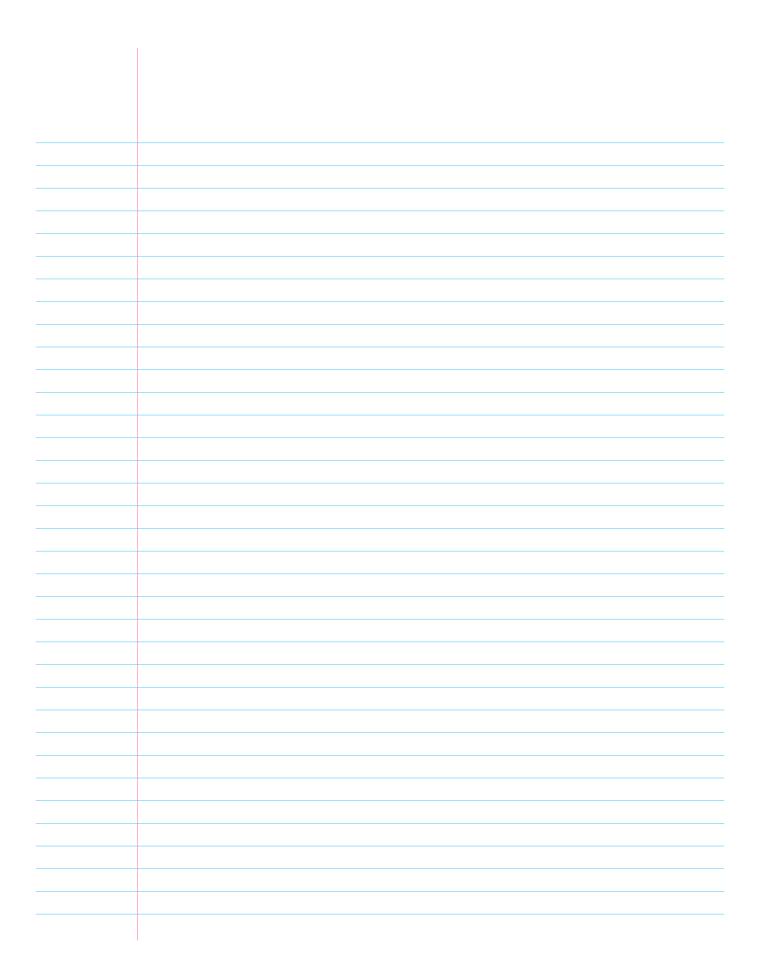
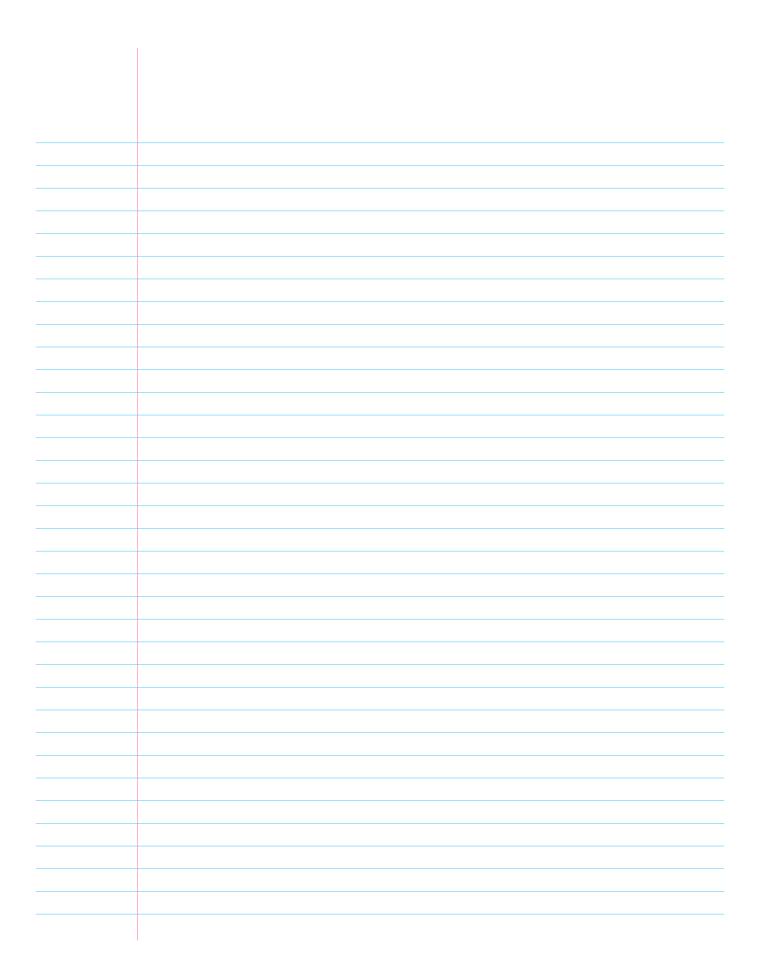
Oct 24, 2023.	
,	Today's plan:—
	l L
→	Tax-distorted CF (TOCE)
\rightarrow	Ramsey Problem
	Notation
	Igt 300 - sequence of gort. expenditures
	1 1 1 1
•	7 _{CE} - Consumption Pak
•	1/xt - Investment Pax
•	The - Labor Income Tax
•	Tet - Capital Income Tax
•	T_i - lump-sum tax $(T_t < 0)$
	or transfer $(T_t > 0)$
	<u>'</u>
0.04	
Doch:	A tax distorted CE (TDCE) given the fiscal policy
	I gt, Tet, Tht, Txt, Txt, Tt g is the price eystern
	A tax distorted CE (TDCE) given the fiscal policy is the price eystem for the consumer of fit, P_{xt} ,
	2 8 1 2 8
	tct, xt, nt, lt, kt 300, and allocations for firms bytikt, nt Ito
	$\mathbf{z} \cdot \mathbf{t} : \mathbf{-}$
Λ	C. the same the same
<u> </u>	Given the prices, HH solves:- $ \overset{\infty}{\underset{t=0}{\text{E}}} \not \downarrow U(c_t, l_t) \longrightarrow \underset{c_t, l_t, n_t, k_t, x_t}{\text{Max}} $ $ \overset{\infty}{\underset{t=0}{\text{E}}} \not \downarrow U(c_t, l_t) \longrightarrow \underset{c_t, l_t, n_t, k_t, x_t}{\text{Max}} $
	$\lesssim 2^{t} + 1$
	t=0 k (Ct) tt) Sc 0. n. b x. 7
	l'titti"ti "ti tti Tto
	s.t.



