

ESTRUTURAL: SE A TAXA DE CÂMBIO CAI, E ISSO PREJUDICA AS EXPORTAÇÕES E BENEFICIA AS IMPORTAÇÕES, O SALDO DA BALANCA COMERCIAL DIMINUI, LOGO O EQUILÍBRIO DO BALANÇO DE PAGAMENTOS DÁ-SE COM MAIOR INGRESSO DE CAPITAIS E MENOR SALDO DA CONTA CORRENTE.

REGIMES CAMBIAIS INTERMEDIÁRIOS

A POLÍTICA DAS MINIDESVALORIZAÇÕES CAMBIAIS TEM O OBJETIVO DE MANTER ESTÁVEL UMA CERTA TAXA "REAL" DE CÂMBIO, SUPOSTAMENTE JULGADA CORRETA PELOS ADMINISTRADORES DA POLÍTICA ECONÔMICA. A MAIOR PROVA DISSO É QUE OS PERÍODOS ENTRE DOIS REAJUSTES É DETERMINADO PELA VELOCIDADE DA ELEVACÃO DOS PREÇOS, OU SEJA, PELA MAGNITUDE DA TAXA DE INFLAÇÃO. CONCEDE AOS EXPORTADORES E IMPORTADORES A GARANTIA DE RECEBER OU PAGAR, EM MOEDA DOMÉSTICA, PELOS SEUS NEGÓCIOS INTERNACIONAIS, UM VALOR IMUNE À EROÇÃO INFLACIONÁRIA.

COM RELAÇÃO AO REGIME DE "BANDAS" DE FLUTUAÇÃO DA TAXA DE CÂMBIO A IDEIA É SIMPLES: A PARTIR DE UMA CERTA TAXA DE CÂMBIO (TC_0) QUE, AO MENOS, SUPOSTAMENTE, É A QUE EQUILIBRA O MERCADO DE DIVISAS, O BACEN DETERMINA QUE SOMENTE PARTICIPARÁ DO MERCADO SE E QUANDO A TAXA DE CÂMBIO DO MOMENTO (TC) AMEAÇAR REDUZIR-SE AQUEM DE $TC_1 = (1 - \alpha)TC_0$, OU ELEVAR-SE ALÉM DE $TC_2 = (1 + \alpha)TC_0$, ONDE α É UM PERCENTUAL EM GERAL PEQUENO (2%, POR EXEMPLO). OS VALORES DAS TAXAS DE CÂMBIO TC_1 E TC_2 SÃO CHAMADOS, MUITO APROPRIADAMENTE, TAXAS DE INTERVENÇÃO.

TC_1 : O BACEN COMPRA DIVISAS

TC_2 : O BACEN VENDE DIVISAS

EXERCÍCIOS REFERENCIAIS

6.A. 1. IS: $c + i + g + a - m = y = c + s + t - rl$

$$112 - 100r + 150 + 40 - 10P + 20TC - (32 + 0,05y + 4P - 12TC) = s + 0,15y - 200r^*$$

$$y_d = c + s$$

$$s = y_d - c = y_d - (52 + 0,6y_d) = y_d - 52 - 0,6y_d$$

$$s = -52 + 0,4y_d$$

$$112 - 100r + 150 + 40 - 10P + 20TC - 32 - 0,05y - 4P + 12TC = -52 + 0,4y_d + 0,15y - 200r^*$$

$$270 - 100r - 10(2) + 32TC - 0,05y - 4(2) = -52 + 0,4(y - t - rl) + 0,15y - 200(0,05)$$

