrial

Dependent Variable: TX_Sm_CI				
Method: Least Squares				
Sample: 2004M01 2017M12				
Included observations: 166				
TX_SM_CI = C(1)*NR_TX + C(2)*BIN0604 + C(3)*BIN0307 + C(4)*BIN0910 + C(5)*BIN1010 + [AR(1)=C(6)] + [AR(2)=C(7)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	83.298	0.889	93.67963	0.0%
C(2)	309.526	38.522	8.03502	0.0%
C(3)	3046.665	38.145	79.87163	0.0%
C(4)	768.359	48.791	15.74798	0.0%
C(5)	807.425	48.611	16.61000	0.0%
C(6)	1.307	0.076	17.29031	0.0%
C(7)	-0.320	0.075	-4.29015	0.0%

Table F-50: Retail Customers - Texas FERC Small Commercial and Industrial – Regression Statistics

Retail Customers - Texas FERC Small Commercial and Industrial

Model Statistics	
Adjusted Observations	166
R-Squared	0.9987
Adjusted R-Squared	0.9987
AIC	8.370
BIC	8.501
Log-Likelihood	-923.250
Model Sum of Squares	525,067,406.456
Sum of Squared Errors	658,421.66
Std. Error of Regression	64.35
Durbin-Watson Statistic	2.04
Mean dependent var	45,882.20
StdDev dependent var	1,821.48

Table F-51: Retail Customers - Texas Small Commercial and Industrial – Definitions

Retail Customers - Texas FERC Small Commercial and Industrial

Variable Name	Definition
TX_Sm_CI	Texas small commercial and industrial customer counts
NR_TX	Population in Texas service area
Bin0604	Binary variable for June 2004=1, otherwise =0
Bin0307	Binary variable for March 2007=1, otherwise =0
Bin0910	Binary variable for September 2010=1, otherwise =0
Bin1010	Binary variable for October 2010=1, otherwise =1
AR(1)	First-order autoregressive term
AR(2)	Second-order autoregressive term

Table F-52: Retail Customers – New Mexico Other Public Authority

Retail Customers - New Mexico FERC Other Public Authority

Dependent Variable: Other_Pub_Auth				
Method: Least Squares				
Sample: 2006M01 2017M12				
Included observations: 142				
OTHER_PUB_AUTH = C(1)*HH_NM + C(2)*BIN0908 + C(3)*BIN0116 + C(4)*BIN0217 + [AR(1)=C(5)] + [AR(2)=C(6)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	18.248	0.908	20.10458	0.0%
C(2)	6.569	2.454	2.67622	0.8%
C(3)	7.404	2.432	3.04383	0.3%
C(4)	-24.894	2.429	-10.24800	0.0%
C(5)	1.224	0.084	14.58089	0.0%
C(6)	-0.232	0.083	-2.77694	0.6%

Table F-53: Retail Customers - New Mexico Other Public Authority – Regression Statistics

Retail Customers - New Mexico FERC Other Public Authority

Model Statistics	
Adjusted Observations	142
R-Squared	0.9980
Adjusted R-Squared	0.9979
AIC	2.766
BIC	2.891
Log-Likelihood	-391.909
Model Sum of Squares	1,015,951.270
Sum of Squared Errors	2,075.16
Std. Error of Regression	3.91
Durbin-Watson Statistic	2.03
Mean dependent var	1,631.97
StdDev dependent var	85.30

Table F-54: Retail Customers- New Mexico Other Public Authority – Definitions

Retail Customers - New Mexico FERC Other Public Authority

Variable Name	Definition
Other_Pub_Auth	Public Authority FERC Class New Mexico customer counts
HH_NM	Households in the New Mexico service area
Bin0908	Binary variable for September 2008=1, otherwise =0
Bin0116	Binary variable for January 2016=1, otherwise =0
Bin0217	Binary variable for February 2017=1, otherwise =0
AR(1)	First-order autoregressive term
AR(2)	Second-order autoregressive term

Table F-55: Retail Customers – Texas Other Public Authority

Retail Customers - Texas FERC Other Public Authority

Dependent Variable: TX_OSPA				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 155				
TX_OSPA = C(1)*NR_TX_MA12 + C(2)*BIN0905 + C(3)*BIN0809 + C(4)*BIN0310 + C(5)*CUSTOMERSHIFT0407 + C(6)*CUSTOMERSHIFTMAR17 + [AR(1)=C(7)] + [MA(1)=C(8)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	7.717	0.036	213.28832	0.0%
C(2)	8.288	3.605	2.29886	2.3%
C(3)	8.903	3.630	2.45271	1.5%
C(4)	136.098	3.610	37.69959	0.0%
C(5)	72.791	5.602	12.99408	0.0%
C(6)	-40.070	5.567	-7.19735	0.0%
C(7)	0.967	0.008	114.93578	0.0%
C(8)	0.201	0.082	2.44151	1.6%

Table F-56: Retail Customers - Texas Other Public Authority – Regression Statistics

Retail Customers - Texas FERC Other Public Authority

Model Statistics	
Adjusted Observations	155
R-Squared	0.9989
Adjusted R-Squared	0.9988
AIC	3.506
BIC	3.663
Log-Likelihood	-483.642
Model Sum of Squares	4,179,751.183
Sum of Squared Errors	4,656.86
Std. Error of Regression	5.63
Durbin-Watson Statistic	1.94
Mean dependent var	4,343.74
StdDev dependent var	167.56

