

Apéndice B

Tabla B.1 Salida Minitab: demanda total EU Producto 2

DT2 = 46211 + 0.895 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	46211	40087	1.15	0.265
DT2(-1)	0.8952	0.1013	8.83	0.000
S = 24657	R-Sq = 82.1%	R-Sq(adj) = 81.1%		

Tabla B.2 Salida Minitab: demanda DYPSA EU Producto 2

D2 = 3877 + 0.618 D2(-1) + 111306 SGM2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	3877	14105	0.27	0.787
D2(-1)	0.6180	0.1620	3.81	0.002
SGM2(-1)	111306	51383	2.17	0.046
S = 6877	R-Sq = 60.9%	R-Sq(adj) = 56.1%		

Tabla B.3 Salida Minitab: demanda total Japón Producto 2

DT2 = - 1689 + 0.979 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	-1689	15129	-0.11	0.912
DT2(-1)	0.97902	0.08916	10.98	0.000
S = 19115	R-Sq = 87.6%	R-Sq(adj) = 86.9%		

Tabla B.4 Salida Minitab: demanda DYPSA en Japón Producto 2

D2 = - 49271 + 0.530 D2(-1) + 0.00107 GM2 + 42049 RQ2C1				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	-49271	16179	-3.05	0.008
D2(-1)	0.53018	0.07431	7.13	0.000
GM2	0.0010735	0.0001277	8.40	0.000
RQ2C1	42049	16725	2.51	0.024
S = 1927	R-Sq = 95.3%	R-Sq(adj) = 94.4%		

Tabla B.5 Salida Minitab: demanda total Alemania Producto 2

DT2 = 33554 + 0.854 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	33554	32569	1.03	0.317
DT2(-1)	0.8544	0.1523	5.61	0.000
S = 16389	R-Sq = 64.9%	R-Sq(adj) = 62.9%		

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Tabla B.6 Salida Minitab: demanda DYPSA en Alemania Producto 2

D2 = - 6297 + 0.720 D2(-1) + 80487 SGM2				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	-6297	7055	-0.89	0.385
D2(-1)	0.7197	0.1332	5.41	0.000
SGM2	80487	16196	4.97	0.000
S = 2674	R-Sq = 74.8%	R-Sq(adj) = 71.7%		

Tabla B.7 Salida Minitab: demanda total China Producto 2

DT2 = 17127 + 0.708 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	17127	10031	1.71	0.106
DT2(-1)	0.7084	0.1664	4.26	0.001
S = 7192	R-Sq = 51.6%	R-Sq(adj) = 48.7%		

Tabla B.8 Salida Minitab: demanda DYPSA en China Producto 2

D2 = 22424 + 0.502 D2(-1) + 12045 SGM2 - 50.5 P2C1 + 15.8 P2C5				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	22424	10670	2.10	0.054
D2(-1)	0.5016	0.1111	4.52	0.000
SGM2	12045	3987	3.02	0.009
P2C1	-50.48	17.02	-2.97	0.010
P2C5	15.756	6.839	2.30	0.037
S = 1539	R-Sq = 94.7%	R-Sq(adj) = 93.2%		

Tabla B.9 Salida Minitab: demanda total México Producto 2

DT2 = 24816 + 0.672 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	24816	14019	1.77	0.095
DT2(-1)	0.6717	0.1800	3.73	0.002
S = 9246	R-Sq = 45.0%	R-Sq(adj) = 41.8%		

Tabla B.10 Salida Minitab: demanda DYPSA en México Producto 2

D2 = 30185 - 33.8 P2C1 + 0.00305 GM2				
Predictor	Coef	StDev	T	P
Constant	30185	7656	3.94	0.001
P2C1	-33.78	11.67	-2.89	0.010
GM2	0.003045	0.001024	2.97	0.009
S = 3101	R-Sq = 68.5%	R-Sq(adj) = 64.7%		

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Tabla B.11 Salida Minitab: demanda total Inglaterra Producto 2

DT2 = 21488 + 0.779 DT2(-1)				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	21488	14822	1.45	0.165
DT2(-1)	0.7787	0.1507	5.17	0.000
S = 7728	R-Sq = 61.1%	R-Sq(adj) = 58.8%		

Tabla B.12 Salida Minitab: demanda DYPSA en Inglaterra Producto 2

D2 = 2193 + 0.658 D2(-1) + 0.0318 GM2				
19 cases used 1 cases contain missing values				
Predictor	Coef	StDev	T	P
Constant	2193	3338	0.66	0.521
D2(-1)	0.6579	0.1480	4.45	0.000
GM2	0.03180	0.01207	2.63	0.018
S = 1833	R-Sq = 67.1%	R-Sq(adj) = 63.0%		

Tabla B.13 Estacionalidad demanda total Estados Unidos Producto 2.

Seasonal Indices	
Period	Index
1	0.993103
2	0.978596
3	0.985695
4	1.04261

Tabla B.14 Estacionalidad demanda total Japón Producto 2.

Seasonal Indices	
Period	Index
1	0.990762
2	0.992345
3	0.992997
4	1.02390

Tabla B.15 Estacionalidad demanda total Alemania Producto 2.