$$270 - 100r - 20 + 32TC - 0,05y - 8 = -52 + 0,4(y - 0,15y - 10) + 0,15y + 10$$

$$242 - 100r + 32TC - 0,05y = -42 + 0,4(0,85y - 10) + 0,15y$$

$$242 - 100r + 32TC - 0,05y = -42 + 0,34y - 4 + 0,15y$$

$$-0,05y - 0,34y - 0,15y = -42 - 242 - 4 + 100r - 32TC$$

$$-0,54y = -288 + 100r - 32TC$$

$$IS: \quad 0,54y = 288 - 100r + 32TC$$

$$LM: \quad M^s/P = m^d$$

$$40/2 = 80 + 0,1y - 1000r$$

$$20 = 80 + 0,1y - 1000r$$

$$-0,1y = 80 - 20 - 1000r$$

$$0,1y = -60 + 1000r$$

$$LM: \quad y = -600 + 10000r \quad \text{or}$$

$$r = \frac{y + 600}{10000} \Rightarrow r = 0,06 + 0,0001y$$

$$BP: \quad SCC = -SCK \Rightarrow \alpha - m - r_l = -SCK$$

$$40 - 10P + 20TC - (32 + 0,05y + 4P - 12TC) - 200r^* = -(150r - 120r^*)$$

$$40 - 10(2) + 20TC - 32 - 0,05y - 4(2) + 12TC = -150r + 120r^* + 200r^*$$

$$-20 + 32TC - 0,05y = -150r + 320(0,05)$$

$$-0,05y = -150r + 16 + 20 - 32TC$$

$$BP: \quad y = -720 + 640TC + 3000r$$

$$2. \quad IS = LM = BP$$

$$-0,54(-600 + 10000r) = 288 - 100r + 32TC$$

$$-324 + 5400r = 288 - 100r + 32TC$$

$$5400r + 100r = 288 + 324 + 32TC$$

$$5500r = 612 + 32TC \Rightarrow r = \frac{612 + 32TC}{5500}$$

$$5500$$

$$-600 + 10000r = -720 + 640TC + 3000r$$

$$1000r - 3000r = -720 + 600 + 640TC$$

$$7000r = -120 + 640TC \Rightarrow r = \frac{-120 + 640TC}{7000}$$

$$7000$$

$$\frac{612 + 32TC}{5500} = \frac{-120 + 640TC}{7000} \Rightarrow 42840 + 2240TC = -6600 + 35200TC$$

$$-35200TC + 2240TC = -6600 - 42840$$

$$32960/TC = 49440 \Rightarrow TC = 4944/3296 = 1,5$$

$$r = \frac{612 + 32TC}{5500} = \frac{612 + 32(1,5)}{5500} = \frac{612 + 48}{5500} = \frac{660}{5500} = 0,12 \text{ ou } 12\%$$

$$y = -600 + 10000r = -600 + 10000(0,12) = -600 + 1200 = 600 \text{ bilhões}$$

$$3. DD: 112 - 100r + 150 + 40 - 10P + 20TC - (32 + 0,05y + 4P - 12TC) = -42 + 0,34y - 4 +$$

$$0,54y = 288 - 100r + 32P \Rightarrow 0,54y = 288 - 100r + 32(1,5)$$

$$0,54y = 288 + 48 - 100r \Rightarrow 0,54y = 336 - 100r$$

$$0,54y - 336 = -100r \Rightarrow 100r = 336 - 0,54y \quad (\times 10)$$

$$1000r = 3360 - 5,4y$$

$$40/P = 80 + 0,1y - 1000r \Rightarrow -1000r = -80 - 0,1y + 40/P$$

$$1000r = 80 + 0,1y - 40/P$$

$$3360 - 5,4y = 80 + 0,1y - 40/P$$

$$-5,4y - 0,1y = 80 - 3360 - 40/P$$

$$-5,5y = -3280 - 40/P \Rightarrow 5,5y = 3280 + 40/P$$

$$DD: y = 596,36 + 7,27/P$$

$$4. IS: 0,54y = 288 + 100r + 32TC \Rightarrow 0,54y = 288 + 48 - 100r \Rightarrow y = 622,22 - 185,18r$$

$$LM: y = -600 + 10000r$$

$$BP: y = -720 + 640TC + 3000r \Rightarrow y = -720 + 640(1,5) + 3000r \Rightarrow y = 240 + 3000r$$

$$DD: y = 596,36 + 7,27/P$$

$$5. scK = 150r - 120r^* + 5$$

$$scK = 150r - 120(0,05) + 5 = 150r - 6 + 5$$

$$scK = 150r - 1$$

$$BP: scC = -scK$$

$$-20 + 32TC - 0,05y = -150r + 1 + 200r^*$$

$$-0,05y = -150r + 1 + 200(0,05) + 20 - 32TC$$

$$-0,05y = -150r + 1 + 10 + 20 - 32TC$$

$$-0,05y = -150r + 31 - 32TC \quad (-1)$$

$$0,05y = 150r - 31 + 32TC$$

$$BP: y = -620 + 640TC + 3000r$$

$$IS: 0,54y = 288 - 100r + 32TC$$

$$LM: y = -600 + 10000r$$

$$32960 TC = 49440 \Rightarrow TC = 4944 / 3296 = 1,5$$

$$r = \frac{612 + 32TC}{5500} = \frac{612 + 32(1,5)}{5500} = \frac{612 + 48}{5500} = \frac{660}{5500} = 0,12 \text{ ou } 12\%$$

$$y = -600 + 10000r = -600 + 10000(0,12) = -600 + 1200 = 600 \text{ bilhões}$$

$$3 \text{ DD: } 112 - 100r + 150 + 40 - 10P + 20TC - (32 + 0,05y + 4P - 12TC) = -42 + 0,34y - 4 + 0,15y$$