Table F-57: Retail Customers- Texas Other Public Authority – Definitions

Retail Customers - Texas FERC Other Public Authority

Variable Name	Definition
TX_OSPA	Texas other public authority customer counts
NR_TX_MA12	12-month moving average of Population in Texas service area
Bin0905	Binary variable for September 2005=1, otherwise =0
Bin0809	Binary variable for August 2009=1, otherwise =0
Bin0310	Binary variable for March 2010=1, otherwise =0
CustomerShift0407	Binary for customer shift starting April 2007=1, otherwise =0
CustomerShiftMar17	Binary for customer shift starting March 2017=1, otherwise =0
AR(1)	First-order autoregressive term
MA(1)	First-order moving average term

Table F-58: Wholesale Sales – Central Valley

Wholesales Sales - Central Valley

Dependent Variable: S_Central Valley				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 155				
S_CentralValley=C(1)*Extraction_Index+C(2)*BINJAN+C(3)*BINMAR+C(4)*BINAPR+C(5)*BINMAY+C(6)*C65_CAL_ROS_NM_MAY+C(7)*C65_CAL_ROS_NM_JUN+C(8)*C65_CAL_ROS_NM_JUL+C(9)*C65_CAL_ROS_NM_AUG+C(10)C65_CAL_ROS_NM_SEP+C(11)*BINOCT+C(12)*BINNOV+C(13)*BINDEC+C(14)*BIN1008+C(15)*BIN0710+C(16)*BIN0211+C(17)*BIN1114+C(18)*BIN0215+C(19)*BIN0416+[AR(1)=C(20)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	12,890.7322	184.8909	69.7208	0.00%
C(2)	5,298.0808	593.9762	8.9197	0.00%
C(3)	7,830.9401	594.2929	13.1769	0.00%
C(4)	7,570.4253	763.5189	9.9152	0.00%
C(5)	5,568.3309	1,603.3581	3.4729	0.07%
C(6)	14.4994	7.2437	2.0017	4.73%
C(7)	25.9114	1.7966	14.4226	0.00%
C(8)	30.2638	1.6541	18.2966	0.00%
C(9)	29.7317	1.7778	16.7239	0.00%
C(10)	20.0395	3.1537	6.3542	0.00%
C(11)	4,027.9425	866.9744	4.6460	0.00%
C(12)	1,723.1868	834.9431	2.0638	4.09%
C(13)	4,620.9115	753.0265	6.1365	0.00%
C(14)	4,088.1143	1,645.9873	2.4837	1.42%
C(15)	-3,944.6570	1,616.2488	-2.4406	1.59%
C(16)	-7,740.3987	1,631.0761	-4.7456	0.00%
C(17)	3,916.6054	1,632.8514	2.3986	1.78%
C(18)	-4,606.1487	1,633.4429	-2.8199	0.55%
C(19)	-3,962.3280	1,637.7658	-2.4193	1.69%
C(20)	0.7588	0.0574	13.2235	0.00%

Table F-59: Wholesale Sales – Central Valley – Regression Statistics

Wholesales Sales - Central Valley

Model Statistics	
Adjusted Observations	155
R-Squared	0.9183
Adjusted R-Squared	0.9068
AIC	15.296
BIC	15.689
Log-Likelihood	-1,385.388
Model Sum of Squares	5,916,896,401.630
Sum of Squared Errors	526,375,599.87
Std. Error of Regression	1,974.61
Durbin-Watson Statistic	2.02
Mean dependent var	65,596.00
StdDev dependent var	6,461.44

Table F-60: Wholesale Sales – Central Valley – Definitions

Wholesales Sales - Central Valley

Variable Name	Definition
S_CentralValley	Central Valley sales
Extraction_Index	Oil and Gas Extraction Index
Jan	Seasonal binary variable, January=1, otherwise =0
Mar	Seasonal binary variable, March=1, otherwise =0
Apr	Seasonal binary variable, April=1, otherwise =0
May	Seasonal binary variable, May=1, otherwise =0
C65_cal_ROS_NM_May	May cooling degree days
C65_cal_ROS_NM_Jun	June cooling degree days
C65_cal_ROS_NM_Jul	July cooling degree days
C65_cal_ROS_NM_Aug	August cooling degree days
C65_cal_ROS_NM_Sep	September cooling degree days
Oct	Seasonal binary variable, October=1, otherwise =0
Nov	Seasonal binary variable, November=1, otherwise =0
Dec	Seasonal binary variable, December=1, otherwise =0
Bin1008	Binary variable for October 2008=1, otherwise =0
Bin0710	Binary variable for July 2010=1, otherwise =0
Bin0211	Binary variable for February 2011=1, otherwise =0
Bin1114	Binary variable for November 2014=1, otherwise =0
Bin0215	Binary variable for February 2015=1, otherwise =0
Bin0416	Binary variable for April 2016=1, otherwise =0
AR(1)	First-order autoregressive term

Table F-61: Wholesale Sales – Farmers

Wholesales Sales - Farmers

Dependent Variable: S_Farmers				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 143				
S_Farmers=C(1)*CGCP_FARMERS+C(2)*BINJAN+C(3)*BINFEB+C(4)*BINAPR+C(5)*NM_PRECIP_MARAPR+C(6)*C65_CAL_ROS_NM_JUN+C(7)*C65_CAL_ROS_NM_JUL+C(8)*C65_CAL_ROS_NM_AUG+C(9)*BINOCT+C(10)*BINNOV+C(11)*BINDEC+C(12)*BIN0515+C(13)*TREND2012+[AR(1)=C(14)]+[SAR(1)=C(15)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	4119.280	109.773	37.525	0.00%
C(2)	-3589.178	934.803	-3.840	0.02%
C(3)	-5760.815	771.965	-7.463	0.00%
C(4)	2209.451	679.967	3.249	0.15%
C(5)	-1605.465	793.583	-2.023	4.51%
C(6)	8.547	1.479	5.779	0.00%
C(7)	19.728	1.527	12.917	0.00%
C(8)	19.152	1.440	13.300	0.00%
C(9)	-3209.156	750.879	-4.274	0.00%
C(10)	-5035.804	916.067	-5.497	0.00%
C(11)	-3941.270	962.508	-4.095	0.01%
C(12)	-5541.542	1873.058	-2.959	0.37%
C(13)	-97.172	26.504	-3.666	0.04%
C(14)	0.678	0.064	10.609	0.00%
C(15)	0.143	0.082	1.733	8.55%

