(T) R

WRITE Equ(1) as

where
$$\phi = 1 + \frac{1}{\beta} + \alpha, 63$$
 (3)

Consistent with our Solution To ProBlem 2 Section IC

I will use The term "inverse Roots" To Refer to The

In a biggion 3 Section I Co were Spones by applying a modified the assumption that the modified the section of the modified the section of the modified the section of the

developed by [_____as, 1900 (1993). The RLMerr is the robust form of the LMerr and limits

λ = 1/2 bat I prosent an attentione a useful

Alternative proof here.	0.47		
West	-0.4499	0.18	WOE
FACTOR (4) as Follows:	-0.6159	0.19	0.00
Northead	-0.9004	0.25	0.00
10 V 11 V 20	0.0063	100	70:0E ,
1- \$ 5 + \$ \(\frac{1}{2} \) \(\frac{1}{2} - \frac{1}{2} - \frac{1}{2} - \frac{1}{2} \)	Z) (01-1):	₹)00	10.0
Average and Willity Patents,	0.0002	100	0.01
%A MSA P pulation (7	0.0544	0.01	0.00
Popular on $= \gamma' \gamma^* $ (elon \times or $\mathbb{H}_{\mathbf{S}^{(4)}}$)	X 3222 X	7 -0.00	100 par
数A (円)	*0 *0000	0.00	0.00

Clearly, Two Values of Z Solve (4): Eller D-18/1966

$$Z_1 = \frac{1}{\lambda_2}$$
 and $Z_2 = \frac{1}{\lambda_1}$ or, giverally

9.02

$$\lambda = Z^{-1} \tag{6}$$

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$$\lambda = Z^{-1} \tag{6}$$

RETURN TO (4). Multiply Through by Z = 5 get

$$Z^{-2} - \phi Z^{-1} + \frac{1}{\beta} = 0$$
 od, using (6), $\chi^2 - \phi \lambda + \frac{1}{\beta} = 0$

Thus, The ROOTS L. and 22 Solve (7), ox

$$\lambda_{1,2} = \frac{1}{2} \left\{ \phi \pm \left[\phi^2 - 4 \frac{1}{\beta} \right]^{1/2} \right\} \tag{8}$$

Now, write (2) as

Compare (2') to The first equality in (5)

$$(1-\phi z + \frac{1}{\beta}z^2) = (1-\lambda_1 z)(1-\lambda_2 z)$$
 (5')

AND WE CAN WRITE (21) as

$$(1-\lambda_1 L)(1-\lambda_2 L) K_{t+2} = (2")$$

Companing (2") to (2') and using (3) we have

So det 40 al E 214B 1: Sy (2) the tips is Safficient to bility, its

20 det 40 al E 214B 1: Sy (2) the tips is Safficient to be E Hon Up

I have a gross metropolic to the US. The

Symbol of the tips is the tips

(13

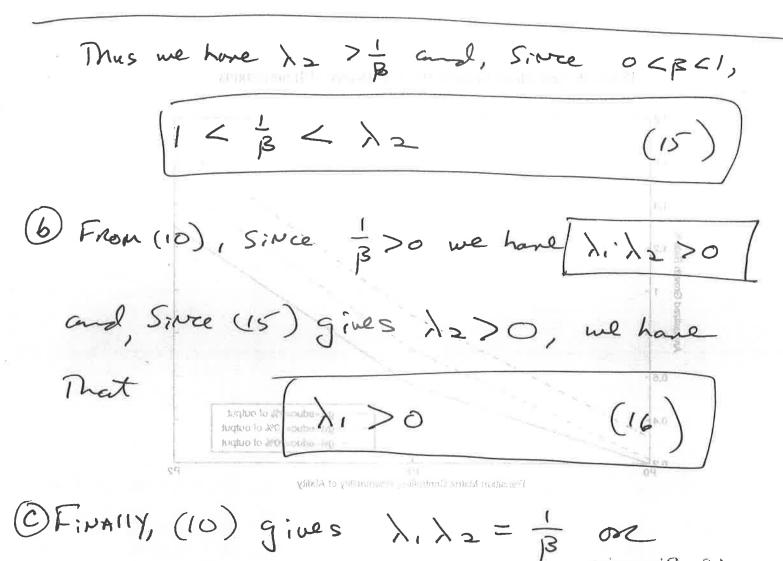
Proof of (13):

Collecting, re have

$$\phi^2 - \frac{4}{\beta} = \left(\frac{1}{\beta} - 1 + a, b_3\right)^2 + 4a, b_3$$
(14)

Since a, b3 >0 it follows From (14) That

$$\left[\phi^{2} - \frac{4}{B}\right]^{\frac{1}{2}} > \left(\frac{1}{B} - 1 + \alpha_{1}b_{3}\right) > \frac{1}{B} - 1 - \alpha_{1}b_{3}$$
QED(13)



This basic model attend for concinent state of the role that intergenerational mobility might play in the economic growth product of the mobility directly it serves as the conditional model of the model

government which the test of the conomies with a surface of invaries with the conomies of invaries and invaries and beneat from reductions which is the most and assured the conomic source of t

$$\left(\begin{array}{c} \lambda_1 = \frac{1}{\beta \lambda_2} & \text{of the strong parabolic at a policy of } \\ \lambda_2 = \frac{1}{\beta \lambda_2} & \text{of } \\ \end{array}\right)$$

