Goldrush

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Penn, CAERP, and NBER

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- Use it to study Fluctuations, especially localized fluctuations

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- C, I, and S has different ratios of e and m.

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- c is CES aggregation of e and m

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$$n'_\epsilon = \underbrace{\sum_{\tilde{\epsilon}} (1 - \delta_{\tilde{\epsilon}}) n_{\tilde{\epsilon}} \Gamma_{\tilde{\epsilon}\epsilon}}_{\text{unseparated worker}} + \underbrace{\sum_{\tilde{\epsilon}} \Gamma_{\tilde{\epsilon}\epsilon} \frac{u_{\tilde{\epsilon}}}{u} v}_{\text{measure of hiring } \epsilon \text{ next period}}$$

How Model Works

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- As collateral constraint becomes slack, they are leveraged or hold some foreign assets

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- Note that u and V are equilibrium objects.

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- A part of each firm is owned locally due to a fixed factor owned locally.

Stationary State

Model Moments

Target	Model	Data
GDP (Expenditure Account)	1.00	
GDP (Production Account)	1.00	
Capital to GDP Ratio	2.00	
Housing Value to GDP Ratio	1.80	
Value of Firms to GDP Ratio	2.00	
Int'l Borrowing to GDP Ratio	0.00	
Unemployment Rate	8.00%	
Int'l Interest Rate	3.00%	
Nontradable Output Ratio	0.76	

▸ NIPA

GDP

Expenditure		Production		Distributional	
C	0.6496	$p^e y^e$	0.7148	wL	0.5978
I	0.3486	$p^x y^x$	0.2299	π	0.1200
NX	0.0017	$p^h newH$	0.1440	$p^i \delta_k K$	0.2046
(X)	(0.2298)	$-\kappa V$	0.0223	$p^s s$	0.0950
(M)	(0.2281)	$-m^e - m^x - m^h$	0.0684	rB	0.0000
	0.9999		0.9979		1.0173

Business Cycle Properties

Experiments

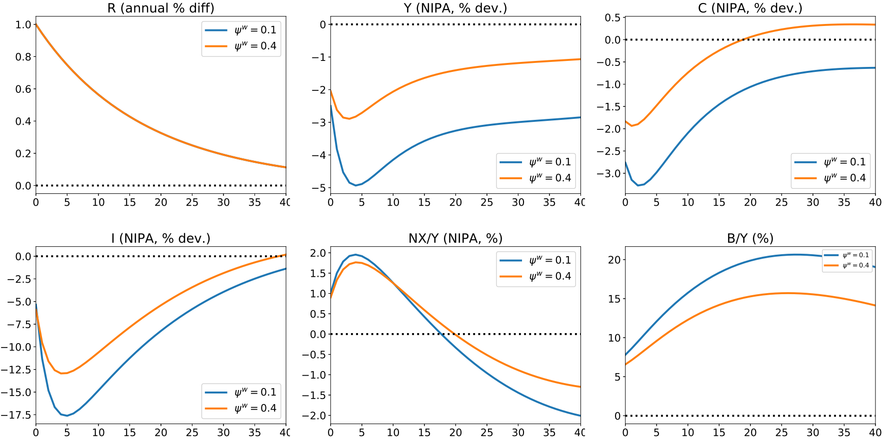
- Implications of business cycle properties through MIT shocks
- Shocks to Int'l interest rate or export price
- Along the transition path, wage is specified by

