Econometria de Séries Temporais*

Comentários sobre as resoluções propostas para os exercícios sobre equações a diferenças

João Ricardo Costa Filho

Questão 1

a)

$$Y_t = C_t + I_t + G_t \implies Y_t = 15 + \overline{G} + 0.8Y_{t-1} - 0.4Y_{t-2},$$

b)

$$Y_I^* = 191,67, C_I^* = 76,67 \text{ e } I_I^* = 15.$$

c)

$$Y_F^* = 193,33, C_F^* = 77,33 \text{ e } I_F^* = 15.$$

d)

Temos que $\Delta = b^2 - 4ac = (-0.8)^2 - 4(1)(0.4) = -0.96$, portanto, teremos raízes complexas. Dado que $\sqrt{\Delta} = \sqrt{-0.96} = \sqrt{0.96 \cdot -1} = \sqrt{0.96} \cdot i$, e que $\sqrt{0.96} \approx 0.9798$, podemos obter as raízes da equação característica da parte homogênea: $\lambda_1 = \frac{0.8}{2} + \frac{0.9798i}{2} = 0.4 + 0.4899i$; $\lambda_2 = \frac{0.8}{2} - \frac{0.9798i}{2} = 0.4 - 0.4899i$, ambas dentro do círculo unitário:

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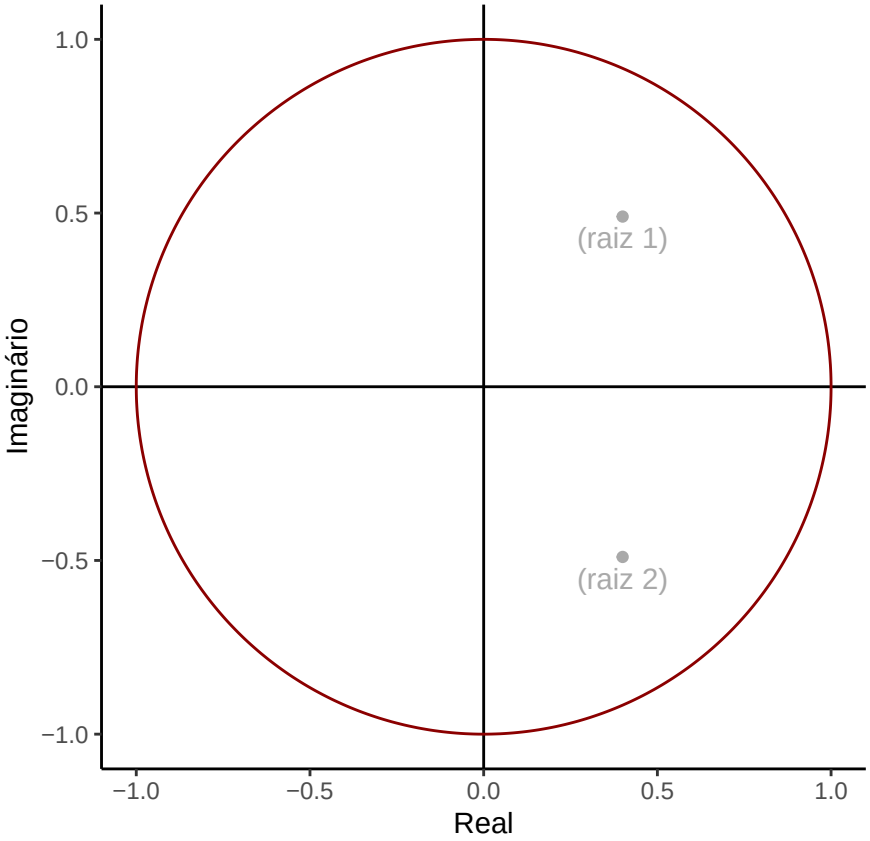
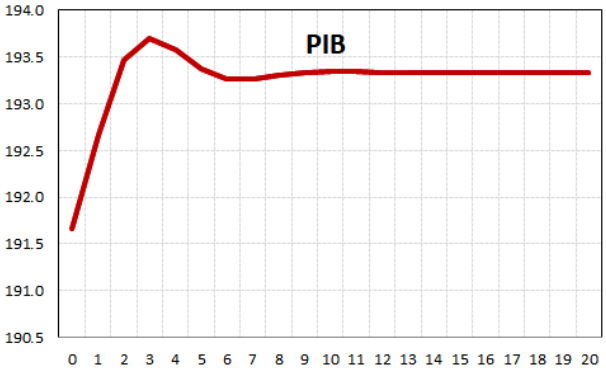


Portanto, o processo é estacionário e deve convergir ao novo equilíbrio (ainda que as raízes complexas tornem a convergência não-monotônica).

