"Reconciling Hayek's and Keynes' views of recessions"
by
## Beaudry Galizia Portier

Discussion by Iván Werning
@ NBER SI EFG 2014

Key Ideas

- High (excessive?) past accumulation
  - lower activity today

- Q: Efficient?
- A: No.

- Feedback loop (Chamley, 2013)
  - precautionary lower spending
  - risk of unemployment
- Keynesian conclusions, but without sticky prices

Hayek and Keynes

- Hayek's liquidationist view
  - recession due to excessive boom
  - let recession run its course
  - stimulus only prolongues the adjustment
- Keynesian view
  - recession inefficient
  - stimulus warranted

- This paper
  - sides with former description
  - sides with latter prescription

Keynes Vs Hayek
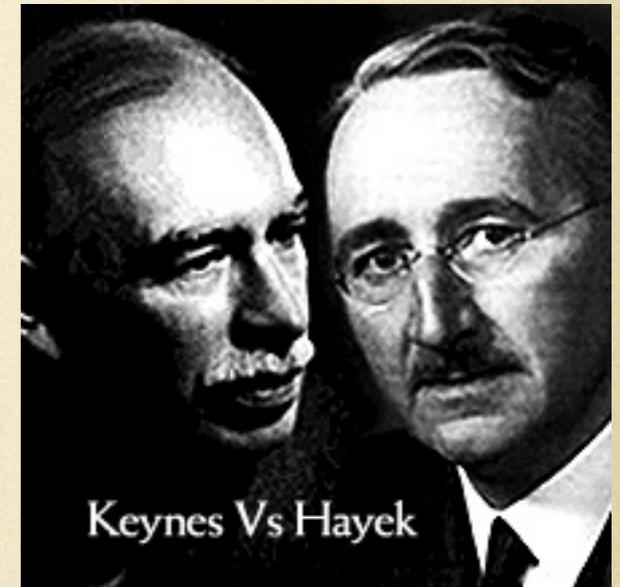
Two Modules

- Precautionary Savings
- Labor market

Discussion

- Review precautionary saving feedbacks
  - General equilibrium, market clearing
  - Monetary model: zero lower bound
- Labor market friction
  - wage determination
  - matching technology
- Policy implications
- Open questions

Precautionary Savings Module

Standard Model

- Standard model
  - infinite horizon t=0,1,2….
  - consumption, labor, no capital (add t=0 durable later)
  - comparable: New Keynesian model
- Idiosyncratic uncertainty in income
  - precautionary savings
  - general equilibrium?
- "Krugman Trick"
  - assume at t=1 and beyond: efficient
  - uncertainty only at t=0

$$\sum_{t=0}^{\infty} \beta^t \left(U(c_t) - v(\ell_t) \right)$$

$$U(c) = -e^{-c}$$

$$y^i = y + u^i$$

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$$U'(c_t) = \mathbb{E} U'(r a_{t+1}) \, \beta R U'(\bar{y})$$

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$$ra_{t+1} = rR \left(y^i - c \right) = rR \left(y + u^i - c \right) = rRu^i$$

$$\sum_{t=0}^{\infty} \beta^t \left(U(c_t) - v(\ell_t) \right) \qquad U(c) = -e^{-c}$$

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$$U'(c) = \hat{\beta}(\sigma) R U'(y_{t+1})$$

$$\hat{\beta}(\sigma) = \mathbb{E} U'(rRu)\beta$$

Feedback Loop

$$\sigma(C) \longrightarrow \beta(C) \equiv \hat{\beta}(\sigma(C))$$

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- Multiplicity possible
  - authors shy away… perhaps they shouldn't
- Chamley (beautiful paper)
  - dynamics from good to bad equilibrium
  - stuck in bad equilibrium
  - Policy implications?
- This paper
  - simpler
  - more policy implications

Amplification

- Add "durable"
  - endowment of good at t=0
  - demand shifter

durable

fixed

$$U'(X + y) = \beta(y)\, R U'(\bar{y})$$

c

durable

fixed

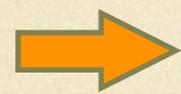$$U'(X + y) = \beta(y)\, R U'(\bar{y})$$

c

→ consumption **constant or falling** with X

durable
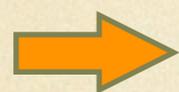
fixed

$$U'(X + y) = \beta(y)\,RU'(\bar{y})$$

c

consumption **constant or falling** with X

output **falling**

durable

fixed

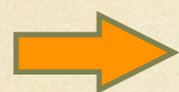$$U'(X + y) = \beta(y) \, RU'(\bar{y})$$

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consumption **constant or falling** with X

output **falling more**

durable

fixed

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consumption **constant or falling** with X

output **falling** <u>more</u>

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⟹ consumption **constant or falling** with X
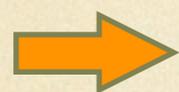
output **falling** **more**

adjusts

$$U'(X + y) = \beta(y)\, RU'(\bar{y})$$

durable

fixed

$$U'(X + y) = \beta(y) \, RU'(\bar{y})$$

c

→ consumption **constant or falling** with X

output **falling** _more_

$$U'(X + y) = \beta(y) \, RU'(\bar{y})$$
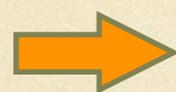
adjusts

efficient
$y^*(X)$

durable

fixed

$$U'(X + y) = \beta(y)\,RU'(\bar{y})$$

c

⟹ consumption **constant or falling** with X

output **falling** __more__

---

adjusts

$$U'(X + y) = \beta(y)\,RU'(\bar{y})$$

efficient
$$y^*(X)$$

$$R(X) = \frac{U'(X + y^*(X))}{\beta(y^*(X))U'(\bar{y}')}$$

durable

fixed

$$U'(X + y) = \beta(y)\, RU'(\bar{y})$$

c

➡ consumption **constant or falling** with X

output **falling** <u>**more**</u>

---

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efficient

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➡ consumption **increasing**, output falling less

Monetary Economy

- Monetary Economy
  - sticky prices; demand determined output
  - Fed controls interest rate
- Fed response crucial
  - no change in interest rate: feedback loops
  - responsive monetary policy: optimum
- Hayek, Keynes and… Friedman?

Labor Market Module

Labor Market

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- Feedback *without* sticky prices and ZLB?

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- Paper…
  - labor market frictions
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- Ignore uncertainty for a moment (pooling income)
  - not key…
  - … before getting amplification, we need a platform
  - … add it back later

$$\Pi^*(p, w) = p\Phi$$

$$\Pi^* \left(1, \frac{w}{p}\right) = \Phi$$

$$\Pi^* \left(1, \frac{w}{p} \right) = \Phi \quad \longrightarrow \quad \frac{w}{p}$$