$$\log w_t - \log w^{ss} = \psi^w \left(\log Y_t - \log Y^{ss}\right)$$

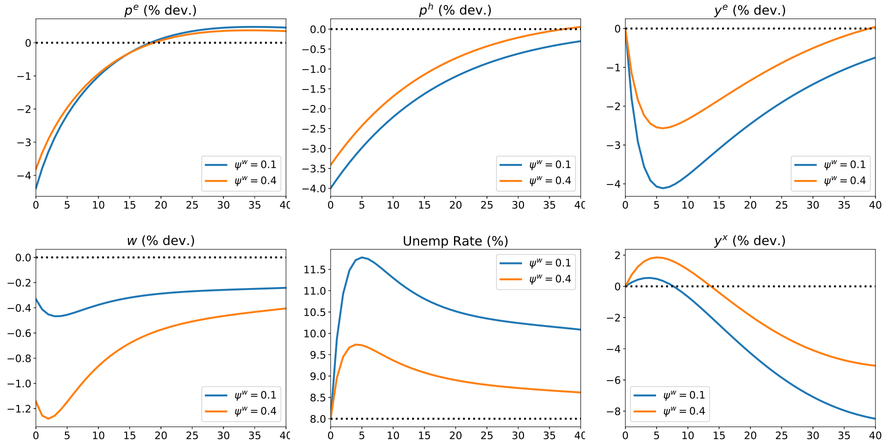
- where ψ^w is the elasticity of wage rate with respect to output and set to 0.1 or 0.4.
- Shock follows AR(1) process with $\rho = 0.95$
  - r from 3% to 4% in annual term (no income effect in aggregate since $B/Y = 0.0$ at SS).
  - p^x drops 1%

Interest Rate Shock

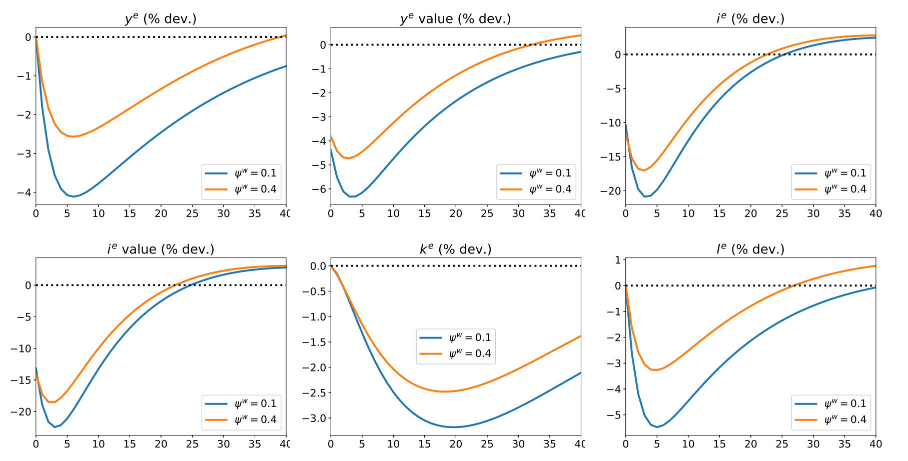
1% Hike in Interest Rate - Aggregates



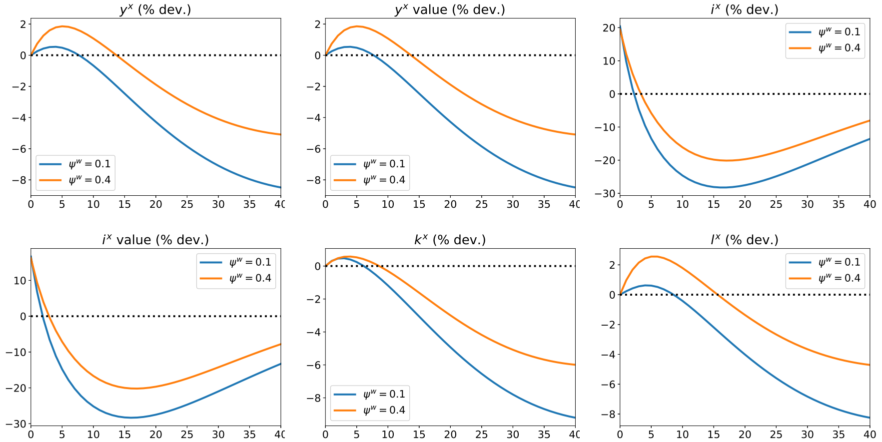
1% Hike in Interest Rate - Prices and Output