e) e f)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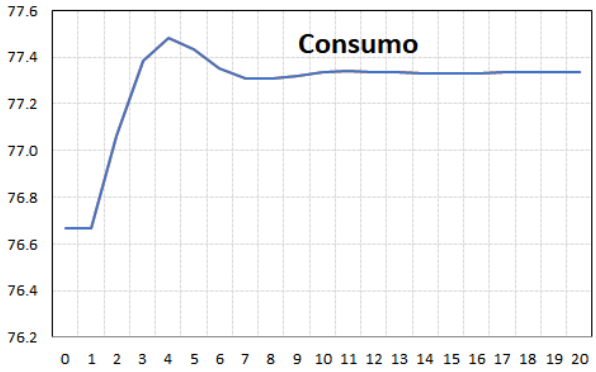
Consumo
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Investimento
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15.4
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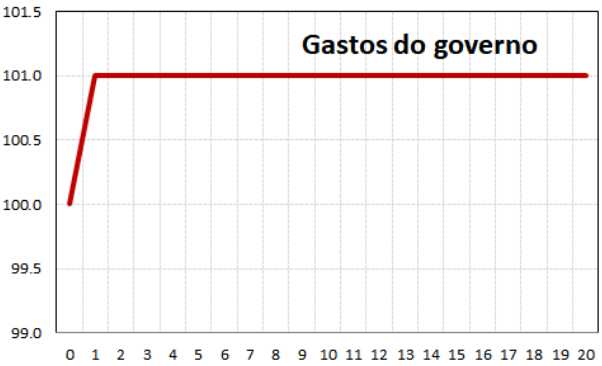
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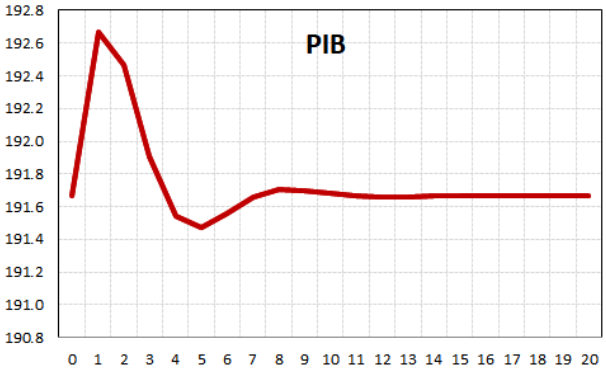
Questão 2

a)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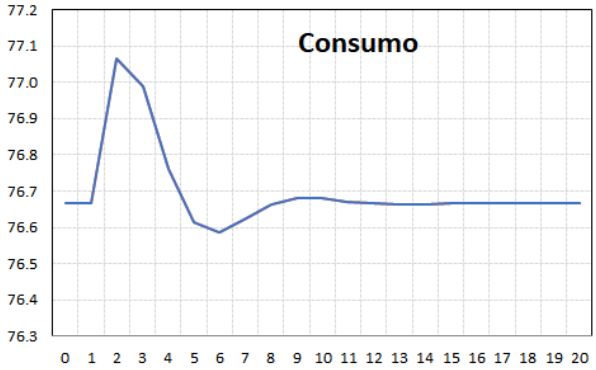
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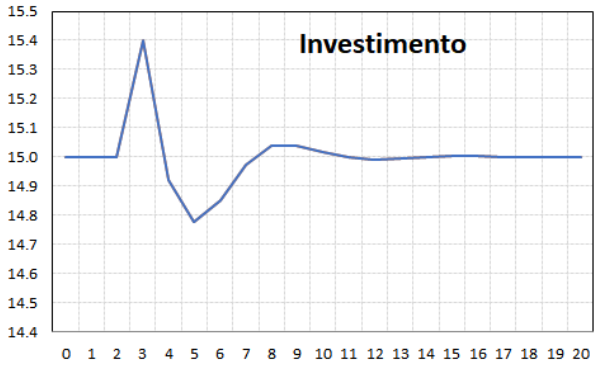
Investimento
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0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20