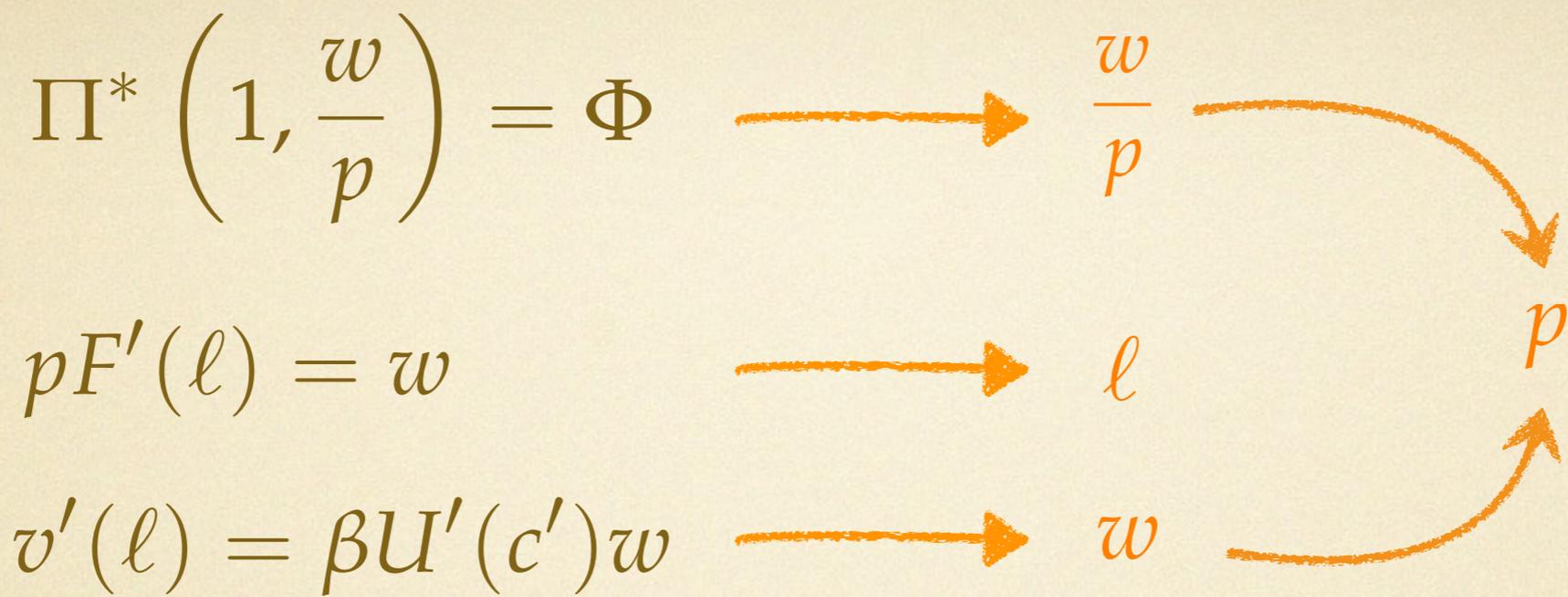$$\Pi^*\left(1, \frac{w}{p}\right) = \Phi \quad \longrightarrow \quad \frac{w}{p}$$
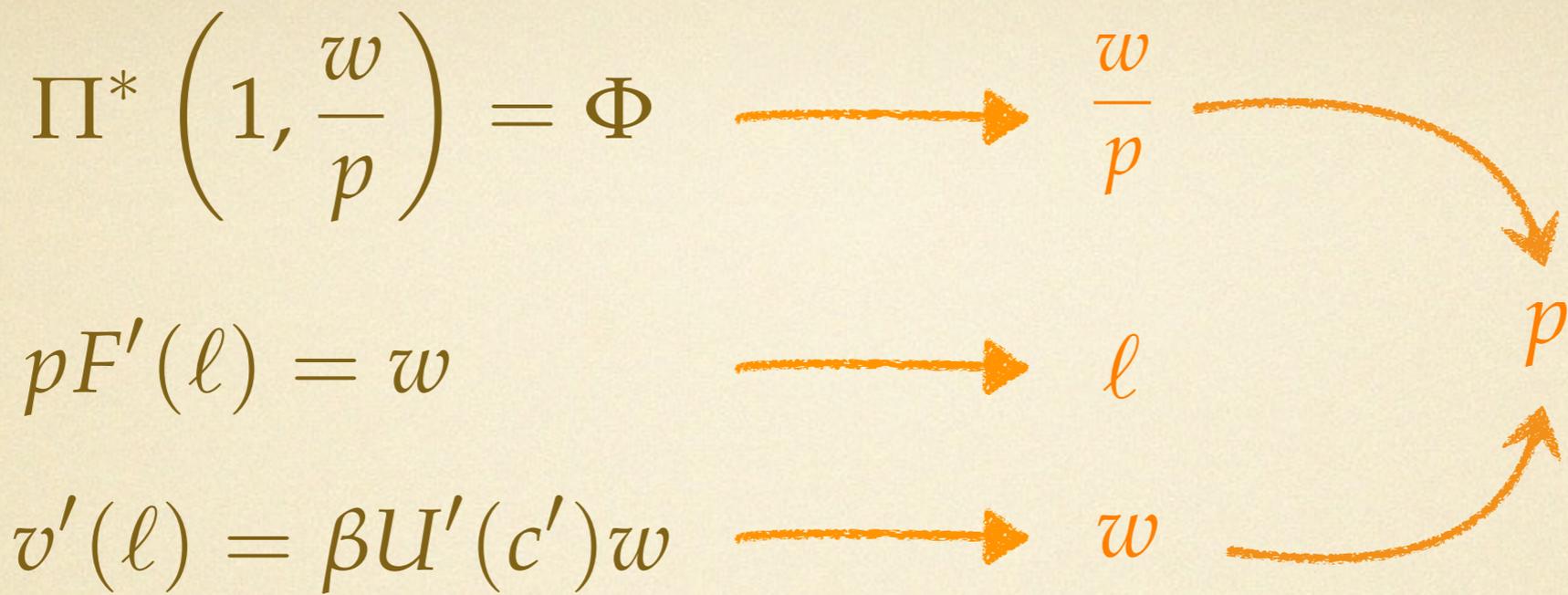
$$pF'(\ell) = w$$

$$v'(\ell) = \beta U'(c')w$$

$$\Pi^* \left(1, \frac{w}{p}\right) = \Phi \quad \longrightarrow \quad \frac{w}{p}$$
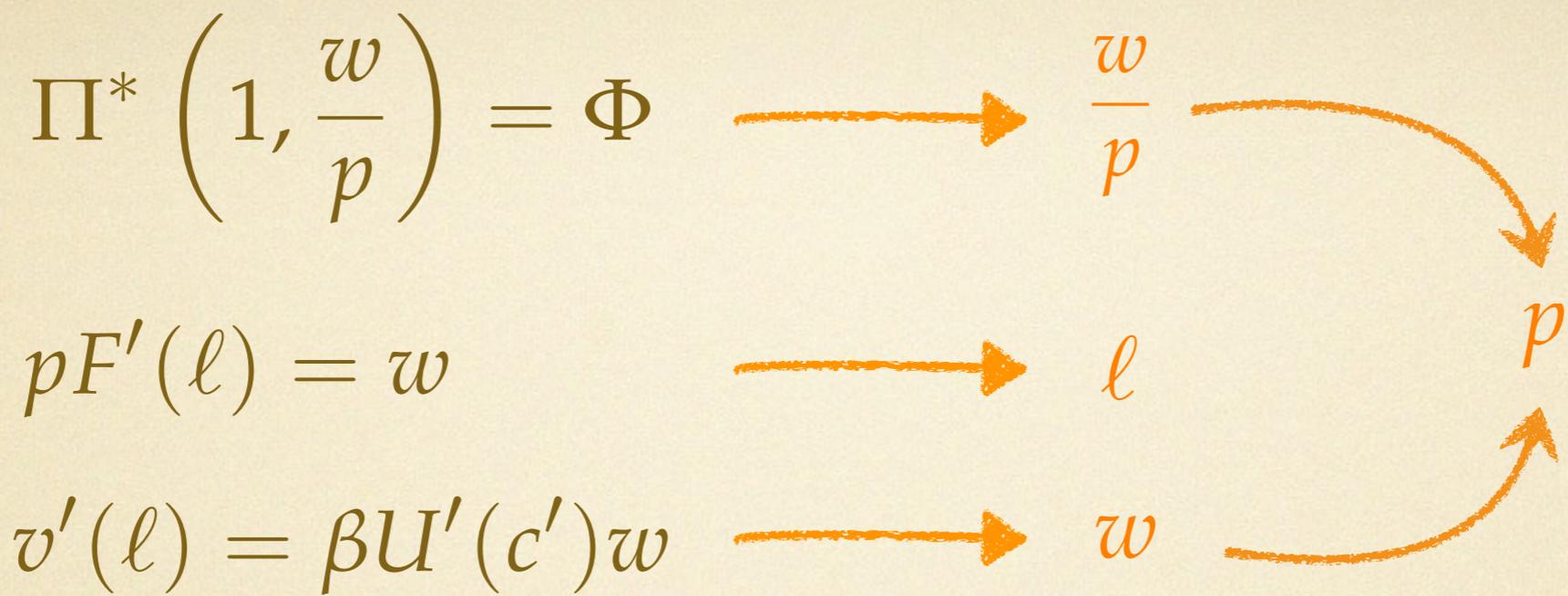
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$$p$$

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$$pF'(\ell) = w \longrightarrow \ell$$

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$$p$$

$$U'(X + y) = \beta p U'(c')$$

$$c = N(F(\ell) - \Phi)$$

$$\Pi^* \left(1, \frac{w}{p}\right) = \Phi \longrightarrow \frac{w}{p}$$

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<u>Note</u>: risk not needed for inefficiency or constant consumption

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Intuition or Magic?

Special Assumptions

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  - Nash or ex-post Walrasian
  - Leontief and infinite elastic entry
  - static one shot

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  - high wage rigidity…
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- What happens away from this?