Table F-62: Wholesale Sales – Farmers – Regression Statistics

Wholesales Sales - Farmers

Model Statistics	
Adjusted Observations	143
R-Squared	0.8906
Adjusted R-Squared	0.8787
AIC	15.556
BIC	15.867
Log-Likelihood	-1,300.142
Model Sum of Squares	5,379,729,134.964
Sum of Squared Errors	660,678,976.64
Std. Error of Regression	2,271.91
Durbin-Watson Statistic	1.96
Mean dependent var	31,754.57
StdDev dependent var	6,916.07

Table F-63: Wholesale Sales – Farmers – Definitions

Wholesales Sales - Farmers

Variable Name	Definition
S_Farmers	Farmers sales
CGCP_Farmers	New Mexico Gross County Product - Farmers Service Area
Jan	Seasonal binary variable, January=1, otherwise =0
Feb	Seasonal binary variable, February=1, otherwise =0
Apr	Seasonal binary variable, April=1, otherwise =1
NM_Precip_MarApr	Precipitation for March and April, otherwise=0
C65_cal_ROS_NM_Jun	June cooling degree days
C65_cal_ROS_NM_Jul	July cooling degree days
C65_cal_ROS_NM_Aug	August cooling degree days
Oct	Seasonal binary variable, October=1, otherwise =0
Nov	Seasonal binary variable, November=1, otherwise =0
Dec	Seasonal binary variable, December=1, otherwise =0
Bin0515	Binary variable for May 2015=1, otherwise =0
Trend2012	Trend variable beginning January 2012
AR(1)	First-order autoregressive term
SAR(1)	First-order seasonal autoregressive term

Table F-64: Wholesale Sales – Lea County

Wholesale - Lea County

Dependent Variable: S_LeaCounty				
Method: Least Squares				
Sample: 2006M01 2017M12				
Included observations: 143				
S_LEACOUNTY=C(1)*EXTRACTION_INDEX+C(2)*LCECLOADINCREASE+C(3)*FEB+C(4)*C65_CAL_ROS_NM_MAY+C(5)*C65_CAL_ROS_NM_JUN+C(6)*C65_CAL_ROS_NM_JUL+C(7)*C65_CAL_ROS_NM_AUG+C(8)*C65_CAL_ROS_NM_SEP+C(9)*BIN0810+C(10)*BIN0914+[AR(1)=C(11)]+[SMA(1)=C(12)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	20,368.207	358.025	56.890	0.00%
C(2)	5,775.470	3,668.760	1.574	11.79%
C(3)	(9,792.769)	1,703.704	(5.748)	0.00%
C(4)	43.871	9.455	4.640	0.00%
C(5)	32.171	4.908	6.554	0.00%
C(6)	52.404	4.612	11.362	0.00%
C(7)	61.266	4.742	12.921	0.00%
C(8)	29.630	7.235	4.095	0.01%
C(9)	11,150.557	4,598.762	2.425	1.67%
C(10)	(16,882.492)	4,597.663	(3.672)	0.04%
C(11)	0.604	0.074	8.187	0.00%
C(12)	0.272	0.091	2.996	0.33%

Table F-65: Wholesale Sales – Lea County – Regression Statistics

Wholesale - Lea County

Model Statistics	
Adjusted Observations	143
R-Squared	0.8588
Adjusted R-Squared	0.8469
AIC	17.292
BIC	17.540
Log-Likelihood	-1,427.253
Model Sum of Squares	23,766,804,891.652
Sum of Squared Errors	3,908,979,510.51
Std. Error of Regression	5,462.56
Durbin-Watson Statistic	1.83
Mean dependent var	99,944.17
StdDev dependent var	13,940.71

Table F-66: Wholesale Sales – Lea County – Definitions

Wholesale - Lea County

Variable Name	Definition
S_LeaCounty	Lea County sales
Extraction_Index	Oil and Gas Extraction Index
LCECLoadIncrease	Load Shift
Feb	Seasonal binary variable for February
C65_cal_ROS_NM_May	May cooling degree days
C65_cal_ROS_NM_Jun	June cooling degree days
C65_cal_ROS_NM_Jul	July cooling degree days
C65_cal_ROS_NM_Aug	August cooling degree days
C65_cal_ROS_NM_Sep	September cooling degree days
Bin0810	Binary variable for August 2010=1, otherwise =0
Bin0914	Binary variable for September 2014=1, otherwise =0
AR(1)	First-order autoregressive term
SMA(1)	First-order seasonal moving average term

