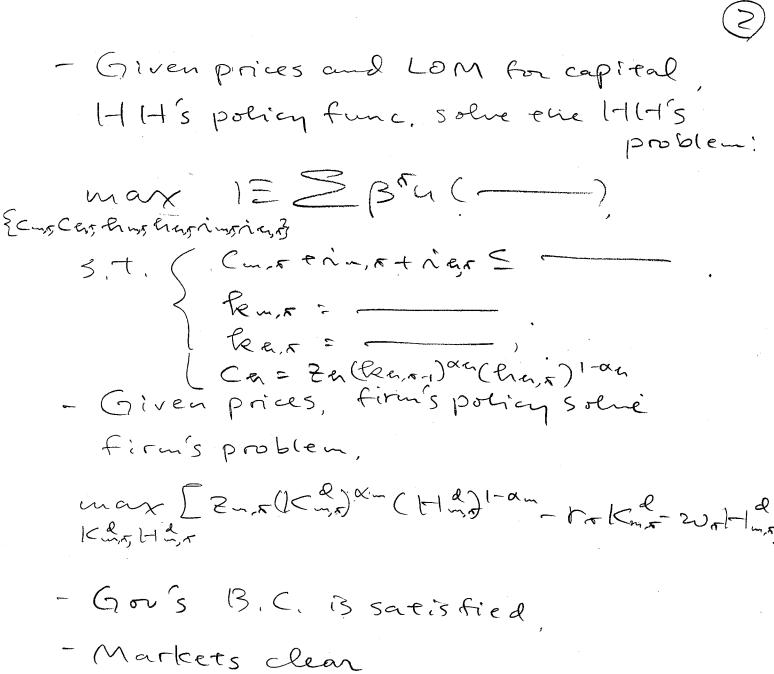
## 20513 WIF 1= inal

## Brief answers

1 (a) A 5 ME 13 (i) 1-16-1's policy functions Cm(Rem, F-1, Rea, F-1, Km, F-1, Ke, F-1, 95, 2-, F, 24, F) (a( -), ha( -), ha( -), ~~ ( -- ), ~e ( -- ). (ii) Form's policy func. 1-1d( (Cm, x-1, (Ca, x-1, (Px, 2-1, x), 2a, x) Km ( -(ia) Prices, W(Km, x-1, Ka, x-1, Px, 2m,x, 2a,x) r ( \_\_\_\_\_) (iv) LOM for capitals ( Km = Sm (Km, x-1, Ka, x-1, Px, 2m, x, 2a, x) (Ka = ga ( (V). government transfer func

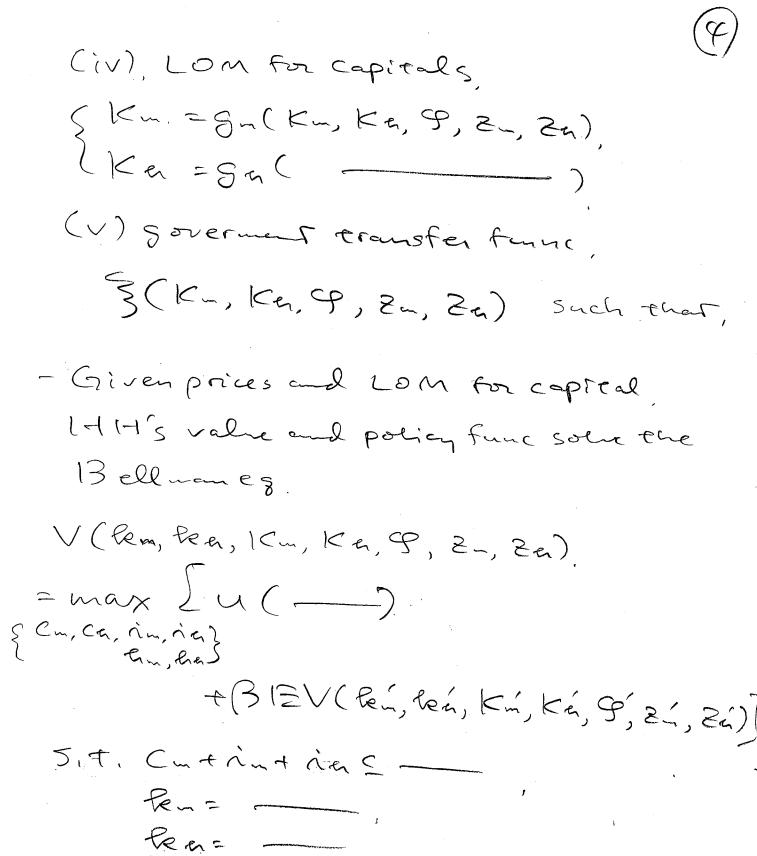
3 (Km, x-1, Ka, x-1, Px, 2m, x, Za, x) such



- Markets clean

Cm( -), Ca( -), hm( -), ha( -) ~m( -), ~a( -) (ii) |-irm's policy func. 1-1m( Kn, Ka, CP, 2-, 2n)

(iii) Prices, W(K-, Ka, 9, 2-, 2a), r( \_\_\_\_\_)



Ch = Zu(len, r-1) an (hn, r) 1-an

- Gov's B.C. is satisfied.

- Mankets clean.