Competitive Search

- Competitive Search
  - Firms post wage schedules
  - Workers direct their search
- Known to be efficiency in many settings
- <u>Here</u>: efficient if no uncertainty (e.g. pooling)

- <u>Result</u>: with Leontief matching and competitive search

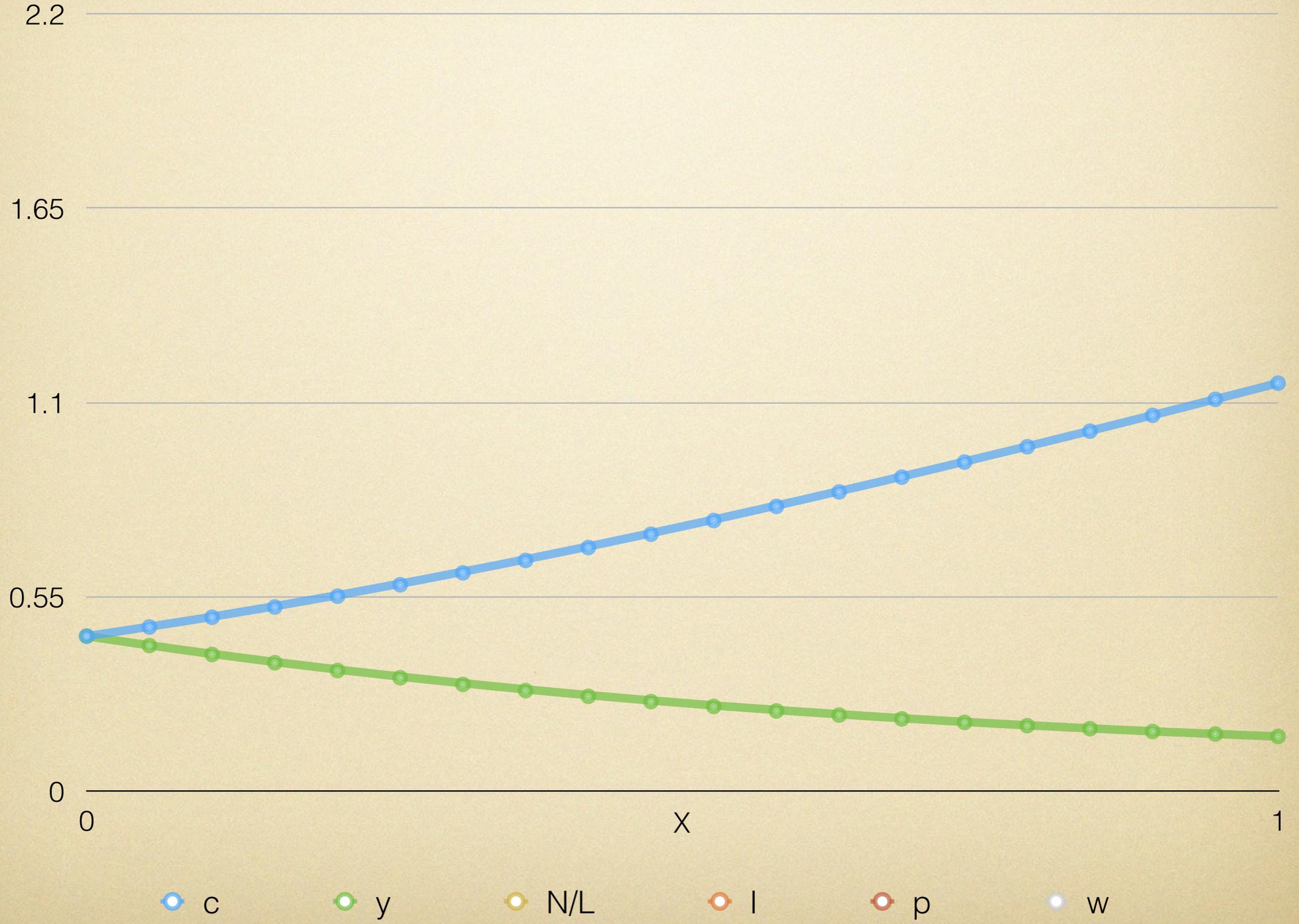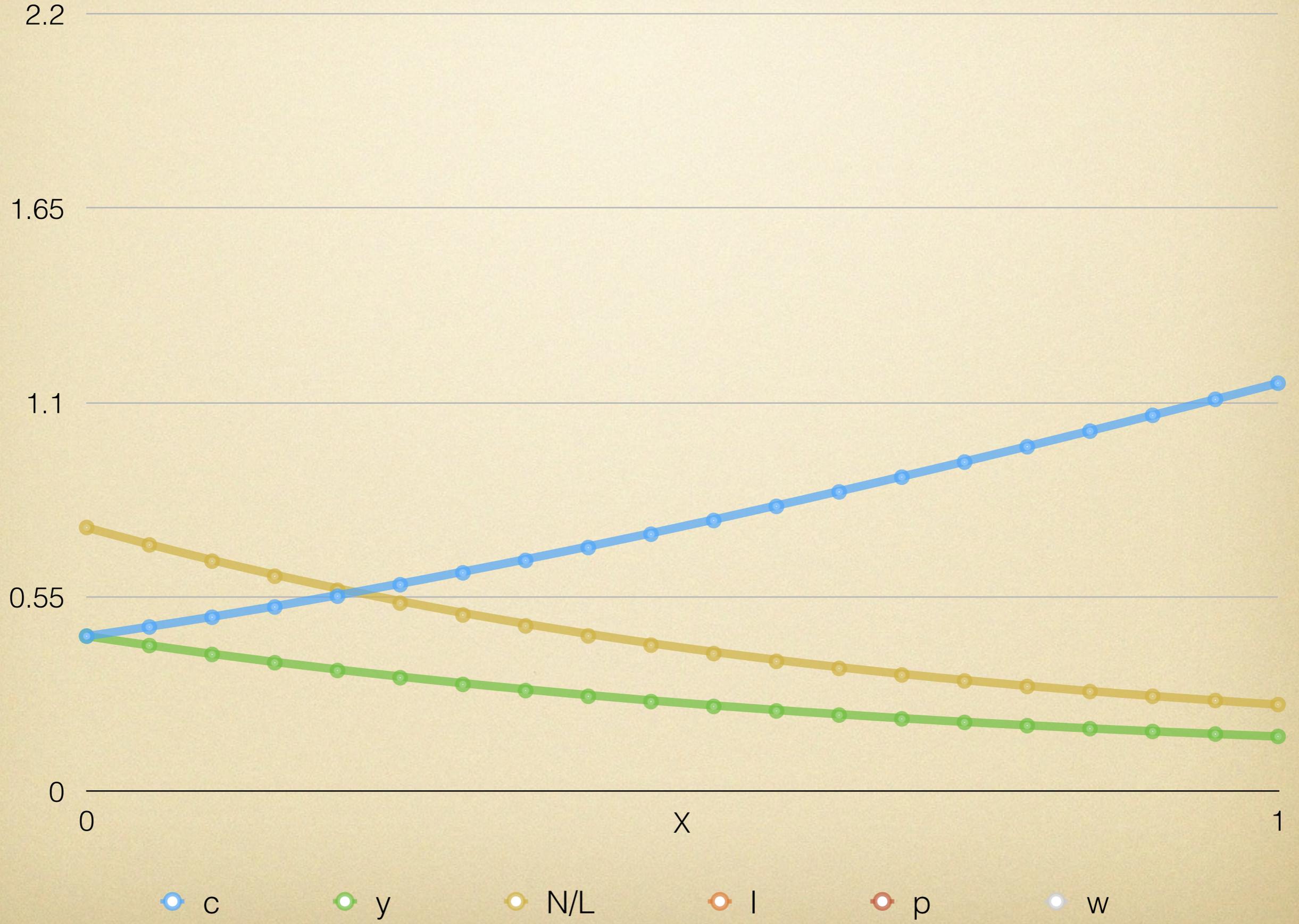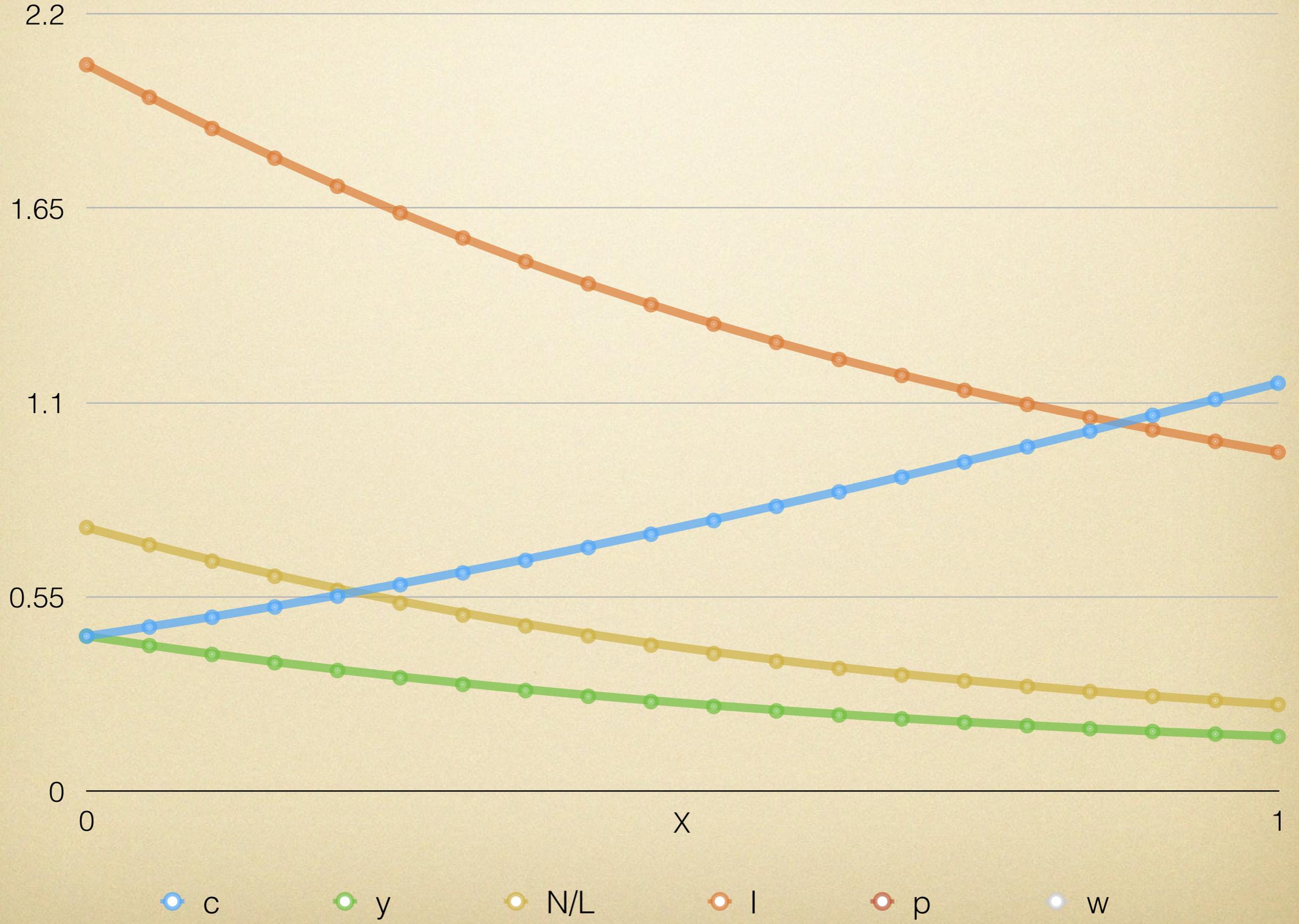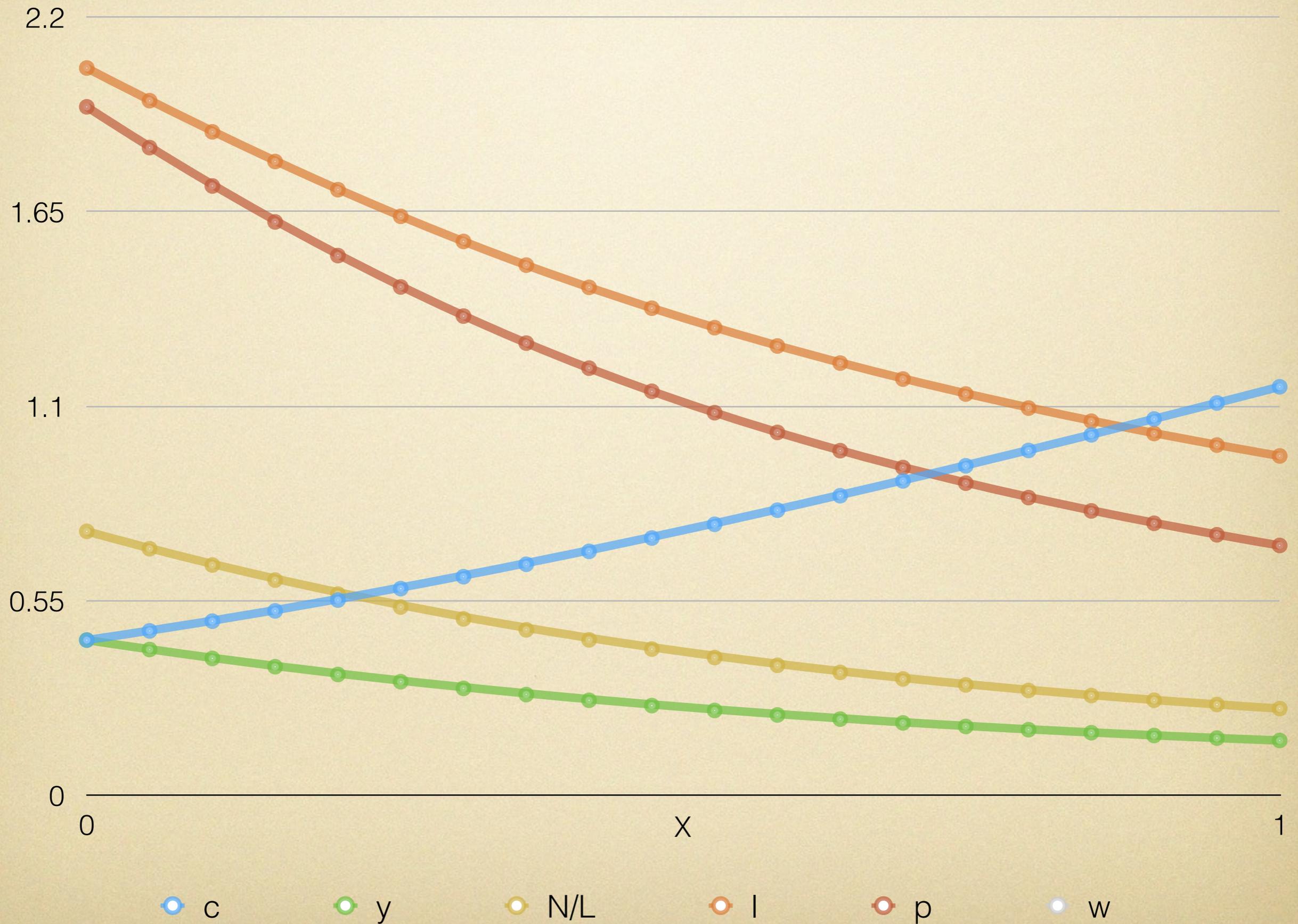⟹ **efficiency** ⟹ **consumption rises with X**