Table F-67: Wholesale Sales – Roosevelt

Wholesales Sales - Roosevelt

Dependent Variable: S_Roosevelt				
Method: Least Squares				
Sample: 2007M01 2017M12				
Included observations: 131				
S_ROOSEVELT=C(1)*HH_NM_GROWTH+C(2)*TREND2012+C(3)*BINFEB+C(4)*BINMAR+C(5)*BINAPR+C(6)*BINMAY+C(7)*C65_CAL_ROS_NM_JUN+C(8)*C65_CAL_ROS_NM_JUL+C(9)*C65_CAL_ROS_NM_AUG+C(10)*C65_CAL_ROS_NM_SEP+C(11)*BINNOV+C(12)*BIN1015+C(13)*BIN0916+C(14)*BIN0817+[AR(1)=C(15)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	14,614.573	473.589	30.859	0.00%
C(2)	(57.302)	12.942	(4.427)	0.00%
C(3)	(594.712)	335.071	(1.775)	7.85%
C(4)	2,271.390	423.737	5.360	0.00%
C(5)	3,118.307	464.894	6.708	0.00%
C(6)	1,330.579	479.110	2.777	0.64%
C(7)	7.017	0.975	7.200	0.00%
C(8)	11.518	0.865	13.317	0.00%
C(9)	13.160	0.835	15.759	0.00%
C(10)	7.963	1.265	6.294	0.00%
C(11)	(922.237)	265.413	(3.475)	0.07%
C(12)	(2,523.742)	912.343	(2.766)	0.66%
C(13)	(3,047.202)	898.351	(3.392)	0.10%
C(14)	(4,523.531)	903.143	(5.009)	0.00%
C(15)	0.710	0.066	10.794	0.00%

Table F-68: Wholesale Sales – Roosevelt – Regression Statistics

Wholesales Sales - Roosevelt

Model Statistics	
Adjusted Observations	131
R-Squared	0.9078
Adjusted R-Squared	0.8966
AIC	14.052
BIC	14.382
Log-Likelihood	-1,091.307
Model Sum of Squares	1,299,179,509.591
Sum of Squared Errors	132,023,333.34
Std. Error of Regression	1,066.83
Durbin-Watson Statistic	2.07
Mean dependent var	15,292.57
StdDev dependent var	3,315.37

Table F-69: Wholesale Sales – Roosevelt – Definitions

Wholesales Sales - Roosevelt

Variable Name	Definition
S_Roosevelt	Roosevelt sales
HH_NM_Growth	Growth of Households in New Mexico Service Area
Trend2012	Trend variable beginning in January 2012
Feb	Seasonal binary variable for February
Mar	Seasonal binary variable for March
Apr	Seasonal binary variable for April
May	Seasonal binary variable for May
C65_cal_ROS_NM_Jun	June cooling degree days
C65_cal_ROS_NM_Jul	July cooling degree days
C65_cal_ROS_NM_Aug	August cooling degree days
C65_cal_ROS_NM_Sep	September cooling degree days
Nov	Seasonal binary variable for November
Bin1015	Binary variable for October 2015=1, otherwise =0
Bin0916	Binary variable for September 2016=1, otherwise =0
Bin0817	Binary variable for August 2017=1, otherwise =0
AR(1)	First-order autoregressive term

Table F-70: Wholesale Sales – West Texas Municipal Power Authority

Wholesales Sales - WTMPA

Dependent Variable: S_WTMPA				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 156				
S_WTMPA=C(1)*CONST+C(2)*H65_CAL_LUBB_TX_JAN+C(3)*H65_CAL_LUBB_TX_FEB+C(4)*H65_CAL_LUBB_TX_MAR+C(5)*H65_CAL_LUBB_TX_NOV+C(6)*H65_CAL_LUBB_TX_DEC+C(7)*C65_CAL_LUBB_TX_MAY+C(8)*C65_CAL_LUBB_TX_JUN+C(9)*C65_CAL_LUBB_TX_JUL+C(10)*C65_CAL_LUBB_TX_AUG+C(11)*C65_CAL_LUBB_TX_SEP+C(12)*C65_CAL_LUBB_TX_OCT+C(13)*BIN0312+C(14)*BIN0914+C(15)*TRENDVAR+[MA(1)=C(16)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	188,401.651	3,214.817	58.604	0.00%
C(2)	48.866	2.699	18.107	0.00%
C(3)	18.990	3.497	5.430	0.00%
C(4)	20.520	5.244	3.913	0.01%
C(5)	16.826	4.783	3.518	0.06%
C(6)	49.931	2.719	18.360	0.00%
C(7)	156.830	8.373	18.731	0.00%
C(8)	178.803	4.289	41.692	0.00%
C(9)	200.326	3.894	51.446	0.00%
C(10)	212.958	4.113	51.781	0.00%
C(11)	195.772	7.559	25.901	0.00%
C(12)	183.561	25.467	7.208	0.00%
C(13)	19,069.986	5,376.287	3.547	0.05%
C(14)	(18,007.621)	5,422.601	(3.321)	0.12%
C(15)	23.970	11.546	2.076	3.97%
C(16)	0.207	0.084	2.455	1.53%

Table F-71: Wholesale Sales – West Texas Municipal Power Authority – Regression Statistics

Wholesales Sales - WTMPA

Model Statistics	
Adjusted Observations	156
R-Squared	0.9805
Adjusted R-Squared	0.9784
AIC	17.272
BIC	17.584
Log-Likelihood	-1,552.537
Model Sum of Squares	202,860,712,171.156
Sum of Squared Errors	4,027,051,993.49
Std. Error of Regression	5,363.27
Durbin-Watson Statistic	2.00
Mean dependent var	233,909.39
StdDev dependent var	36,534.36