Gastos do governo
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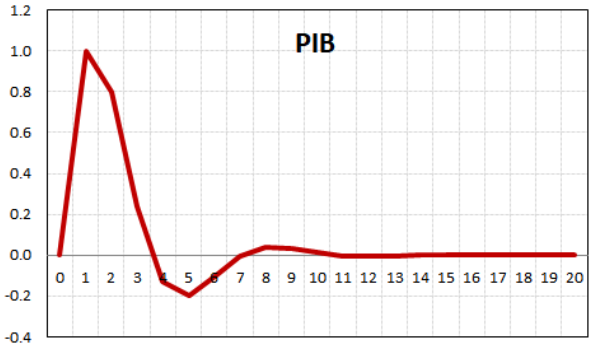
b)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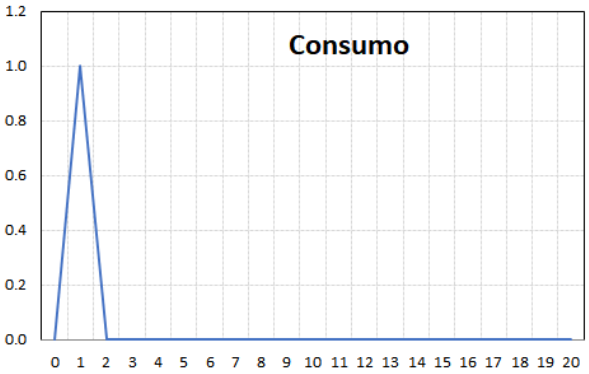
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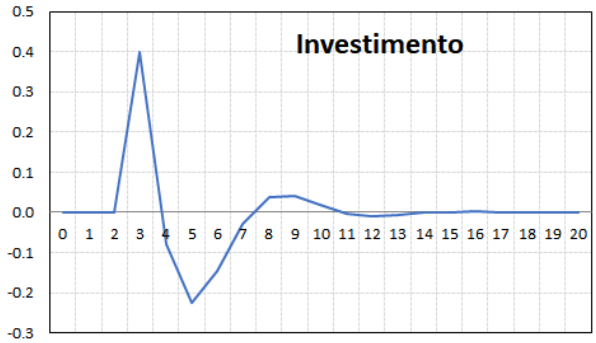
Investimento
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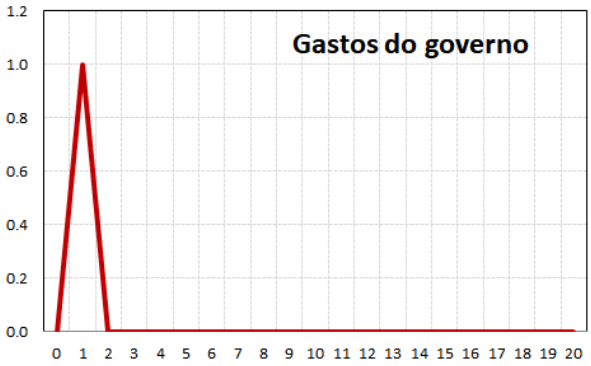
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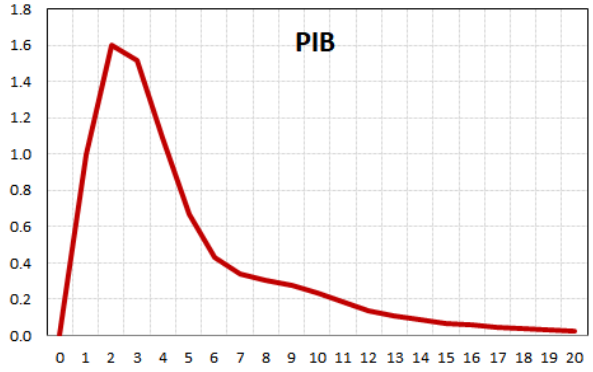
Questão 3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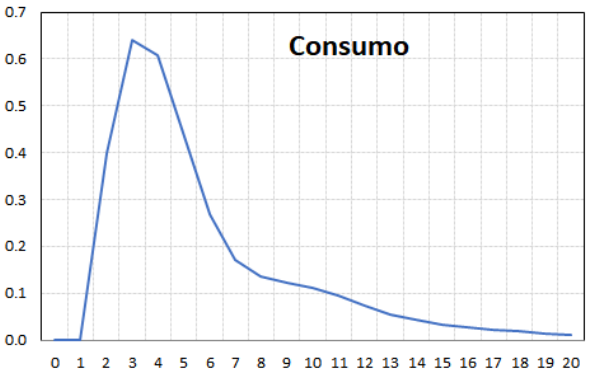
Consumo
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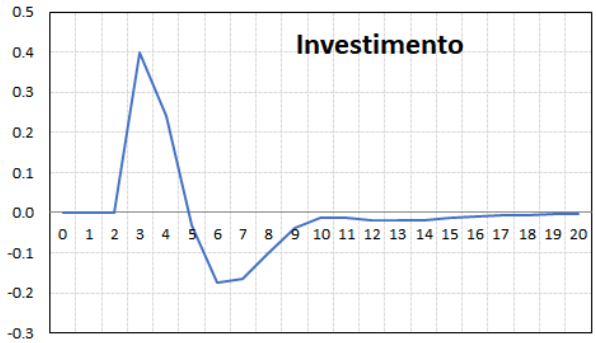
Investimento
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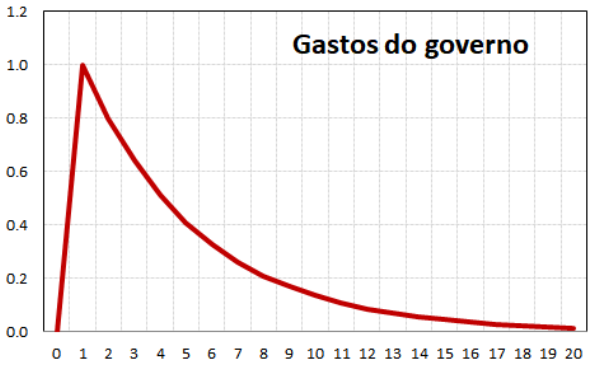
Gastos do governo
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