Competitive Search + Cobb Douglas

X

Competitive Search + Cobb Douglas
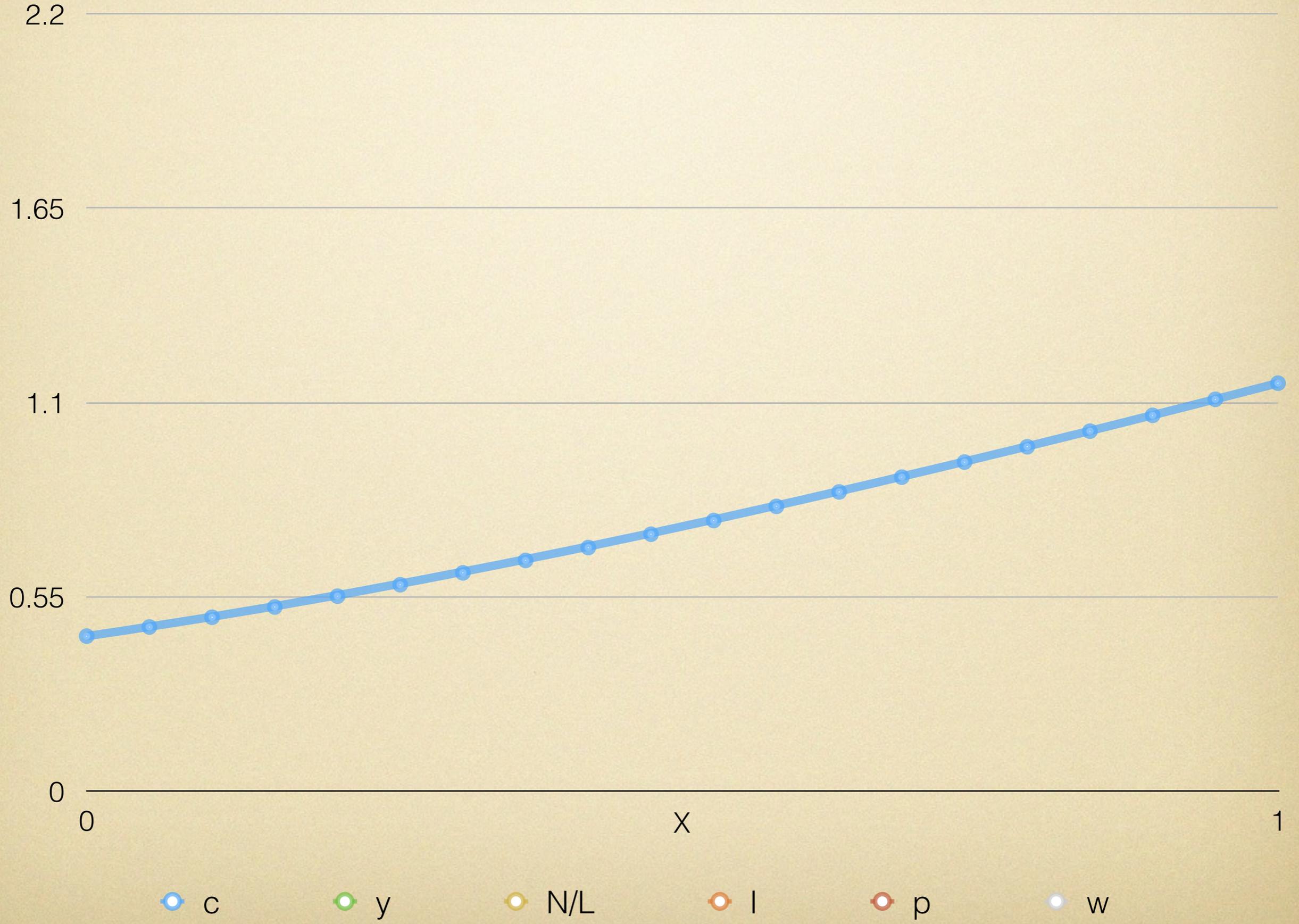
Competitive Search + Cobb Douglas

c   y   N/L   l   p   w

Competitive Search + Cobb Douglas

Competitive Search + Cobb Douglas

Legend: c, y, N/L, l, p, w

Competitive Search + Cobb Douglas

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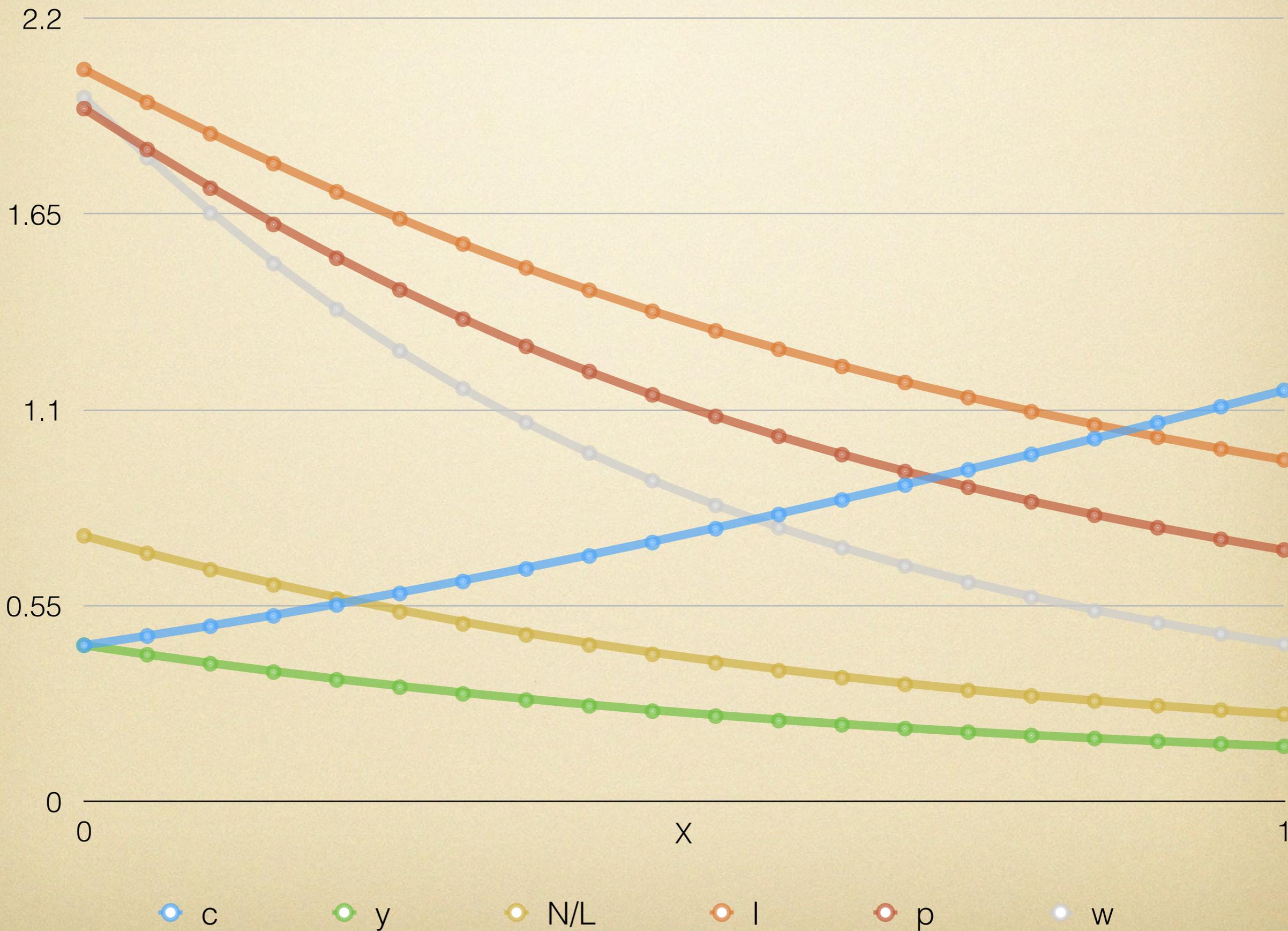
Other Matching

- Leontief
  - extreme wage flexibility needed
  - Nash or ex-post Walrasian not enough

- Cobb-Douglas…
  - Nash bargaining
  - Hosios condition: efficiency

- Ex post Walrasian?