$$0,54y = 288 - 100r + 32P \Rightarrow 0,54y = 288 - 100r + 32(1,5)$$

$$0,54y = 288 + 48 - 100r \Rightarrow 0,54y = 336 - 100r$$

$$0,54y - 336 = -100r \Rightarrow 100r = 336 - 0,54y \quad (\times 10)$$

$$1000r = 3360 - 5,4y$$

$$40/P = 80 + 0,1y - 1000r \Rightarrow -1000r = -80 - 0,1y + 40/P$$

$$1000r = 80 + 0,1y - 40/P$$

$$3360 - 5,4y = 80 + 0,1y - 40/P$$

$$-5,4y - 0,1y = 80 - 3360 - 40/P$$

$$-5,5y = -3280 - 40/P \Rightarrow 5,5y = 3280 + 40/P$$

$$\text{DD: } y = 596,36 + 7,27/P$$

$$4 \text{ IS: } 0,54y = 288 + 100r + 32TC \Rightarrow 0,54y = 288 + 48 - 100r \Rightarrow y = 622,22 - 185,18r$$

$$\text{LM: } y = -600 + 10000r$$

$$\text{BP: } y = -720 + 640TC + 3000r \Rightarrow y = -720 + 640(1,5) + 3000r \Rightarrow y = 240 + 3000r$$

$$\text{DD: } y = 596,36 + 7,27/P$$

$$5. \text{ sck} = 150r - 120r^* + 5$$

$$\text{sck} = 150r - 120(0,05) + 5 = 150r - 6 + 5$$

$$\text{sck} = 150r - 1$$

$$\text{BP: } \text{scc} = -\text{sck}$$

$$-20 + 32TC - 0,05y = -150r + 1 + 200r^*$$

$$-0,05y = -150r + 1 + 200(0,05) + 20 - 32TC$$

$$-0,05y = -150r + 1 + 10 + 20 - 32TC$$

$$-0,05y = -150r + 31 - 32TC \quad (-1)$$

$$0,05y = 150r - 31 + 32TC$$

$$\text{BP: } y = -620 + 640TC + 3000r$$

$$\text{IS: } 0,54y = 288 - 100r + 32TC$$

$$\text{LM: } y = -600 + 10000r$$

$$-600 + 10000r = -620 + 640TC + 300r$$

$$10000r - 3000r = -620 + 600 + 640TC$$

$$7000r = -20 + 640TC$$

$$0,54(-600 + 10000r) = 288 - 100r + 32TC$$

$$-324 + 5400r = 288 - 100r + 32TC \Rightarrow 5400r + 100r = 288 + 324 + 32TC$$

$$5500r = 612 + 32TC$$

$$-20 + 640TC = 612 + 32TC \Rightarrow -1100 + 35200TC = 42840 + 2240TC$$

~~7000~~

~~5500~~

$$35200TC - 2240TC = 42840 + 1100$$

$$32960TC = 43940 \Rightarrow TC = \frac{4394}{3296} \Rightarrow TC = 1,33 \#$$

$$r = \frac{612 + 32TC}{5500} = \frac{612 + 32(1,33)}{5500} = 0,119 \text{ or } 11,9\% \#$$

$$y = -600 + 10000r = -600 + 10000(0,119) = 590,29 \#$$

$$DD: 0,54y = 288 - 100r + 32TC \Rightarrow -100r = 0,54y - 288 - 32(1,33)$$

$$100r = -0,54y + 330,56 (\times 10) \Rightarrow 1000r = -5,4y + 3305,6$$

$$1000r = 80 + 0,1y - 40/P$$

$$80 + 0,1y - 40/P = -5,4y + 3305,6 \Rightarrow 0,1y + 5,4y = 3305,6 - 80 + 40/P$$

$$5,5y = 3225,6 + 40/P \Rightarrow y = 586,47 + 7,27/P$$

$$6.B.1.IS: y = 95 + 20(q-t) - 10(P-P^*) + 50TC + 10^{-4}y^* - 2000(r-r^*)$$

$$y = 95 + 20(40) - 10(2-1) + 50TC + 10^{-4}1000000 - 2000(r-0,08)$$

$$y = 95 + 800 - 10 + 50TC + 100 - 2000r + 160$$

$$IS: y = 1145 + 50TC - 2000r \#$$

$$LM: y = 220 + 4000r - 100P = 220 + 4000r - 100(2) = 220 + 4000r - 200$$

$$LM: y = 20 + 4000r \#$$

$$BP: y = 530 + 100TC - 200(P-P^*) + 10^{-4}y^* + 2000(r-r^*)$$

$$y = 530 + 100TC - 200(2-1) + 10^{-4}1000000 + 2000(r-0,08)$$

$$y = 530 + 100TC - 200 + 100 + 2000r - 160$$

$$BP: y = 270 + 100TC + 2000r \#$$

$$20 + 4000r = 1145 + 50TC - 2000r \Rightarrow 4000r + 2000r = 1145 - 20 + 50TC$$