(a) Collecting, (15), (16), and (17) FSTABlish $0 \leq \lambda$, $\leq 1 \leq \frac{1}{\beta} \leq \lambda_2$

which is The Rosult we Seek

presented for the three probability transition graftines and the theor posteroned education is presented in Figure 11. At in the previous Zgares, the equilibrium stage premium is ompaning equs (7) and (3) here TO, SAY, Equ (12) Aso see that the number of educated agents in equilibrium increases. the growth rate. As the persentage of output that is devoted to early extraction mercasce t Rom PROB 3 Sect I'C we see That, if a, a to thou of many gers. Since technological growth is governed to equations 1.47 and 4.38 made growth rate. As the proportion of agents receiving an education formules, so does the are The Same across the 2 phoblant a realists, about ability fevel more agents receive an education. The result is expected burner medication of the figure shows that as I transition between probability and there with more O, IN PROB3 SOUT IC IS and all increase government spending on education all agents in the tanic are norminas. III OSS & GOGOAS OF INTERPRETATIONAL ADMIN TRANSPIRATOR en the Koots of Eqn (2) here are the Same as would while gaining utility from their higher status. It can also be seen in Figure 9 that I they will by more likely to become managers and but it don't The Roots of (Le Syslan formed by (la, b) in the y transition matrices from 70 to 71 and 72 appure 1892 3 the zer Caperite Littery Consider ability, the less must be the fixed by agents. minustrating the larger the experienced occurrence growth

the further of the figure shows that is ability to it and the contract time for

Note That The DND order DE hore, and The equil), and The System of 2 first-order DE'S; in Pros 3 Sect IC.

both have one Stable Root, [Ni] 21, and one UNSTABLE ROOT [NZ] >1. This, As we will See, is The BASIS

Sor The SADDLE PATH EquiliBRIUM That (FAMOUS M)

CHARACTER ZES THE RAMSEY-GSS-KOPMANS MODEL of GROWTH.

(ausiden
$$y_{z} = a_{0} b^{z} + \sum_{i=0}^{\infty} b^{i} w_{z-i}$$
 (1)

From (1)
$$Y_{z-1} = Q_0 \phi^{z-1} + \sum_{i=0}^{\infty} \phi^i w_{z-1-i}$$
 (1')

SuBST From yt-1 i No (2) and The Result is

$$y_{\epsilon} = a_0 \phi^{\epsilon} + \sum_{i=0}^{\infty} \phi^{i+i} \psi_{\epsilon-i-i} + w_{\epsilon} \quad \text{on}$$

$$Y_{\pm} = Q_0 \int_{-1}^{2} \int_{-1}^{2} \int_{-1}^{2} W_{\pm - i} + Substrate$$
Which using (1) given

To evaluate the boundedness of { y = 300 begin with The 2"d term on The RHS of (1). Since $\{W_{\pm}\}_{z=-\infty}$ is bounded it is true by definition Pat I a to so Positive Constant, w >0, 3 - W ≤ W ≤ W YE. Sinte 10/61 it follows that

 $\frac{-1}{1-\phi}\vec{w} \leq \sum_{i=0}^{\infty} \phi^{i} \vec{w}_{z-i} \leq \frac{1}{1-\rho}\vec{w}.$

Thus $\sum_{i=0}^{\infty} \int_{w_{E-i}}^{i} is bounded.$

Next Gusieler the Term do & Sive (\$ | L|
Then | \$ | 7 | > 1. Sive The Range of Yt include lin yt ne merst Gweider (in | qo pt).

With 10-1/71, if 90 \$0 then lim 190 \$= +00.

So, Unless ao = 0 The sequence of Solutions, Eyt } = 00 is not bounded.

ProBlem 3: (a) If
$$|\phi| < 1$$
 Do Then we can white

$$\left(\frac{1}{1-dL}\right)C = \left[1+dL+(dL)^2+(dL)^3+\cdots\right]C \propto$$

$$\left(\frac{1}{1-\phi L}\right)c = c + \phi L c + \phi^{2} L^{2} c + \phi^{3} L^{3} C + \cdots$$
 (1)

As c is a consmot $Lc = L^2c = L^3c = \cdots = c$ Thus (1) gives

$$\left(\frac{1}{1-\phi L}\right) c = \left[\frac{1}{1-\phi}\right] c$$

$$\left(\frac{-\phi^{-1}L^{-1}}{1-\phi^{-1}L^{-1}}\right)C = -\phi^{-1}\left[1+(\phi^{-1}L^{-1})+(\phi^{-1}L^{-1})^{2}+\cdots\right]L^{-1}C$$

Note That L'C=C, be=ause c is constant, and
we have That

$$\left(\frac{-\phi^{2}L^{-1}}{1-\phi^{-1}L^{-1}}\right)c = \frac{-1}{\phi}\left[c + \phi^{-1}L^{-1}c + \phi^{-2}L^{-2}c + \cdots\right]$$

$$= \frac{-1}{\phi}\left[c + \phi^{-1}C + \phi^{-2}C + \phi^{-3}C + \cdots\right]$$

$$Since \left[\phi^{-1}|_{C_{1}}\right] c = \frac{-1}{\phi}\left[\frac{1}{1-\phi^{-1}}\right] c$$

$$= \frac{-1}{\phi}\left[\frac{1}{1-\frac{1}{\phi}}\right]c = \frac{-1}{\phi}\left[\frac{1}{\theta^{-1}}\right]c$$

$$= \frac{-1}{\phi}\left[\frac{1}{\theta^{-1}}\right]c = \frac{-1}{\phi}\left[\frac{1}{\theta^{-1}}\right]c$$

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