$$\frac{\mu(N)}{N}\Pi^*\left(1, \frac{w}{p}\right) = \Phi$$

$$pF'(\ell) = w$$

$$v'(\ell) = \beta U'(c')w$$

$$U'(X + y) = \beta p U'(c')$$

$$c = \mu(N)F(\ell) - N\Phi$$
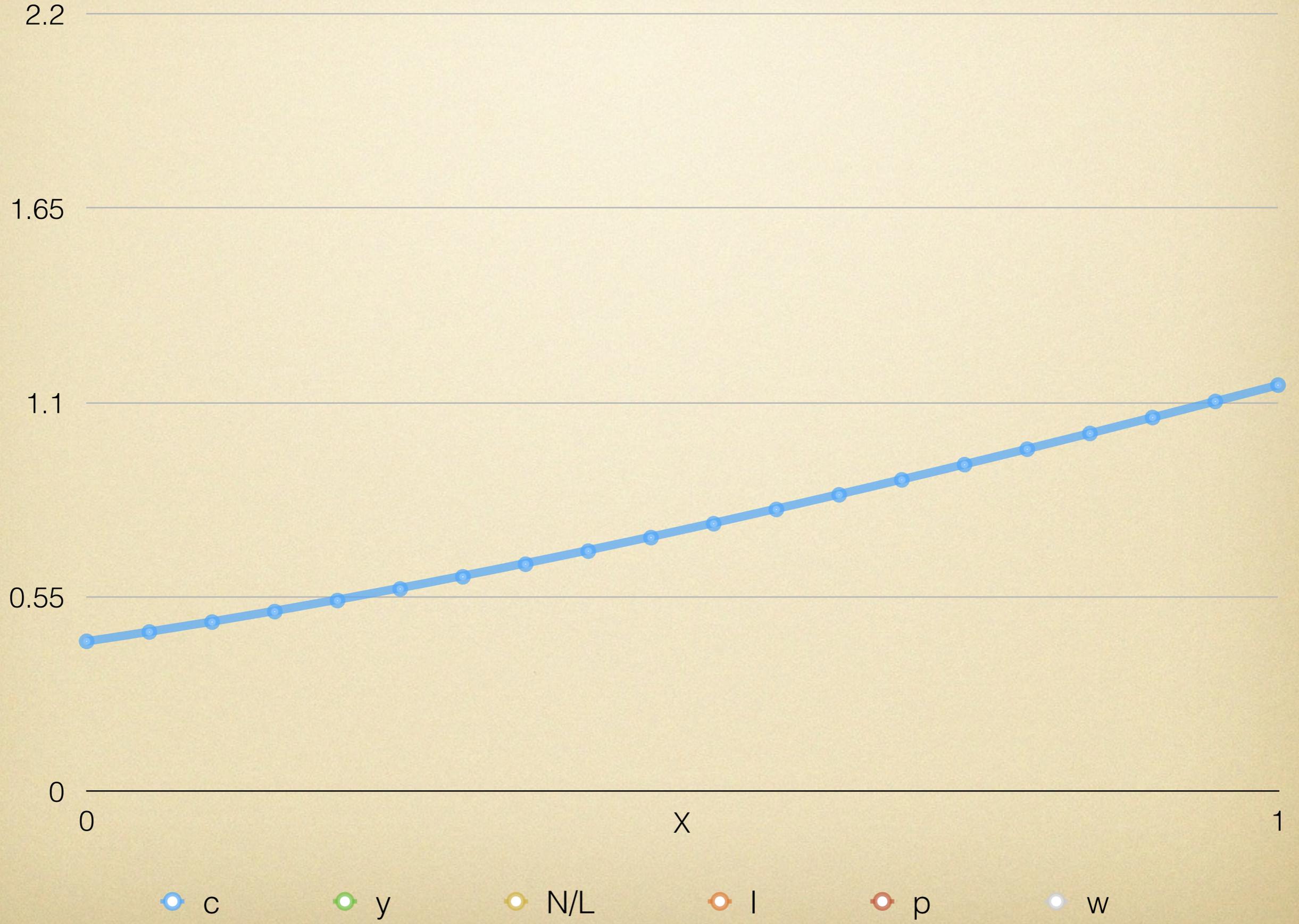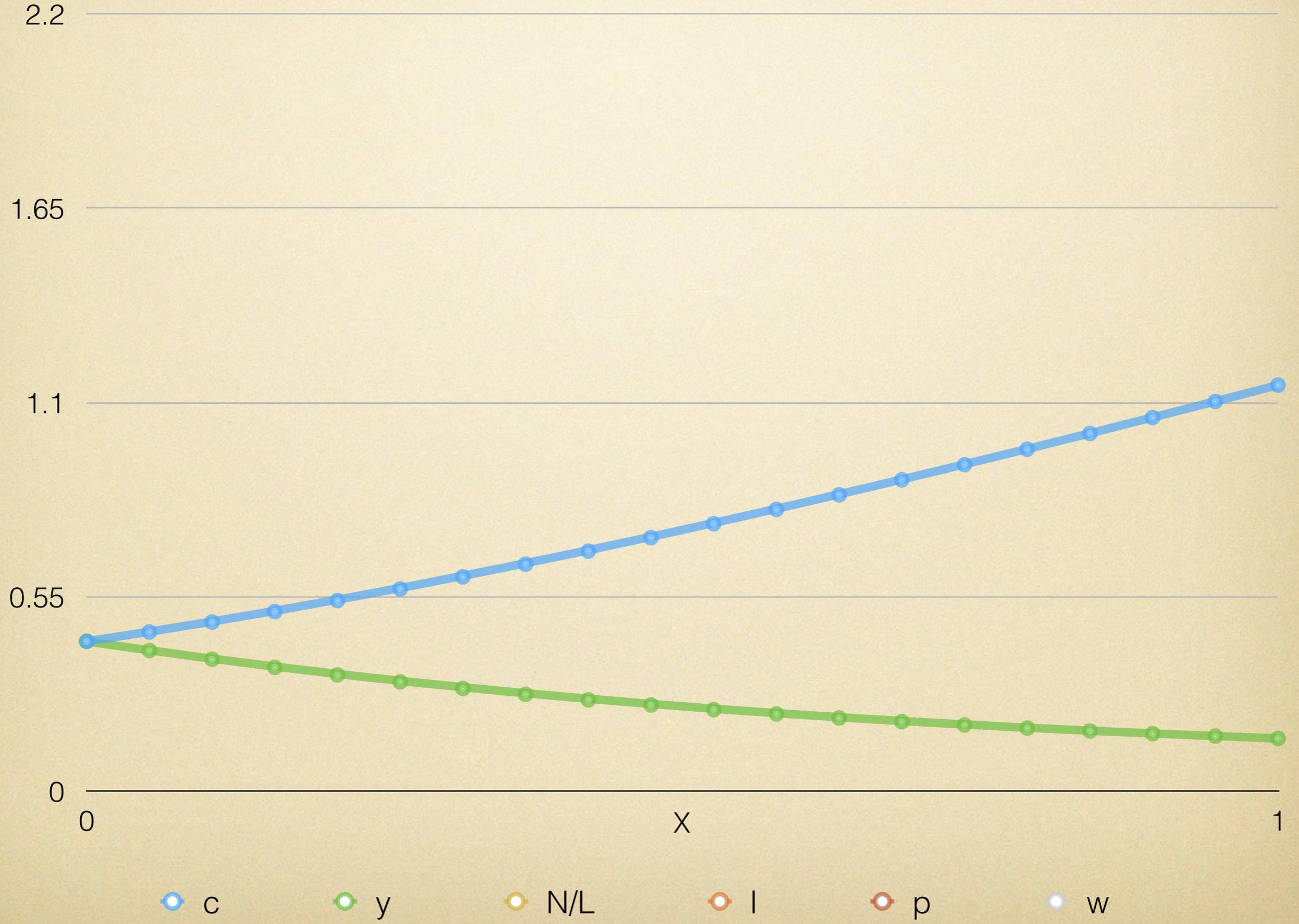
Ex Post Walras + Cobb Douglas

X

Ex Post Walras + Cobb Douglas

2.2

1.65

1.1

0.55

0

0   X   1

○ c   ○ y   ○ N/L   ○ I   ○ p   ○ w

Ex Post Walras + Cobb Douglas

Ex Post Walras + Cobb Douglas

Legend: c, y, N/L, l, p, w

Ex Post Walras + Cobb Douglas

Ex Post Walras + Cobb Douglas

Legend: c, y, N/L, l, p, w

X-axis: X (0 to 1)