Seasonal Indices	
Period	Index
1	0.990762
2	0.992345
3	0.992997
4	1.02390

Tabla B.16 Estacionalidad demanda total China Producto 2.

Seasonal Indices	
Period	Index
1	1.00900
2	1.04247
3	0.983164
4	0.965363

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Tabla B.17 Estacionalidad demanda total México Producto 2.

Seasonal Indices	
Period	Index
1	1.04714
2	1.04077
3	0.963319
4	0.948774

Tabla B.18 Estacionalidad demanda total Inglaterra Producto 2.

Seasonal Indices	
Period	Index
1	0.990288
2	1.00356
3	1.01055
4	0.995602

Tabla B.19 Estacionalidad demanda DYPSA Estados Unidos Producto 2.

Seasonal Indices	
Period	Index
1	1.00376
2	0.996144
3	0.974121
4	1.02597

Tabla B.20 Estacionalidad demanda DYPSA Japón Producto 2.

Seasonal Indices	
Period	Index
1	0.982844
2	1.00136
3	0.985521
4	1.03028

Tabla B.21 Estacionalidad demanda DYPSA Alemania Producto 2.

Seasonal Indices	
Period	Index
1	0.990762
2	0.992345
3	0.992997
4	1.02390

Tabla B.22 Estacionalidad demanda DYPSA China Producto 2.

Seasonal Indices	
Period	Index
1	1.04326
2	1.02899
3	0.950335
4	0.977417

Tabla B.23 Estacionalidad demanda DYPSA México Producto 2.

Seasonal Indices	
Period	Index
1	1.05856
2	1.08128
3	0.917419
4	0.942737

Tabla B.24 Estacionalidad demanda DYPSA Inglaterra Producto 2.

Seasonal Indices	
Period	Index
1	1.00460
2	1.02143
3	0.992088
4	0.981879

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Tabla B.25 Demanda total EU Producto 2.

Decomposition	
Data	DT2
Length	20.0000
Trend Line Equation	
$Y_t = 301524 + 8792.34*t$	
Seasonal Indices	
Period	Index
1	0.993103
2	0.978596
3	0.985695
4	1.04261
Accuracy of Model	
MAPE:	4
MAD:	16333

Tabla B.26 Demanda DYPSA EU Producto2.

Decomposition	
Data	D2
Length	20.0000
Trend Line Equation	
$Y_t = 61493.6 + 1064.65*t$	
Seasonal Indices	
Period	Index
1	1.00376
2	0.996144
3	0.974121
4	1.02597
Accuracy of Model	
MAPE:	8
MAD:	5777

Tabla B.27 Demanda total Japón Producto 2 Tabla B.28 Demanda DYPSA Japón Producto 2.

Single Exp Smoothing	
Data	DT2
Length	20.0000
Smoothing Constant	
Alpha: 1.48251	
Accuracy Measures	
MAPE:	8
MAD:	12407

Single Exp Smoothing	
Data	D2
Length	20.0000
Smoothing Constant	
Alpha: 1.91216	
Accuracy Measures	
MAPE:	8
MAD:	2679

Tabla B.29 Demanda total Alemania Producto 2

Decomposición	
Data	DT2
Length	20.0000
Trend Line Equation	
$Y_t = 175825 + 3673.22*t$	
Seasonal Indices	
Period	Index
1	0.998275
2	1.00869
3	0.970040
4	1.02300
Accuracy of Model	
MAPE:	5
MAD:	11437

Tabla B.30 Demanda DYPSA Alemania Producto 2

Single Exp Smoothing	
Data	D2
Length	20.0000
Smoothing Constant	
Alpha: 1.43510	
Accuracy Measures	
MAPE:	8
MAD:	3093

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Tabla B.31 Demanda total China Producto 2

Single Exp Smoothing	
Data	DT2
Length	20.0000
Smoothing Constant	
Alpha:	0.972019
Accuracy Measures	
MAPE:	9
MAD:	4884

Tabla B.32 Demanda DYPSA China Producto 2.

Single Exp Smoothing	
Data	D2
Length	20.0000
Smoothing Cons	
Alpha:	1.15237
Accuracy Measures	
MAPE:	10
MAD:	1428

Tabla B.33 Demanda total México Producto 2

Single Exp Smoothing	
Data	DT2
Length	20.0000
Smoothing Constant	
Alpha:	1.42847
Accuracy Measures	
MAPE:	10
MAD:	7518

Tabla B.34 Demanda DYPSA México Producto 2.

Single Exp Smoothing	
Data	D2
Length	20.0000
Smoothing Constant	
Alpha:	1.15679
Accuracy Measures	
MAPE:	13
MAD:	2336

Tabla B.35 Demanda total Inglaterra Producto 2

Single Exp Smoothing	
Data	DT2
Length	20.0000
Smoothing Constant	
Alpha:	0.980758
Accuracy Measures	
MAPE:	7
MAD:	6175

Tabla B.36 Demanda DYPSA Inglaterra Producto 2

Single Exp Smoothing	
Data	D2
Length	20.0000
Smoothing Constant	
Alpha:	1.85737
Accuracy Measures	
MAPE:	8
MAD:	1525

Tabla B.37 Pronósticos Demanda total Estados Unidos Producto 2.