Table F-72: Wholesale Sales – West Texas Municipal Power Authority – Definitions

Wholesales Sales - WTMPA

Variable Name	Definition
S_WTMPA	West Texas Municipal Power Authority sales
CONST	Constant
H65_cal_LUBB_TX_Jan	January heating degree days
H65_cal_LUBB_TX_Feb	February heating degree days
H65_cal_LUBB_TX_Mar	March heating degree days
H65_cal_LUBB_TX_Nov	November heating degree days
H65_cal_LUBB_TX_Dec	December heating degree days
C65_cal_LUBB_TX_May	May cooling degree days
C65_cal_LUBB_TX_Jun	June cooling degree days
C65_cal_LUBB_TX_Jul	July cooling degree days
C65_cal_LUBB_TX_Aug	August cooling degree days
C65_cal_LUBB_TX_Sep	September cooling degree days
C65_cal_LUBB_TX_Oct	October cooling degree days
Bin0312	Binary variable for March 2012=1, otherwise =0
Bin0914	Binary variable for September 2014=1, otherwise =0
TrendVar	Trend variable
MA(1)	First order moving average term

Table F-73: Wholesale Sales – Tri County

Wholesales Sales - Tri_County

Dependent Variable: S_TriCounty				
Method: Least Squares				
Sample: 2008M01 2017M12				
Included observations: 120				
S_TRICOUNTY=C(1)*CGCP_TRI+C(2)*TREND2012+C(3)*H65_CAL_AMAR_TX_JAN+C(4)*C65_CAL_AMAR_TX_JUN+C(5)*C65_CAL_AMAR_TX_JUL+C(6)*C65_CAL_AMAR_TX_AUG+C(7)*C65_CAL_AMAR_TX_SEP+C(8)*H65_CAL_AMAR_TX_DEC+C(9)*BIN0615+C(10)*BIN1017+[MA(1)=C(11)]+[SMA(1)=C(12)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	4,187.633	30.344	138.007	0.00%
C(2)	(63.126)	5.722	(11.033)	0.00%
C(3)	3.984	0.501	7.957	0.00%
C(4)	13.969	1.150	12.146	0.00%
C(5)	19.222	0.947	20.290	0.00%
C(6)	20.082	1.059	18.962	0.00%
C(7)	14.463	1.857	7.787	0.00%
C(8)	4.782	0.503	9.502	0.00%
C(9)	5,168.253	840.296	6.151	0.00%
C(10)	2,763.558	901.278	3.066	0.27%
C(11)	0.254	0.101	2.512	1.35%
C(12)	0.419	0.096	4.367	0.00%

Table F-74: Wholesale Sales – Tri County – Regression Statistics

Wholesales Sales - Tri_County

Model Statistics	
Adjusted Observations	120
R-Squared	0.9481
Adjusted R-Squared	0.9428
AIC	13.729
BIC	14.008
Log-Likelihood	-982.025
Model Sum of Squares	1,645,344,276.315
Sum of Squared Errors	90,123,843.78
Std. Error of Regression	913.50
Durbin-Watson Statistic	1.94
Mean dependent var	32,448.24
StdDev dependent var	3,818.87

Table F-75: Wholesale Sales – Tri County – Definitions

Wholesales Sales - Tri_County

Variable Name	Definition
S_TriCounty	Tri County sales
CGCP_TRI	New Mexico Gross County Product - Tri County Service Area
Trend2012	Trend variable beginning in January 2012
H65_cal_AMAR_TX_Jan	January heating degree days
C65_cal_AMAR_TX_Jun	June cooling degree days
C65_cal_AMAR_TX_Jul	July cooling degree days
C65_cal_AMAR_TX_Aug	August cooling degree days
C65_cal_AMAR_TX_Sep	September cooling degree days
H65_cal_AMAR_TX_Dec	December heating degree days
Bin0615	Binary variable for June 2015=1, otherwise =0
Bin1017	Binary variable for October 2017=1, otherwise =0
MA(1)	First-order moving average term
SMA(1)	First-order seasonal moving average term

Table F-76: Wholesale Sales – Golden Spread Full Load

Wholesales - GSEC_FullLoad

Dependent Variable: GSECSALES_LOG				
Method: Least Squares				
Sample: 2003M01 2017M12				
Included observations: 167				
GSECSALES_LOG=C(1)*GDPR_LOG+C(2)*C65_CAL_PAN_APRMAY+C(3)*C65_CAL_PAN_JUNE+C(4)*C65_CAL_PAN_JULY+C(5)*C65_CAL_PAN_AUG+C(6)*C65_CAL_PAN_SEP+C(7)*BIN0311+C(8)*BIN0113+C(9)*BIN0916+C(10)*BIN0817+C(11)*PRECIP_CAL_PANAPRTOJUL+[AR(1)=C(12)]+[SAR(1)=C(13)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.305	0.006	225.201	0.00%
C(2)	0.002	0.000	4.877	0.00%
C(3)	0.001	0.000	7.181	0.00%
C(4)	0.002	0.000	10.990	0.00%
C(5)	0.002	0.000	10.860	0.00%
C(6)	0.001	0.000	5.042	0.00%
C(7)	0.208	0.089	2.336	2.08%
C(8)	-0.638	0.089	-7.204	0.00%
C(9)	-0.486	0.091	-5.357	0.00%
C(10)	-0.257	0.103	-2.484	1.41%
C(11)	-0.025	0.007	-3.484	0.07%
C(12)	0.640	0.063	10.218	0.00%
C(13)	0.512	0.065	7.828	0.00%

Table F-77: Wholesale Sales – Golden Spread Full Load – Regression Statistics

Wholesales - GSEC_FullLoad

Model Statistics	
Adjusted Observations	167
R-Squared	0.9069
Adjusted R-Squared	0.8997
AIC	-4.119
BIC	-3.877
Log-Likelihood	120.012
Model Sum of Squares	22.637
Sum of Squared Errors	2.32
Std. Error of Regression	0.12
Durbin-Watson Statistic	1.76
Mean dependent var	12.72
StdDev dependent var	0.39