3)	Markets clear
	$\eta_t = \eta_t^f$
	$k_{t} = k_{t}^{f}$
	$c_{t} + x_{t} + g_{t} = f(k_{t}, n_{t}) \longrightarrow \begin{cases} As c_{t}, x_{t} \text{ are produced with} \\ As c_{t}, x_{t} \text{ are produced with} \end{cases}$ all A then would be the same).
4)	
,	E(Ptgt+Tt)= E(TctCt+ TxtXtPxt+ Pnw Wt Nt+
	Tet ke (i)
*	Govt. BC is redundant
	HH BC:
t	$\sum_{t=0}^{\infty} \left[P_{t} \left(1 + T_{ct} \right) C_{t} + P_{t} \left(1 + T_{xt} \right) X_{t} \right] = \sum_{t=0}^{\infty} \left[r_{t} k_{t} \left(1 - T_{xt} \right) + w_{t} n_{t} \left(1 - T_{nt} \right) + T_{t} \right]$
ę,	E [Pt Ct Tit + Pt Tixt Xt + Tixt Tt Kt + went Tint] = E [Ttkt + went - Pt Ct - Pt Xt + Tt]
	Assume f(·) is CRS => 0 profits. Ptyt = Went + otkt
	3 Pt (C++x++gt) = wtnt+ otkt (feasibility conspend)
& £*0	[PtCt Tict + Pt Tixt Xt + Tixt Tt kt + went Tint] = E [Ttkt + wtnt - PtCt - Ptxt + Tt]
	GBC Pt 9t

Ex	ercise: - relax CRS assumptions & chow the same
	holds.
	RAMSAY PROBLEM: -
	Ege 3 is given,
	$\gamma_{it} = \gamma_{xt} = 0$
	Tt=0 Optimal sequence of [Tet, Int]?
	ε pt u(ct, nt) -> max
	s.t. $\{c_{t}(T), k_{t}(T), n_{t}(T), l_{t}(T), x_{t}(T)\}$ in TOGE
	where $\stackrel{\infty}{\stackrel{\sim}{\stackrel{\sim}{\stackrel{\sim}}{\stackrel{\sim}{\stackrel{\sim}}{\stackrel{\sim}{\sim$
	B.C.
	1= = pt u(c4, l4) + 1 = (rekt(1-Tkt)+ (1-Tnt) we nt)
	- ¿ [pec+pex+]] + ¿ Btu=[(1-8) k++
	xt - Kett] Shaw of monon of capital
	FOC:
	Cc_{ℓ} :



	firm's Broblem.
	Toce allocation (given policy & Tke, The, Je Jest) is characterized by:
Ŋ	Normalize $p_0 = 1$: $P_t = p^t u_c(t)$ $u'c(0)$
2)	$\frac{u'n(t)}{u'c(t)} = f'n(t)(1-T_{nt})$
3)	u'e(t) = Bu'c(t+1)[Pk(t+1)+1-8]
4)	$f'_{t} = \frac{\sigma_{t}}{\rho_{t}}$
5)	$F_n' = \frac{\omega_t}{\rho_t}$
6)	$n_t = n_t^{\dagger}$

7)	$t_t = k_t^{\varphi}$
8)	Ct + gt + xt = f(kt, nt)
	E [PtCt+Ptxt] = E (rtkt(1-Tkt)+went(+Tnt))
	Ų
	Law of motion for ke
	ket1 = (1-8)kt +xt