Periodo	Real	Descomposición	APE	Regresión	APE
20	436,280				
21	419,400	482,810	15.12%	436,682	4.12%
22	383,343	484,362	26.35%	421,574	9.97%
23	412,543	496,542	20.36%	389,303	5.63%
24	418,966	534,377	27.55%	415,437	0.84%
		MAPE	22.34%	MAPE	5.14%

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Tabla B.38 Pronósticos Demanda DYPSA Estados Unidos Producto 2.

Periodo	Real	Descomposición	APE	Regresión	APE
20	66,333				
21	64,532	84,167	30.43%	64,848.79	0.5%
22	65,436	84,589	29.27%	62,995.85	3.7%
23	68,969	83,755	21.44%	64,553.90	6.4%
24	67,390	89,306	32.52%	63,601.29	5.6%
		MAPE	28.41%	MAPE	4.1%

Tabla B.39 Pronósticos Demanda total Japón Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	89,208				
21	96,160	89,283	7.15%	85,646	10.93%
22	104,647	89,283	14.68%	92,452	11.65%
23	119,986	89,283	25.59%	100,760	16.02%
24	136,116	89,283	34.41%	115,777	14.94%
		MAPE	20.46%	MAPE	13.39%

Tabla B.40 Pronósticos Demanda DYPSA Japón Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	21,680				
21	20,389	24,095	18.18%	25,935	27.20%
22	22,326	24,095	7.92%	19,209	13.96%
23	21,328	24,095	12.97%	17,817	16.46%
24	21,893	24,095	10.06%	20,697	5.46%
		MAPE	12.28%	MAPE	15.77%

Tabla B.41 Pronósticos Demanda total Alemania Producto 2.

Periodo	Real	Descomposición	APE	Regresión	APE
20	253,105				
21	248,587	252,527	1.58%	249,706	0.45%
22	228,032	258,866	13.52%	245,847	7.81%
23	218,694	252,510	15.46%	228,293	4.39%
24	224,132	270,054	20.49%	220,319	1.70%
		MAPE	12.76%	MAPE	3.59%

Tabla B.42 Pronósticos Demanda DYPSA Alemania Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	48288				
21	48498	48288	0.43%	47864.81783	1.31%
22	44075	48288	9.56%	47604.35078	8.01%
23	39748	48288	21.49%	41599.03122	4.66%
24	39539	48288	22.13%	38659.75041	2.22%
		MAPE	13.40%	MAPE	4.05%

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Tabla B.43 Pronósticos Demanda total China Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	63,754				
21	61,395	63,732	3.81%	62,265	1.42%
22	62,362	63,732	2.20%	60,595	2.83%
23	69,070	63,732	7.73%	61,279	11.28%
24	72,322	63,732	11.88%	66,029	8.70%
		MAPE	6.40%	MAPE	6.06%

Tabla B.44 Pronósticos Demanda DYPSA China Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	26,301				
21	25,632	26,255	2.43%	26908.48608	4.98%
22	31,894	26,255	17.68%	29214.98741	8.40%
23	34,423	26,255	23.73%	31861.12856	7.44%
24	35,725	26,255	26.51%	33572.63726	6.02%
		MAPE	17.59%	MAPE	6.71%

Tabla B.45 Pronósticos Demanda total México Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	72,118				
21	84,201	70,323	16.48%	73,279.30	13%
22	76,139	70,323	7.64%	81,399.07	7%
23	73,265	70,323	4.02%	75,981.41	4%
24	68,390	70,323	2.83%	74,050.08	8%
		MAPE	7.74%	MAPE	7.97%

Tabla B.46 Pronósticos Demanda DYPSA México Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
21	30,524	28,416	6.91%	25,139	17.64%
22	29,256	28,416	2.87%	26,664	8.86%
23	25,489	28,416	11.48%	19,377	23.98%
24	20,043	28,416	41.78%	17,852	10.93%
		MAPE	15.76%	MAPE	15.35%

Tabla B.47 Pronósticos Demanda total Inglaterra Producto 2.

Periodo	Real	S. Simple	APE	Regresión	APE
20	100,858				
21	91,255	100,826	10.49%	100,056	9.64%
22	78,388	100,826	28.62%	92,576	18.10%
23	85,424	100,826	18.03%	82,552	3.36%
24	108,524	100,826	7.09%	88,033	18.88%
		MAPE	16.06%	MAPE	12.50%

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Tabla B.48 Pronósticos Demanda DYPSA Inglaterra Producto 2.

Periodo	Real	S. Simple	APE	GM2	Regresión	APE
20	22,930					
21	22,219	21,760	2.06%	200,000	23,641	6.40%
22	20,693	21,760	5.16%	200,000	23,173	11.99%
23	22,348	21,760	2.63%	200,000	22,169	0.80%
24	29,669	21,760	26.66%	195,000	23,099	22.14%
		MAPE	9.13%		MAPE	10.33%