Y-axis values: 0, 0.55, 1.1, 1.65, 2.2

Ex Post Walras + Cobb Douglas

Legend: c, y, N/L, l, p, w

Ex Post Walras + Cobb Douglas

c   y   N/L   l   p   w
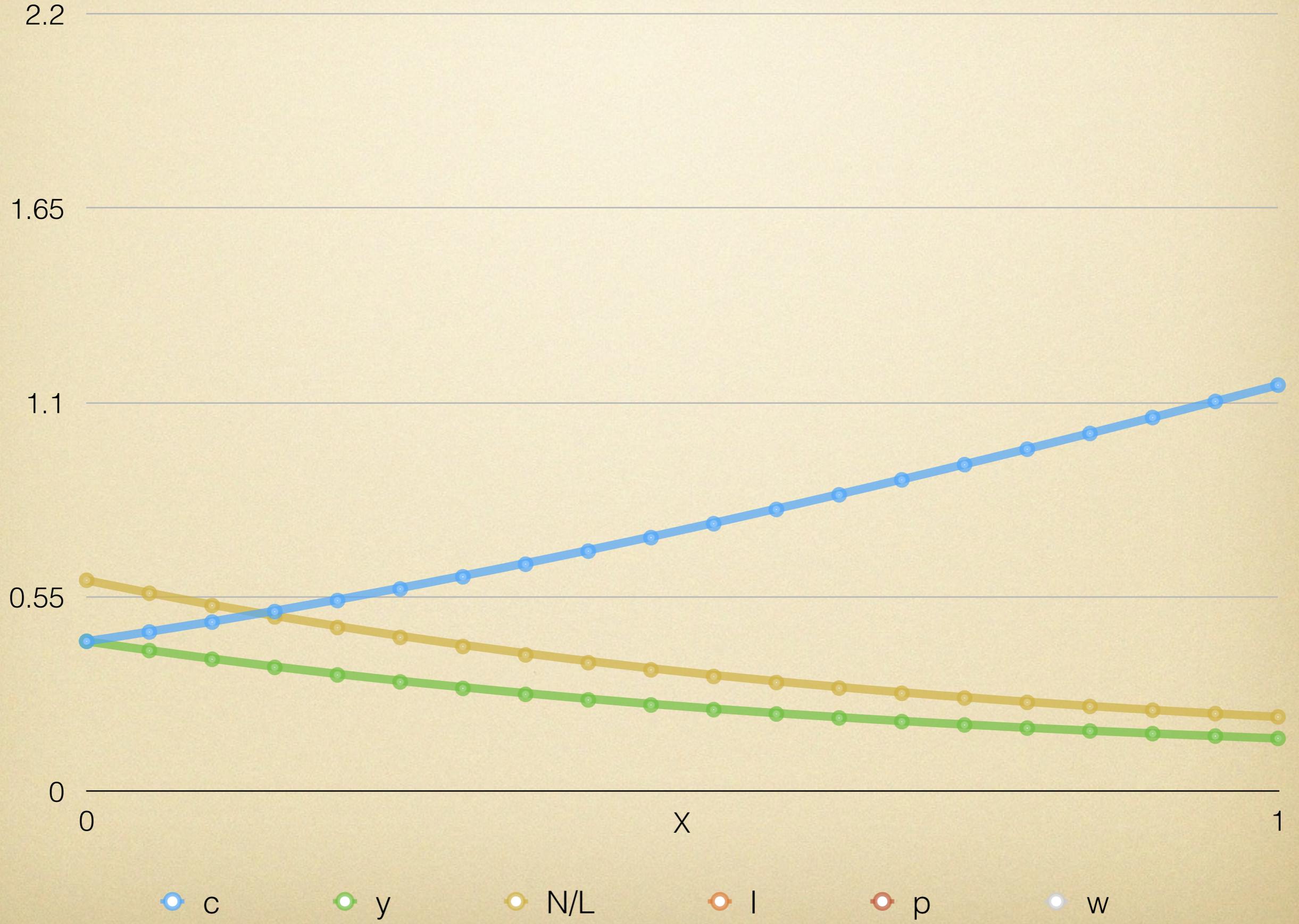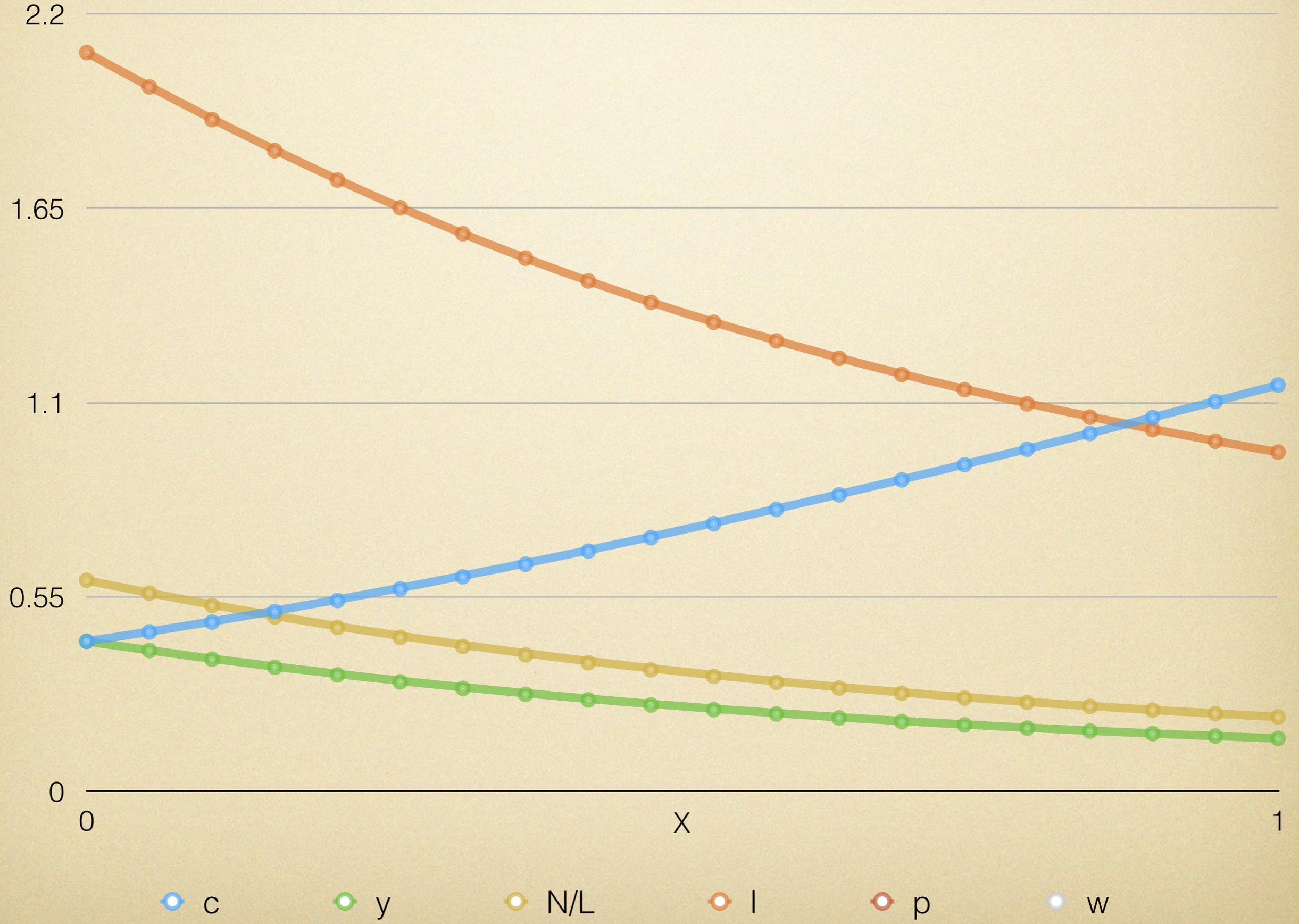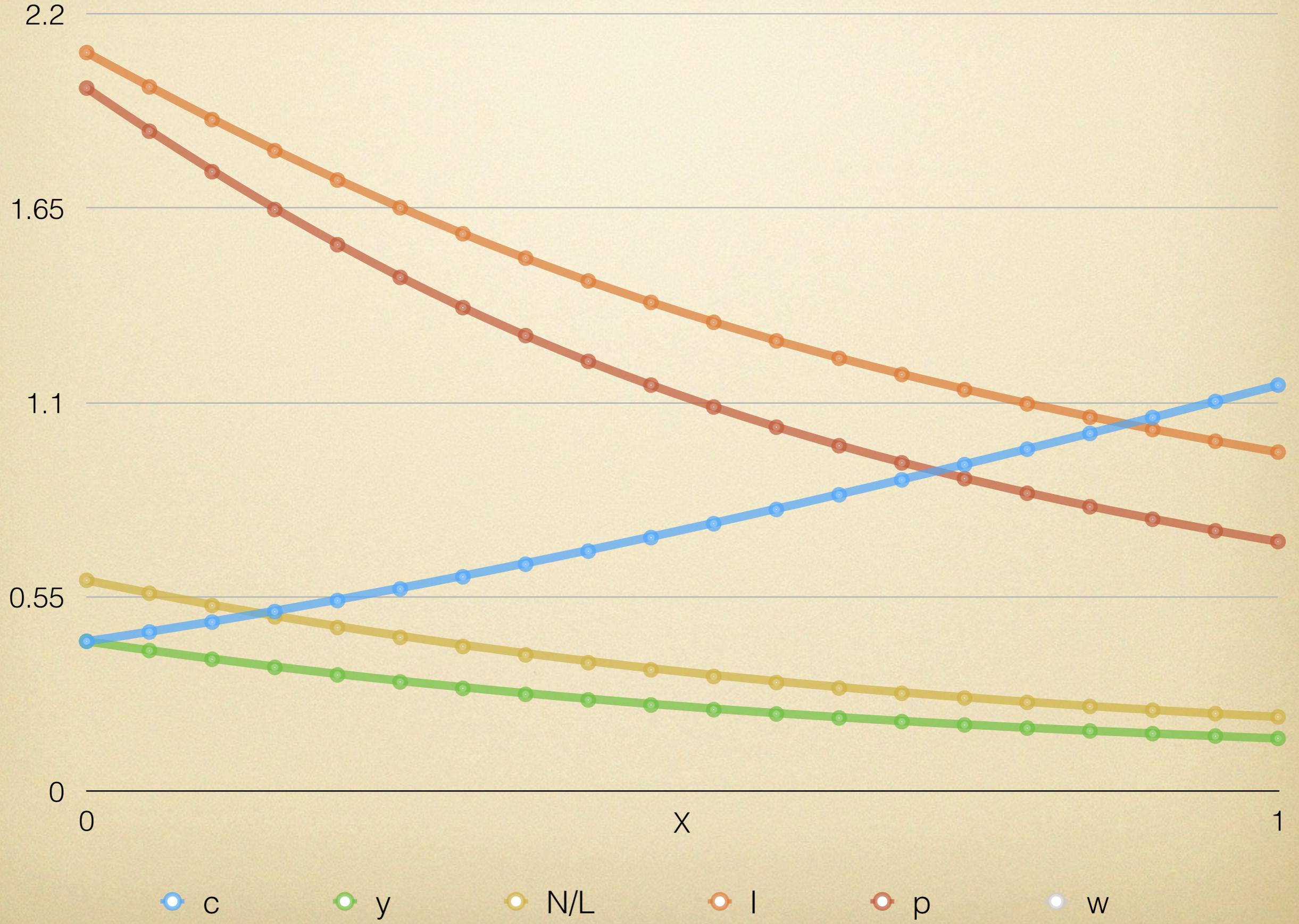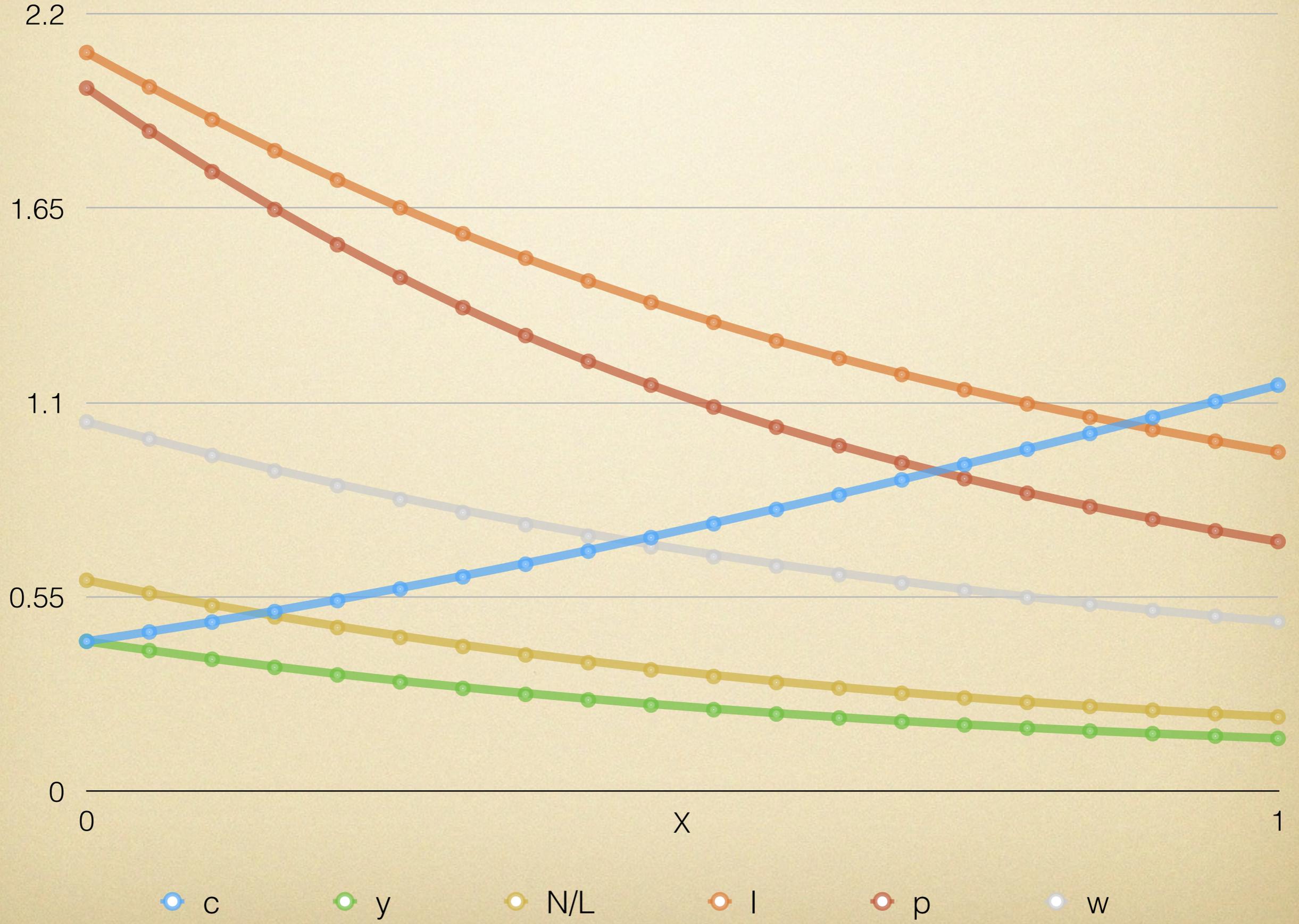
Other Wage Determination