$$6000r = 1125 + 50TC$$

$$20 + 4000r = 270 + 100TC + 2000r \Rightarrow 4000r - 2000r = 270 - 20 + 100TC$$

$$2000r = 250 + 100TC (\times 3) \Rightarrow 6000r = 750 + 300TC$$

$$1125 + 50TC = 750 + 300TC \Rightarrow 300TC - 50TC = 1125 - 750$$

$$250TC = 375 \Rightarrow TC = 375/250 = \text{R\$ } 1,5 / \text{US\$}$$

$$2000r = 250 + 100TC \Rightarrow 2000r = 250 + 100(1,5) \Rightarrow 2000r = 250 + 150$$

$$2000r = 400 \Rightarrow r = 0,2 \text{ ou } 20\%$$

$$y = 20 + 4000r = 20 + 4000(0,2) = 20 + 800 = \text{US\$ } 820 \text{ bilhões}$$

2. DD:

$$y = 220 + 4000r - 100P \Rightarrow y = 220 + 800 - 100P$$

$$y = 1020 - 100P$$

$$\text{IS: } y = 1240 - 10P - 2000r \Rightarrow 2000r = 1240 - 10P - y$$

$$\text{LM: } y = 220 + 2(1240 - 10P - y) - 100P$$

$$y = 220 + 2480 - 20P - 2y - 100P$$

$$y + 2y = 2700 - 120P \Rightarrow 3y = 2700 - 120P$$

$$\text{DD: } y = 900 - 40P$$

$$4(g-t)_1 = 40 - 8 = 32$$

$$y = 95 + 20(32) - 10(1) + 50TC + 100 - 2000r + 160$$

$$y = 95 + 640 - 10 + 50TC + 100 - 2000r + 160$$

$$\text{IS: } y = 985 + 50TC - 2000r$$

$$\text{LM: } y = 20 + 4000r$$

$$\text{BP: } y = 270 + 100TC + 2000r$$

$$985 + 50TC - 2000r = 270 + 100TC + 2000r$$

$$-4000r = 270 - 985 + 100TC - 50TC$$

$$-4000r = -715 + 50TC (-1)$$

$$4000r = 715 - 50TC$$

$$985 + 50TC - 2000r = 20 + 4000r \Rightarrow -2000r - 4000r = 20 - 985 - 50TC$$

$$-6000r = -965 - 50TC (-1) \Rightarrow 6000r = 965 + 50TC$$

$$4000r = 715 - 50TC (\times 1,5) \Rightarrow 6000r = 1072,5 - 75TC$$

$$645 + 50TC = 1072,5TC - 75TC \Rightarrow 75TC + 50TC = 1072,5 - 965$$

$$125TC = 107,5 \Rightarrow TC = 107,5 = \text{R\$ } 0,86 / \text{US\$}$$

$$4000r = 715 - 50TC \Rightarrow 4000r = 715 - 50(0,86) \Rightarrow 4000r = 715 - 43$$

$$4000r = 672 \Rightarrow r = 672/4000 \Rightarrow r = 0,168 \text{ ou } 16,8\%$$

$$y = 985 + 50TC - 2000r = 985 + 50(0,86) - 2000(0,168) = 985 + 43 - 336$$

$$y = \text{US\$ } 692 \text{ bilhões}$$

$$5. (g-t)_2 = 40 + 8 = 48$$

$$y = 95 + 20(48) - 10(1) + 50TC + 100 - 2000r + 160$$

$$y = 95 + 960 - 10 + 50TC + 100 - 2000r + 160 \Rightarrow y = 1305 + 50TC - 2000r$$

$$IS: y = 1305 + 50TC - 2000r$$

$$LM: y = 20 + 4000r$$

$$BP: y = 270 + 100TC + 2000r$$

$$1305 + 50TC - 2000r = 20 + 4000r \Rightarrow -2000r - 4000r = 20 - 1305 + 50TC$$

$$-6000r = -1285 - 50TC \times (-1) \Rightarrow 6000r = 1285 + 50TC$$

$$20 + 4000r = 270 + 100TC + 2000r \Rightarrow 4000r - 2000r = 270 - 20 + 100TC$$

$$2000r = 250 + 100TC \quad (\times 3) \Rightarrow 6000r = 750 + 300TC$$

$$750 + 300TC = 1285 + 50TC \Rightarrow 300TC - 50TC = 1285 - 750$$

$$250TC = 535 \Rightarrow TC = \frac{535}{250} \Rightarrow TC = \text{R\$ } 2,14/\text{US\$}$$

$$6000r = 1285 + 50TC \Rightarrow 6000r = 1285 + 50(2,14) \Rightarrow 6000r = 1285 + 107$$

