

TAX INCIDENCE WITH FOREIGN TRADE

A1: '
 B2: ^Benz. US
 C2: 'Benz. Other
 D2: ^Styr. US
 E2: 'Styr. Other
 B3: \-
 C3: \-
 D3: \-
 E3: \-
 A4: '1983 Quantity Consumed
 B4: (F2) 3991
 C4: (F2) 11025
 D4: 2440
 E4: 5337
 A5: '1983 Price
 B5: (F2) 460.25
 C5: (F2) (@AVG(537,461,408,449)*1803+@AVG(446,464,477,446)*5415)/(1803+541
 D5: 647.5
 E5: (@AVG(1007,761,635,683)*1139+@AVG(655,699,718,696)*2655)/(1139+2655)
 A7: 'Supply Intercept
 B7: (F2) +B5-B8*(B4+USEQB-B20)
 C7: (F2) +C5-C8*(C4+OTHEQB-C20)
 D7: (F2) +D5-D8*(D4+USEQS-D20)-1.05*B5
 E7: (F2) +E5-E8*(E4+OTHEQS-E20)-1.05*C5
 A8: 'Supply Slope
 B8: (F4) 0.011922
 C8: (F4) 0.003009
 D8: (F4) 0.00039174
 E8: (F4) 0.00024803
 A9: 'Demand Intercept
 D9: (F2) +D5-D10*D4
 E9: (F2) +E5-E10*E4
 A10: 'Demand Slope
 D10: (F2) -0.9477459016
 E10: (F2) -0.4790457208
 A12: 'Tax Rate
 B12: (F2) (14.88-4.87)*(2204.6/2000)
 C12: (F2) 0
 D12: 0
 E12: 0
 A14: 'After-tax Quantity
 B14: (F2) @AVG(@MIN(USPRMAX,(1.05*D14*D19+1.05*E14*E19)*B4/USDD),B14)
 C14: (F2) @AVG(@MIN(OTHPRMAX,(1.05*(1-D19)*D14+1.05*(1-E19)*E14)*C4/OTHDD)
 D14: (F2) @AVG(@MIN(USPPMAX,(D9-D7-D12-1.05*B16)/(D8-D10)),D14)
 E14: (F2) @AVG(@MIN(OTHPMAX,(E9-E7-E12-1.05*C16)/(E8-E10)),E14)
 A15: ' % Change
 B15: (P2) (B14-B4)/B4
 C15: (P2) (C14-C4)/C4
 D15: (P2) (D14-D4)/D4
 E15: (P2) (E14-E4)/E4
 A16: 'After-tax Price
 B16: (F2) @IF(B14=USPPMAX,0,@MAX(B7+B8*B14+B12,MINPRPR))
 C16: (F2) @IF(C14=OTHPRMAX,0,@MAX(C7+C8*C14+C12,MINPRPR))
 D16: (F2) +D9+D10*D14
 E16: (F2) +E9+E10*E14

A17: ' % Change

B17: (P2) (B16-B5)/B5
C17: (P2) (C16-C5)/C5
D17: (P2) (D16-D5)/D5
E17: (P2) (E16-E5)/E5
A19: 'US Share Of Sales
B19: (P2) 1-(USALPH1+@ABS(B16/(C16+B12))*USBET1)
C19: (P2) 1/(1+OTHALPH1*@ABS(B16/C16)^OTHBET1)
D19: (P2) 1-(USALPH2+@ABS(D16/E16))*USBET2
E19: (P2) 1/(1+OTHALPH2*@ABS(D16/E16)^OTHBET2)
A20: 'Production
B20: (F2) +B14*B19+C14*C19
C20: (F2) +B14*(1-B19)+C14*(1-C19)
D20: (F2) +D14*D19+E14*E19
E20: (F2) +D14*(1-D19)+E14*(1-E19)
A22: ^AUXILIARY VARIABLES
C22: ^VALUE
D22: ^RANGE NAME
A23: \-
C23: \-
D23: \-
A24: 'US Benzene Alpha (Linear)
C24: (F3) -2.9084
D24: 'USALPH1
A25: 'US Benzene Beta (Linear)
C25: (F3) 2.95623/0.98
D25: 'USBET1
A26: 'Other Benzene Alpha (Logistic)
C26: (G) 385
D26: 'OTHALPH1
A27: 'Other Benzene Beta (Logistic)
C27: 19.93/0.98
D27: 'OTHBET1
A28: 'US Styrene Alpha (Linear)
C28: (F3) -1.3593
D28: 'USALPH2
A29: 'US Styrene Beta (Linear)
C29: (F3) 2.95623/1.96
D29: 'USBET2
A30: 'Other Styrene Alpha (Logistic)
C30: 52.7
D30: 'OTHALPH2
A31: 'Other Styrene Beta (Logistic)
C31: 19.93/1.96
D31: 'OTHBET2
A33: '1983 US Share of US Benzene
C33: (P2) 1-(USALPH1+(B5/C5))*USBET1
D33: 'USEQSHB
A34: '1983 US Share of Other Benzene
C34: (P2) 1/(1+OTHALPH1*(B5/C5)^OTHBET1)

D34: 'OTHEQSHB
A35: '1983 US Benzene Production
C35: +USEQSHB*B4+OTHEQSHB*C4
D35: 'USEQB
A36: '1983 Other Benzene Production
C36: (1-USEQSHB)*B4+(1-OTHEQSHB)*C4
D36: 'OTHEQB

A37: '1983 US Share of US Styrene
C37: (P2) 1-(USALPH2+(D5/E5)*USBET2)
D37: 'USEQSHS
A38: '1983 US Share of Other Styrene
C38: (P2) 1/(1+OTHALPH2*(D5/E5)^OTHBET2)
D38: 'OTHEQSHS
A39: '1983 US Styrene Production
C39: +USEQSHS*D4+OTHEQSHS*E4
D39: 'USEQS
A40: '1983 Other Styrene Production
C40: (1-USEQSHS)*D4+(1-OTHEQSHS)*E4
D40: 'OTHEQS
A41: '1983 US Benzene used in Styrene
C41: 1.05*USEQS
D41: 'USDD
A42: '1983 Other Benzene used in Styrene
C42: 1.05*OTHEQS
D42: 'OTHDD
A44: 'US Benzene Capacity
C44: 100000
D44: 'USPRMAX
A45: 'Other Benzene Capacity
C45: 100000
D45: 'OTHPRMAX
A46: 'US Styrene Capacity
C46: 100000
D46: 'USPPMAX
A47: 'Other Styrene Capacity
C47: 100000
D47: 'OTHPPMAX
A48: 'Minimum Benzene Price
C48: 0
D48: 'MINPRPR
A49: 'Minimum Styrene Price
C49: 0
D49: 'MINPPPR