Shim = I + n = I + n

- Run = Kin = Kin

- Contint in = 2m Kin I + in

- Consistency.

(gm( -) = (1-5) Kin

+ in (15) is

(gm(-)=(1-8)Kn t n'm(Km, Kn, Kn, Kn, Kn, 9, 2, 2n) (Sm(-)=(1-8)Ka + n'm(-)

- lea, 5+ ((-5) lea, 5-1 }

^

Defore  $SC_{T} = bC_{m,T} + (1-b)C_{m,T}$  $h_{T} = h_{m,T} + h_{m,T}$ 

EONC W.r.t. Cm.x.

2== 6 (+.

1=ONC W.r.t. Chm.

2x(1-4x) w== hx

FONC w.r.t. Ru. F.

2x=BE=[2xxx([xxxx([xxxx]+1-8]]

FONCW.T. t. Che. T

(-0(1-6)(1-00) (1-00) (1-00) (1-00) = 67

FONCW.r.t. Rem. F

2 = B12 = [C++1 (1-6) x = Ch, ++1 Ru, +

+ 2xx1 (1-8)]

and then also impose firm's 1-0NC, inarker clearing conditions, etc.

(d) The hours response will be langer with home production because now households substitute between marker production & home production because the home production is not taxed,

2(a)

V(WK, MK-1, 8x)

= max {u(c+)+B = [V(wrei, ma, grai)]} Cx, lex, bx, mx

S,t, Cremetbreker Swr -- 1

Brcr 5 mr-1 + Tr

WATER = f(lex) + (1-8) lex + TARIT RAGE

- (Trai) mr.

where RF= Itak, ar=mr+br.

(6),

CF.
u(cx) -2x-8x Mx=0.

Per. (3 [f (ler) + 1-8] 15[Vw (wrei, mr, grai)]

BR/5[Vw(wrai, mr, grai)] - 2= =0

Mr

B[RE- nr ] [war, mr, gran)]

+ BEF[Vm(war, ma, gare)] - 2x=0.

From Ewelope cond.

( V- (wr, mr-1, gr) = 2x

Vm(wx, mx-1, gx) = (1/5) Mx.

Co) W(Co) = 25+ gomes.

So when grincreases, consumption declines, (since n'increases),

bolding since they anticipate higher g in the future (Also future cons, likely to decline)

(d) Cons. in period & declines because

ob the tighter CIA constraint,

l-louseholds will not adjust ehren

money holdings because expected

future & unchanged, (Also future

cons. its ambiguous, depends on the

realization of future &)

I

3 (a)

- Let En be the estimate of

- Then apply cholesty decomposition

Zu 2 B Ñe B' where B is a lower triangular matrix,

- De is the covar matrix of i.i.d. shocks,

- So you can simulate output effect by

$$\begin{bmatrix} 9x \\ xx \end{bmatrix} = \widetilde{A} \begin{bmatrix} 9x-1 \\ 2xx-1 \end{bmatrix} + \widetilde{13} \begin{bmatrix} e_{3}x \\ e_{xx}x \end{bmatrix}$$

A policy shock is a shock to ex, x.

(6) Modify the model so that agents unake decision before the realization of exi

 $\begin{aligned}
&\mathcal{K}_{\kappa} = \underbrace{\left[ \mathbf{E}_{\kappa-1} \mathbf{X}_{\kappa+1} - \left( \frac{1}{\sigma} \right) \left( \mathbf{E}_{\kappa-1} \tilde{\mathbf{n}}_{\kappa} - \mathbf{E}_{\kappa-1} \mathcal{T}_{\kappa+1} \right) \right]}_{\mathbf{T}_{\kappa} = \mathbf{B}_{\kappa} = \mathbf{B}_{\kappa-1} \mathcal{T}_{\kappa+1} + \mathbf{K}_{\kappa} \mathbf{X}_{\kappa}} \\
&\hat{\mathbf{n}}_{\kappa} = \mathbf{\Phi}_{\kappa} \mathcal{T}_{\kappa} + \mathbf{\Phi}_{\kappa} \mathbf{X}_{\kappa} + \mathbf{e}_{\kappa}
\end{aligned}$ 

anin  $E\pi \sum_{d=0}^{\infty} B^{i} \left\{ \left( \frac{1}{2} \right) \left( \pi_{\text{rei}} + \lambda \chi_{\text{rei}} \right) \right\}$   $\left\{ \hat{n}_{\text{rei}}, \pi_{\text{rei}}, \chi_{\text{rei}} \right\}$ 

+ Orin [Xrinti - Xrintz + T" (Nation - Thinks)]

+ Urin [Thinks - B Thinks - K Xrints]

Set I=r(Orri)=0. Then I=ONC for Thrite, Xriver:

 $\begin{cases} T(x_{t+1} + \Psi_{x+1} = 0) \\ E_{x}(T(x_{t+1} + \Psi_{x+1} + 1) - \Psi_{x+1}) = 0 \end{cases} \quad \vec{n} \geq 0$   $\begin{cases} E_{x}(\lambda \times x_{t+1} + \kappa \cdot \Psi_{x+1} + 1) = 0 \\ \vec{n} \geq 0 \end{cases}$ 

(Q)

( Ex(Trainer + Ystrier - Ystri) = 0. Ex(2 Xstrier - K Ystrier) = 0.