$$6000r = 1392 \Rightarrow r = 1392/6000 = 0,232 \text{ ou } 23,2\%$$

$$y = 20 + 4000r = 20 + 4000(0,232) = 20 + 928 \Rightarrow y = \text{US\$ } 948 \text{ bilhões}$$

$$6. (g-t)_1 = 32 \text{ bilhões}$$

$$IS: y = 95 + 20(32) - 10(P-P^*) + 50TC + 100 - 2000r + 160$$

$$y = 95 + 640 - 10(P-P^*) + 50(0,86) + 100 - 2000r + 160$$

$$y = 1038 - 10P + 10 - 2000r \Rightarrow 2000r = 1048 - 10P - y$$

$$LM: y = 220 + 4000r - 100P \Rightarrow -4000r = 220 - 100P - y \quad (-1)$$

$$4000r = -220 + 100P + y$$

$$2000r = 1048 - 10P - y \quad (\times 2) \Rightarrow 4000r = 2096 - 20P - 2y$$

$$2096 - 20P - 2y = -220 + 100P + y \Rightarrow -2y - y = -220 - 2096 + 100P + 20P$$

$$-3y = -2316 + 120P \quad (-1) \Rightarrow 3y = 2316 - 120P$$

$$DD: y = \frac{2316 + 120P}{3} \Rightarrow y = 772 + 40P$$

$$(g-t)_2 = 48 \text{ bilhões}$$

$$IS: y = 95 + 20(48) - 10(P - P^*) + 50(2,14) + 100 - 2000r + 160$$

$$y = 95 + 960 - 10P + 10 \times 1 + 107 + 100 - 2000r + 160$$

$$IS: y = 1432 - 10P - 2000r \Rightarrow 2000r = 1432 - 10P - y \quad (\times 2) \quad 4000r = 2864 - 20P - 2y$$

$$LM: y = 220 + 4000r - 100P \Rightarrow -4000r = 220 - 100P - y \quad (\times (-1))$$

$$4000r = -220 + 100P + y$$

$$-220 + 100P + y = 2864 - 20P - 2y \Rightarrow y + 2y = 2864 + 220 - 20P - 100P$$

$$3y = 3084 - 120P \Rightarrow y = \frac{3084 - 120P}{3} \Rightarrow y = 1028 - 40P //$$

EXERCÍCIOS REFERENCIAIS

$$7.A. 1. s = y_d - c \Rightarrow s = y_d - (20 + 0,75y_d)$$

$$= y_d - 20 - 0,75y_d \Rightarrow s = -20 + 0,25y_d$$

$$y_d = y - t - r_l = y - (-4 + 0,2y) - (8 + 200r^*) = y + 4 - 0,2y - 8 - 200r^*$$

$$y_d = -4 + 0,8y - 200(0,06) = -4 - 12 + 0,8y \Rightarrow y_d = -16 + 0,8y$$

$$15. i(r) + g + a(P, TC, y^*, P^*) - m(P, TC, y, P^*) = s(y_d) + t(y) + r_l(r^*, DE)$$

$$210 - 400r + 200 + (10 + 25tc + 10^5 y^*) - (48 - 15tc + 0,1y) = -20 + 0,25y_d + (-4 + 0,2y) + (8 + 200r^*)$$

$$410 - 400r + 10 + 25tc + \frac{1000000}{100000} - 48 + 15tc - 0,1y = -20 + 0,25y_d - 4 + 0,2y + 8 + 200(0,06)$$

$$382 - 400r + 40(3 \times 1/P) - 0,1y = -16 + 0,25(-16 + 0,8y) + 0,2y + 12$$

$$382 - 400r + 120/P - 0,1y = -16 - 4 + 0,2y + 0,2y + 12$$

$$-400r = -8 - 382 + 0,4y + 0,1y - 120/P$$

$$15: 400r = 390 + 120/P - 0,5y \text{ ou } 0,5y = 390 + 120/P - 400r$$

$$LM: m^s = m^d$$

$$60/P = 18 + 0,1y - 400r \text{ ou } 400r = 18 + 0,1y - 60/P$$

$$DD: 390 + 120/P - 0,5y = 18 + 0,1y - 60/P$$

$$-0,5y - 0,1y = 18 - 390 - 60/P - 120/P$$

$$-0,6y = -372 - 180/P \Rightarrow y^D = 620 + 300/P$$

$$2. scc = x - m - r^l = 10 + 25tc + 10^5 y^* - (48 - 15tc + 0,1y) - (8 + 200r^*)$$