Table F-78: Wholesale Sales – Golden Spread Full Load – Definitions

Wholesales - GSEC_FullLoad

Variable Name	Definition
GSECSales_Log	Log of Golden Spread full load sales
GDPR_Log	Log of Real Gross Domestic Product
C65_Cal_Pan_AprMay	April and May cooling degree days
C65_cal_Panhandle_Jun	June cooling degree days
C65_cal_Panhandle_Jul	July cooling degree days
C65_cal_Panhandle_Aug	August cooling degree days
C65_cal_Panhandle_Sep	September cooling degree days
Bin0311	Binary variable for March 2011=1, otherwise =0
Bin0113	Binary variable for January 2013=1, otherwise =0
Bin0916	Binary variable for September 2016=1, otherwise =0
Bin0817	Binary variable for August 2017=1, otherwise =0
Precip_cal_PanhandleAprtoJul	Precipitation, April May June and July
AR(1)	First-order autoregressive term
SAR(1)	First-order seasonal autoregressive term

Table F-79: Coincident Peak Demand – Retail

Coincident Peak Demand - Retail

Dependent Variable: Retail_Load_Log				
Method: Least Squares				
Sample: 2005M01 2017M12				
Included observations: 155				
LOG(RETAILLOAD-CELANESELOAD+RETAIL_INTERRUPTIONS-LUBBLOAD+SUNRAYII) = C(1) + C(2)*LOG(@MOVAV(TOTAL_RETAIL_SALES-S_CELANESE_TX+DSM_MWH_SAVINGS-LUBB_SALES-NEW_RETAIL_LOAD_SALES+SUNRAYIISALES,12)) + C(3)*(JAN*HDD65_PD_SPS*CUST_SPS) + C(4)*(FEB*HDD65_PD_SPS*CUST_SPS) + C(5)*(MAR*HDD65_PD_SPS*CUST_SPS)+ C(6)*(APR*CDD65_PD_SPS*CUST_SPS) + C(7)*(MAY*CDD65_PD_SPS*CUST_SPS) + C(8)*(JUN*CDD65_PD_SPS*CUST_SPS) + C(9)*(JUL*CDD65_PD_SPS*CUST_SPS) + C(10)*(AUG*CDD65_PD_SPS*CUST_SPS) + C(11)*(SEP*CDD65_PD_SPS*CUST_SPS) + C(12)*(OCT*CDD65_PD_SPS*CUST_SPS) + C(13)*(NOV*HDD65_PD_SPS*CUST_SPS) + C(14)*(DEC*HDD65_PD_SPS*CUST_SPS) + C(15)*BIN1008 + C(16)*BIN1011 + C(17)*BIN0415 + C(18)*BIN0316 + C(19)*BINSHOULDER2 + [AR(1)=C(20)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-3.668	0.833	-4.40544	0.00%
C(2)	0.804	0.059	13.70742	0.00%
C(3)	0.000	0.000	8.35913	0.00%
C(4)	0.000	0.000	7.79792	0.00%
C(5)	0.000	0.000	2.86533	0.48%
C(6)	0.000	0.000	7.49106	0.00%
C(7)	0.000	0.000	17.26206	0.00%
C(8)	0.000	0.000	24.32191	0.00%
C(9)	0.000	0.000	24.99147	0.00%
C(10)	0.000	0.000	24.84147	0.00%
C(11)	0.000	0.000	19.24960	0.00%
C(12)	0.000	0.000	8.35380	0.00%
C(13)	0.000	0.000	5.03041	0.00%
C(14)	0.000	0.000	9.87899	0.00%
C(15)	-0.104	0.029	-3.55754	0.05%
C(16)	-0.099	0.030	-3.31024	0.12%
C(17)	-0.074	0.030	-2.50101	1.36%
C(18)	-0.105	0.029	-3.57166	0.05%
C(19)	-0.033	0.012	-2.89397	0.44%
C(20)	0.450	0.078	5.73535	0.00%

Table F-80: Coincident Peak Demand – Retail – Regression Statistics

Coincident Peak Demand - Retail

Model Statistics	
Adjusted Observations	155
R-Squared	0.9530
Adjusted R-Squared	0.9464
AIC	-6.809
BIC	-6.416
Log-Likelihood	327.744
Model Sum of Squares	2.682
Sum of Squared Errors	0.13
Std. Error of Regression	0.03
Durbin-Watson Statistic	2.04
Mean dependent var	7.89
StdDev dependent var	0.14

Table F-81: Coincident Peak Demand – Retail – Definitions

Coincident Peak Demand - Retail

Variable Name	Definition
Retail_Load_Log	SPS retail coincident peak demand
CONST	Constant variable
Retail_Sales_LogMA12	Log of 12 month moving average of retail sales
H65_bill_Retail_SPS_Jan	Heating degree days (January) multiplied by customers
H65_bill_Retail_SPS_Feb	Heating degree days (February) multiplied by customers
H65_bill_Retail_SPS_Mar	Heating degree days (March) multiplied by customers
C65_bill_Retail_SPS_Apr	Cooling degree days (April) multiplied by customers
C65_bill_Retail_SPS_May	Cooling degree days (May) multiplied by customers
C65_bill_Retail_SPS_Jun	Cooling degree days (June) multiplied by customers
C65_bill_Retail_SPS_Jul	Cooling degree days (July) multiplied by customers
C65_bill_Retail_SPS_Aug	Cooling degree days (August) multiplied by customers
C65_bill_Retail_SPS_Sep	Cooling degree days (September) multiplied by customers
C65_bill_Retail_SPS_Oct	Cooling degree days (October) multiplied by customers
H65_bill_Retail_SPS_Nov	Heating degree days (November) multiplied by customers
H65_bill_Retail_SPS_Dec	Heating degree days (December) multiplied by customers
Bin1008	Binary variable for October 2008=1, otherwise =0
Bin1011	Binary variable for October 2011=1, otherwise =0
Bin0415	Binary variable for April 2015=1, otherwise =0
Bin0316	Binary variable for March 2016=1, otherwise =0
Shoulder_Binary2	Binary variable for year equal or greater than 2014 and month equals April, May, and October=1, otherwise=0
AR(1)	First-order autoregressive term