- Wage rigidity may be feature, not bug (Hall)
    - fix W/P ➡ throw out labor supply
    - needed: smooth matching technology
- Implication
    - employment pinned down…
    - … output determined
    - … consumption determined…
    - … interest rate adjusts

No Risk	Ex-Post Walras	Competitive Search	"Hall" (fixed w/p)
Leontief	$\downarrow c \downarrow Y$ R	$\uparrow c \downarrow Y$ $\downarrow R$	
Cobb Douglas	$\uparrow c \downarrow Y$ $\downarrow R$	$\uparrow c \downarrow Y$ $\downarrow R$	$\uparrow c \quad Y$ $\downarrow R$

with risk

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Leontief	$\downarrow c \; \downarrow Y \;\; \uparrow R$	$\uparrow c \; \downarrow Y \;\; \downarrow R$	✕
Cobb Douglas	$\uparrow c \; \downarrow Y \;\; \downarrow R$	$\uparrow c \; \downarrow Y \;\; \downarrow R$	$\uparrow c \;\; Y \;\; \downarrow R$

with risk

NORMATIVE	Ex-Post Walras	Competitive Search	"Hall" (fixed w/p)
Leontief	$c < c^*$	$c = c^*$	?
Cobb Douglas	$c < c^*$ $c > c^*$?	$c > c^*$	?

Labor Wedge

- Two *intensive* margin distortions…

    - fictitious margin: labor vs present consumption

    - actual margin: labor vs future consumption

- Definition of labor wedge

    - fictitious margin

    - intertemporal distortion

- Labor market is distorted, but

    - due to low entry of firms (jobs/vacancies)

    - along *extensive* margin, not intensive margin

Policy Implications

Policy Implications

- Feedback due to uncertainty
  - stop feedback by unemployment insurance
  - better consumption sharing…
  - … improves efficiency consumption level
  - efficiency in labor market

- May not go all the way to efficient
  - government spending?
  - labor market policies?

Summary

- Very nice paper, lots to think about!
- Two modules
  - precautionary feedback: need fix R
  - labor market friction: fixes R
- How generality/plausible is the mechanism?
- Policy implication:
  - unemployment insurance
  - government spending
  - labor market policies?