$$scc = 10 + 25tc + \frac{1000000}{100000} - 48 + 15tc - 0,1y - 8 - 200(0,06)$$

$$scc = 10 + 40tc + 10 - 48 - 0,1y - 8 - 12 = -48 + 40(3 \times 1/P) - 0,1y$$

$$scc = -48 + 120/P - 0,1y$$

$$BP: sbp = scc + sck = 0 \Rightarrow scc = -sck$$

$$-48 + 120/P - 0,1y = -(5 + 500r - 500r^*)$$

$$-48 + 120/P - 0,1y = -5 - 500r + 500(0,06) \Rightarrow -48 + 120/P - 0,1y = -5 - 500r + 30$$

$$500r = -5 + 30 + 48 + 0,1y - 120/P \Rightarrow 500r = 73 + 0,1y - 120/P$$

$$3. IS: 400r = 390 - 0,5y + 120/P$$

$$LM: 400r = 18 + 0,1y - 60/P$$

$$BP: 500r = 73 + 0,1y - 120/P \text{ on } 400r = 58,4 + 0,08y - 96/P$$

$$400r = 58,4 + 0,08(620 + 300/P) - 96/P = 58,4 + 49,6 + 24/P - 96/P$$

$$400r = 108 - 72/P$$

$$108 - 72/P = 390 - 0,5(620 + 300/P) + 120/P$$

$$108 - 72/P = 390 - 310 - 150/P + 120/P \Rightarrow -72/P = 80 - 108 - 30/P$$

$$-72/P + 30/P = -28 \Rightarrow -42/P = -28 \Rightarrow P = 42/28 = 1,5$$

$$y = 620 + 300/P = 620 + 300/1,5 \Rightarrow y = 820$$

$$400r = 108 - 72/1,5 \Rightarrow 400r = 108 - 48 \Rightarrow r = 60/400 = 0,15 \text{ on } 15\%$$

$$4. scc = -48 + 120/P - 0,1y = -48 + 120/1,5 - 0,1(820) = -48 + 80 - 82$$

$$scc = -50$$

$$sck = 5 + 500r - 500r^* = 5 + 500(0,15) - 500(0,06) = 5 + 75 - 30 = 50$$

$$sbp = scc + sck = -50 + 50 = 0$$

$$5. TC = 3,6$$

$$IS: 382 - 400r + 40(3,6 \times 1/P) - 0,1y = -16 - 4 + 0,2y + 0,2y + 12$$

$$-400r + 144/P + 382 - 0,1y = -20 + 0,4y + 12$$

$$-400r = -382 - 20 + 12 + 0,4y + 0,1y - 144/P \Rightarrow -400r = -390 + 0,5y - 144/P (-)$$

$$IS: 400r = 390 - 0,5y + 144/P$$

$$LM: 400r = 18 + 0,1y - 60/P$$

$$scc = -48 + 40(3,6 \times 1/P) - 0,1y = -48 + 144/P - 0,1y$$

$$BP: -48 + 144/P - 0,1y = -(5 + 500r - 500r^*) \Rightarrow -48 + 144/P - 0,1y = -5 - 500r + 500(0,06)$$

$$-48 + 144/P - 0,1y = -5 - 500r + 30 \Rightarrow -48 + 5 - 30 + 144/P - 0,1y = -500r$$

$$BP: 500r = 73 - 144/P + 0,1y$$

$$390 - 0,5y + 144/P = 18 + 0,1y - 60/P$$

$$DD: -0,5y - 0,1y = 18 - 60/P - 390 - 144/P \Rightarrow -0,6y = -372 - 204/P$$

$$0,6y = 372 + 204/P \Rightarrow y = 620 + 340/P$$

$$BP: 500r = 73 + 0,1y - 144/P \Rightarrow 500r = 73 + 0,1(620 + 340/P) - 144/P$$

$$500r = 73 + 62 + 34/P - 144/P \Rightarrow 500r = 135 - 110/P$$

$$500r = 135 - 110/P \text{ au } 400r = 108 - 88/P$$

$$y^D = 620 + 340/1,5 = 846,66$$

$$400r = 18 + 0,1(846,66) - 60/1,5 \Rightarrow 400r = 102,66 = 40$$

$$r = 62,666/400 \Rightarrow r = 0,1566 \text{ ou } 15,66\%$$

$$y^S = -680 + 1000P = -680 + 1000(1,5) = 820$$

$$y^D = y^S: 620 + 340/P = -680 + 1000P \Rightarrow 670 + 680 = 1000P - 340/P$$

$$1300 = 1000P^2 - 340 \Rightarrow 1300P = 1000P^2 - 340$$

$$P \quad 1000P^2 - 1300P - 340 = 0$$

$$10P^2 - 13P - 3,4 = 0$$

$$P = \frac{13 \pm \sqrt{(-13)^2 - 4 \cdot 10 \cdot (-3,4)}}{2 \cdot 10} = \frac{13 \pm \sqrt{169 + 136}}{20} = \frac{13 + 17,46}{20} = \frac{30,46}{20} = 1,5232$$