Table F-82: Probability Distribution – Full Requirement Energy Excluding WTMPA

Full Requirement Energy Excluding WTMPA
Probability Energy

Dependent Variable: Energy				
Method: Least Squares				
Sample: 2000M01 2017M12				
Included observations: 214				
Energy = C(1) + C(2)*(MOVAV(CGSPNM+CGCPTX),12) + C(3)*(CDD65_SPS*BINMAY*TOTAL_CUSTOMERS) + C(4)*(CDD65_SPS*BINJUN*TOTAL_CUSTOMERS) + C(5)*(CDD65_SPS*BINJUL*TOTAL_CUSTOMERS) + C(6)*(CDD65_SPS*BINAUG*TOTAL_CUSTOMERS) + C(7)*(CDD65_SPS*BINSEP*TOTAL_CUSTOMERS) + C(8)*(HDD65_SPS*BINJAN*TOTAL_CUSTOMERS) + C(9)*BINFEB + C(10)*(HDD65_SPS*BINMAR*TOTAL_CUSTOMERS) + C(11)*(HDD65_SPS*BINOCT*TOTAL_CUSTOMERS) + C(12)*(HDD65_SPS*BINNOV*TOTAL_CUSTOMERS) + C(13)*(CDD65_SPS*BINDEC*TOTAL_CUSTOMERS) + C(14)*BIN0412 + [AR(1)=C(15)] + [AR(2)=C(16)]				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	748670.928	192069.487	3.89792	0.01%
C(2)	31.014	6.197	5.00470	0.00%
C(3)	0.002	0.000	15.56011	0.00%
C(4)	0.002	0.000	27.05535	0.00%
C(5)	0.002	0.000	41.09539	0.00%
C(6)	0.003	0.000	38.48935	0.00%
C(7)	0.002	0.000	13.42474	0.00%
C(8)	0.000	0.000	12.88727	0.00%
C(9)	-63185.917	10198.056	-6.19588	0.00%
C(10)	0.000	0.000	4.97358	0.00%
C(11)	0.000	0.000	2.87451	0.45%
C(12)	0.000	0.000	1.87611	6.21%
C(13)	0.001	0.000	14.99257	0.00%
C(14)	-424931.055	33476.639	-12.69336	0.00%
C(15)	0.548	0.067	8.18824	0.00%
C(16)	0.349	0.067	5.21298	0.00%

Table F-83: Probability Distribution – Full Requirement Energy Excluding WTMPA – Regression Statistics

Probability Energy

Model Statistics	
Adjusted Observations	214
R-Squared	0.9735
Adjusted R-Squared	0.9714
AIC	21.222
BIC	21.473
Log-Likelihood	-2,558.374
Model Sum of Squares	11,125,215,836,237
Sum of Squared Errors	303,346,264,413.29
Std. Error of Regression	39,141.43
Durbin-Watson Statistic	2.13
Mean dependent var	1,810,679.25
StdDev dependent var	234,438.25

Table F-84: Probability Distribution – Full Requirement Energy Excluding WTMPA – Definitions

Probability Energy

Variable Name	Definition
Energy	SPS full requirement energy, excluding WTMPA sales
CONST	Constant
CGCP_SPS_MA12	12-Month Moving Average of New Mexico and Texas Gross County Product
C65_SPS_May	May weather index for customer weighted cooling degree days
C65_SPS_Jun	June weather index for customer weighted cooling degree days
C65_SPS_Jul	July weather index for customer weighted cooling degree days
C65_SPS_Aug	August weather index for customer weighted cooling degree days
C65_SPS_Sep	September weather index for customer weighted cooling degree days
H65_SPS_Jan	January weather index for customer weighted heating degree days
Feb	Seasonal binary variable, February=1, otherwise=0
H65_SPS_Mar	March weather index for customer weighted heating degree days
H65_SPS_Oct	October weather index for customer weighted heating degree days
H65_SPS_Nov	November weather index for customer weighted heating degree days
H65_SPS_Dec	December weather index for customer weighted heating degree days
Bin0412	Binary variable for April 2012=1, otherwise =0
AR(1)	First-order autoregressive term
AR(2)	Second-order autoregressive term

Table F-85: Probability Distribution – Full Requirement Peak Demand Excluding WTMPA