$$y = -680 + 1000P = -680 + 1000(1,5232) \Rightarrow y = 843,21$$

$$400r = 18 + 0,1y - 60/P = 18 + 0,1(843,21) - 60/1,5232 = 18 + 84,321 - 39,39$$

$$400r = 62,93 \Rightarrow r = 62,93/400 \Rightarrow r = 0,1573 \text{ ou } 15,73\%$$

$$scc = -48 + 144/P - 0,1y = -48 + 144/1,5232 - 0,1(843,21) = -37,78$$

$$sck = 5 + 500r - 500r^* = 5 + 500(0,1573) - 500(0,06) = 53,65$$

$$sbp = scc + sck = -37,78 + 53,65 = 15,87$$

$$7.B.1 \quad y_d = y - t - r_l = y - (-50 + 0,2y) - (10 + 400r^*) = y + 50 - 0,2y - 10 - 400(0,05)$$

$$y_d = y + 50 - 0,2y - 10 - 20 \Rightarrow y_d = 20 + 0,8y$$

$$IS: i(r) + g + \pi(P, P^*, TC, y^*) - m(P, P^*, TC, y) = s(y_d) + t(y) + r_l(DE, r^*)$$

$$180 - 200r + 100 + 40 + 30TC - 80P + 30P^* - 0,1y + 10^{-5}y^* = -45 + 0,25y_d - 50 + 0,2y + 10 + 400r^*$$

$$320 - 200r + 30TC - 80P + 30 \times 1 - 0,1y + \frac{1000000}{100000} = -85 + 0,25y_d + 0,2y + 400(0,05)$$

$$320 - 200r + 30TC - 80P + 30 - 0,1y + 10 = -85 + 0,25y_d + 0,2y + 20$$

$$360 - 200r + 30TC - 80P - 0,1y = -65 + 0,25(20 + 0,8y) + 0,2y$$

$$360 - 200r + 30TC - 80P - 0,1y = -65 + 5 + 0,2y + 0,2y$$

$$360 - 200r + 30TC - 80P - 0,1y = -60 + 0,4y$$

$$-200r = -60 + 0,4y - 360 - 30TC + 80P + 0,1y \Rightarrow -200r = -420 + 0,5y - 30TC + 80P$$

$$200r = 420 - 0,5y + 30TC - 80P \Rightarrow 400r = 840 - y + 60TC - 160P$$

$$IS: r = (840 - y + 60TC - 160P) / 400 \text{ au } y = 840 + 60TC - 160P - 400r$$

$$BP: scc = \pi - m - r_l = 40 + 30TC - 80P + 30P^* - 0,1y + 10^{-5}y^* - 10 - 400r^*$$

$$scc = 40 + 30TC - 80P + 30(1) - 0,1y + 10 - 10 - 400(0,05)$$

$$scc = 70 + 30TC - 80P - 0,1y - 20 = 50 + 30TC - 80P - 0,1y$$

$$BP: scc = -sck \Rightarrow 50 + 30TC - 80P - 0,1y = -(10 + 100r - 100r^*)$$

$$50 + 30TC - 80P - 0,1y = -10 - 100r + 5 \Rightarrow 50 + 30TC - 80P - 0,1y = -5 - 100r$$

$$-0,1y = -5 - 100r - 50 - 30TC + 80P \Rightarrow 0,1y = 55 + 100r + 30TC - 80P$$

$$BP: y = 550 + 1000r + 300TC - 800P \text{ au } r = (y - 550 + 800P - 300TC) / 1000$$

$$LM: y = 720 + 800r - 40P \text{ au } r = (y - 720 + 40P) / 800$$

$$DD: \frac{840 - y + 60TC - 160P}{400} = \frac{y - 720 + 40P}{800}$$

$$1680 - 2y + 120TC - 320P = -720 + y + 40P$$

$$-2y - y = -720 + 40P - 1680 - 120TC + 320P \Rightarrow 3y = 2400 - 360P + 120TC$$

$$DD: y^D = 800 - 120P + 40TC$$

$$2. IS: y = 840 + 60TC - 160P - 400r$$

$$LM: y = 720 + 800r - 40P$$

$$BP: y = 550 + 1000r - 800P + 300TC$$

$$SS: y^S = 500 + 300P$$

$$TC_1 = 2,0$$

$$y^D = 800 - 120P + 40 \times 2 = 880 - 120P$$

$$880 - 120P = 500 + 300P \Rightarrow -120P - 300P = 500 - 880$$

$$-420P = -380 \Rightarrow P = 0,9048$$

$$y = 500 + 300(0,9048) = 500 + 271,44 = 771,44$$

$$771,44 = 720 + 800r - 40(0,9048) \Rightarrow 771,44 = 720 + 800r - 36,192$$

$$800r = 771,44 - 720 + 36,192 \Rightarrow 800r = 87,632 \Rightarrow r = 0,1095 \text{ ou } 10,95\%$$

$$scc = 50 + 30 \times 2 - 80(0,9048) - 0,1(771,44) = 50 + 60 - 72,384 - 77,144 = -39,528$$

$$sck = 10 + 100r - 100r^* = 10 + 100(0,1095) - 100(0,05) = 10 + 10,95 - 5 = 15,95$$

$$sbp = scc + sck = -39,528 + 15,95 = -23,578$$

$$TC_2 = 2,5$$

$$y^D = 800 - 120P + 40 \times 2,5 = 800 - 120P + 100 = 900 - 120P$$

$$900 - 120P = 500 + 300P \Rightarrow -120P - 300P = 500 - 900$$

$$-420P = -400 \Rightarrow P = 0,9524$$

$$y = 500 + 300(0,9524) = 500 + 285,71 = 785,71$$

$$785,71 = 720 + 800r - 40(0,9524) \Rightarrow 785,71 = 720 + 800r - 38,096$$

$$800r = 785,71 - 720 + 38,096 \Rightarrow 800r = 103,806 \Rightarrow r = 0,1297 \text{ ou } 12,97\%$$

$$scc = 50 + 30 \times 2,5 - 80(0,9524) - 0,1(785,71) = 50 + 75 - 76,192 - 78,571 = -29,763$$

$$sck = 10 + 100r - 100r^* = 10 + 100(0,1297) - 100(0,05) = 10 + 12,97 - 5 = 17,97$$

$$sbp = scc + sck = -29,763 + 17,97 = -11,793$$

$$TC_3 = 3,0$$

$$y^D = 800 - 120P + 40 \times 3 = 800 - 120P + 120 = 920 - 120P$$

$$920 - 120P = 500 + 300P \Rightarrow -120P - 300P = 500 - 920$$

$$-420P = -420 \Rightarrow P = 1$$

$$y = 500 + 300(1) = 500 + 300 = 800$$

$$800 = 720 + 800r - 40(1) \Rightarrow 800 = 720 + 800r - 40$$

$$800r = 800 - 720 + 40 \Rightarrow 800r = 120 \Rightarrow r = 0,15 \text{ ou } 15\%$$

$$scc = 50 + 30 \times 3 - 80(1) - 0,1(800) = 50 + 90 - 80 - 80 = -20$$

$$sck = 10 + 100r - 100r^* = 10 + 100(0,15) - 100(0,05) = 10 + 15 - 5 = 20$$

$$sbp = scc + sck = -20 + 20 = 0$$

$$TC_4 = 3,5$$

$$y^D = 800 - 120P + 40 \times 3,5 = 800 - 120P + 140 = 940 - 120P$$

$$940 - 120P = 500 + 300P \Rightarrow -120P - 300P = -940 + 500$$

$$-420P = -440 \Rightarrow P = 1,0476$$

$$y = 500 + 300(1,0476) = 500 + 314,28 = 814,28$$

$$814,28 = 720 + 800r - 40(1,0476) \Rightarrow 814,28 = 720 + 800r - 41,904$$

$$800r = 814,28 - 720 + 41,904 \Rightarrow 800r = 136,184 \Rightarrow r = 0,1702 \text{ ou } 17,02\%$$

$$scc = 50 + 30 \times 3,5 - 80(1,0476) - 0,1(814,28) = 50 + 105 - 83,808 - 81,428 = -10,236$$

$$sck = 10 + 100r - 100r^* = 10 + 100(0,1702) - 100(0,05) = 10 + 17,02 - 5 = 22,02$$

$$sbp = scc + sck = -10,236 + 22,02 = 11,784$$

$$TC_5 = 4,0$$

$$y^D = 800 - 120P + 40(4) = 800 - 120P + 160 = 960 - 120P$$

$$960 - 120P = 500 + 300P \Rightarrow -120P - 300P = 500 - 960$$

$$-420P = -460 \Rightarrow P = 1,0952$$

$$y = 500 + 300(1,0952) = 500 + 328,57 = 828,57$$

$$828,57 = 720 + 800r - 40(1,0952) \Rightarrow 828,57 = 720 + 800r - 43,808$$

$$800r = 828,57 - 720 + 43,808 \Rightarrow 800r = 152,378 \Rightarrow r = 0,1904 \text{ ou } 19,04\%$$

$$scc = 50 + 30 \times 4 - 80(1,0952) - 0,1(828,57) = 50 + 120 - 87,616 - 82,857 = -0,473$$

$$sck = 10 + 100r - 100r^* = 10 + 100(0,1904) - 100(0,05) = 10 + 19,04 - 5 = 24,04$$

$$sbp = scc + sck = -0,473 + 24,04 = 23,567$$