Full Requirement Peak Excluding WTMPA
Probability Peak Demand

Dependent Variable: Peak				
Method: Least Squares				
Sample: 2000M01 2017M12				
Included observations: 216				
PEAK = C(1)*(MOVAV(ENERGY,12) + C(2)*(CDD65_SPS*BINAPR) + C(3)*(CDD65_SPS*BINMAY) + C(4)*(BINJUN*((MAXTEMP+MINTEMP)/2) + C(5)*(BINJUL*((MAXTEMP+MINTEMP)/2) + C(6)*(BINAUG*((MAXTEMP+MINTEMP)/2) + C(7)*(CDD65_SPS*BINSEP) + C(8)*(CDD65_SPS*BINOCT) + C(9)*TREND_PD + C(10)*HDD_SPS + C(11)*BIN0905 + C(12)*BIN1008 + C(13)*BIN1011 + C(14)*BIN0514 + C(15)*BINDEC				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.001	0.000	65.90873	0.00000
C(2)	5.073	0.800	6.33813	0.00000
C(3)	3.771	0.228	16.50514	0.00000
C(4)	11.589	0.507	22.83860	0.00000
C(5)	12.708	0.502	25.30373	0.00000
C(6)	12.881	0.505	25.52405	0.00000
C(7)	3.709	0.191	19.44920	0.00000
C(8)	4.434	0.705	6.28789	0.00000
C(9)	-0.002	0.001	-3.64378	0.00035
C(10)	0.442	0.053	8.29628	0.00000
C(11)	444.451	121.275	3.66483	0.00033
C(12)	-433.279	122.799	-3.52836	0.00053
C(13)	-306.234	118.626	-2.58150	0.01055
C(14)	-248.660	120.084	-2.07071	0.03966
C(15)	-220.111	120.864	-1.82114	0.07008
C(16)	-402.942	126.502	-3.18526	0.00169

Table F-86: Probability Distribution – Full Requirement Peak Demand Excluding WTMPA – Regression Statistics

Probability Peak Demand

Model Statistics	
Adjusted Observations	216
R-Squared	0.9303
Adjusted R-Squared	0.9250
AIC	9.589
BIC	9.839
Log-Likelihood	-1,326.096
Model Sum of Squares	36,287,763.339
Sum of Squared Errors	2,719,794.23
Std. Error of Regression	116.61
Durbin-Watson Statistic	1.74
Mean dependent var	3,050.03
StdDev dependent var	425.95

Table F-87: Probability Distribution – Full Requirement Peak Demand Excluding WTMPA – Definitions

Probability Peak Demand

Variable Name	Definition
Peak	SPS full requirement peak demand, excluding WTMPA peak demand
Energy_MA12	12-month moving average of SPS full requirement energy, excluding WTMPA sales
C65_SPS_Apr	April cooling degree days
C65_SPS_May	May cooling degree days
SEAS6	Peak day average temperature in June
SEAS7	Peak day average temperature in July
SEAS8	Peak day average temperature in August
C65_SPS_Sep	September cooling degree days
C65_SPS_Oct	October cooling degree days
Trend_PD	Trend Peak Day
HDD_SPS	Service territory heating degree days
Bin0905	Binary variable for September 2005=1, otherwise =0
Bin1008	Binary variable for October 2008=1, otherwise =0
Bin1011	Binary variable for October 2011=1, otherwise =0
Bin0514	Binary variable for May 2014=1, otherwise =0
Dec	Seasonal binary variable, December=1, otherwise=0
Jan	Seasonal binary variable, January=1, otherwise=0

Table F-88: Probability Distribution – West Texas Municipal Power Authority Peak Demand

Probability WTMPA Peak Demand

Dependent Variable: Peak				
Method: Least Squares				
Sample: 2001M01 2017M12				
Included observations: 204				
PEAK = C(1)*(MOVAV(ENERGY,12) + C(2)*(CDD65*BINMAY) + C(3)*(MAXTEMP_JUN) + C(4)*(MAXTEMP_JUL) + C(5)*(MAXTEMP_AUG) + C(6)*(MAXTEMP_SEP) + C(7)*(CDD65*BINOCT) + C(8)*(HDD65) + C(9)*BIN1111 + C(10)*BIN0412 + C(11)*WTMPA_BADMETER + C(12)*BIN1016 + C(13)*BIN0316				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.002	0.000	49.22502	0.0%
C(2)	0.588	0.045	13.13319	0.0%
C(3)	2.182	0.102	21.31498	0.0%
C(4)	2.251	0.103	21.78406	0.0%
C(5)	2.469	0.103	23.92521	0.0%
C(6)	2.082	0.108	19.28631	0.0%
C(7)	1.136	0.138	8.20579	0.0%
C(8)	0.072	0.013	5.35892	0.0%
C(9)	-70.943	30.343	-2.33801	2.0%
C(10)	166.957	30.969	5.39111	0.0%
C(11)	23.309	4.758	4.89904	0.0%
C(12)	-81.701	33.756	-2.42035	1.6%
C(13)	-95.831	30.604	-3.13129	0.2%

Table F-89: Probability Distribution – West Texas Municipal Power Authority Peak Demand – Regression Statistics

Probability WTMPA Peak Demand

Model Statistics	
Adjusted Observations	204
R-Squared	0.9026
Adjusted R-Squared	0.8964
AIC	6.872
BIC	7.083
Log-Likelihood	-977.369
Model Sum of Squares	1,604,397.167
Sum of Squared Errors	173,216.20
Std. Error of Regression	30.11
Durbin-Watson Statistic	1.78
Mean dependent var	476.21
StdDev dependent var	93.58

Table F-90: Probability Distribution – West Texas Municipal Power Authority Peak Demand – Definitions

Probability WTMPA Peak Demand

Variable Name	Definition
Peak	West Texas Municipal Power Authority peak demand
WTMPAEnergy_MA12	12-month moving average of WTMPA energy sales
C65_May	May cooling degree days
MaxTemp_Jun	Maximum peak day temperature in June
MaxTemp_Jul	Maximum peak day temperature in July
MaxTemp_Aug	Maximum peak day temperature in August
MaxTemp_Sep	Maximum peak day temperature in September
CDD65_Oct	October cooling degree days
HDD65	Service territory heating degree days
Bin1111	Binary variable for November 2011=1, otherwise =0
Bin0412	Binary variable for April 2012=1, otherwise =0
WTMPA_BadMtr	Estimated Load November 2013 through August 2014 due to bad meter
Bin1016	Binary variable for October 2016=1, otherwise =0
Bin0316	Binary variable for March 2016=1, otherwise =0