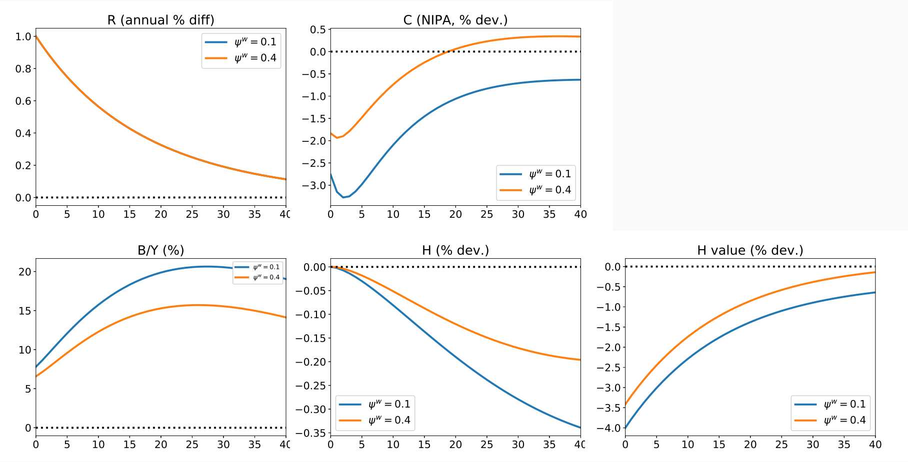
1% Hike in Interest Rate – Nontradable



1% Hike in Interest Rate - Export

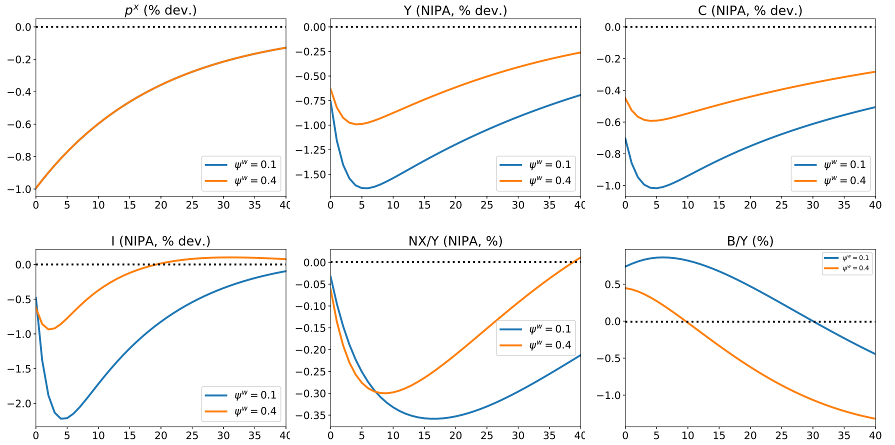


1% Hike in Interest Rate - HH



Export Price Shock

1% Drop in Export Price – Aggregates



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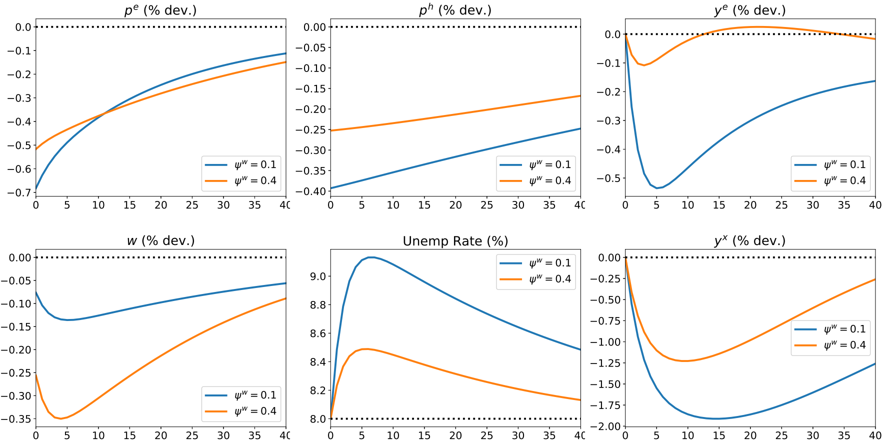
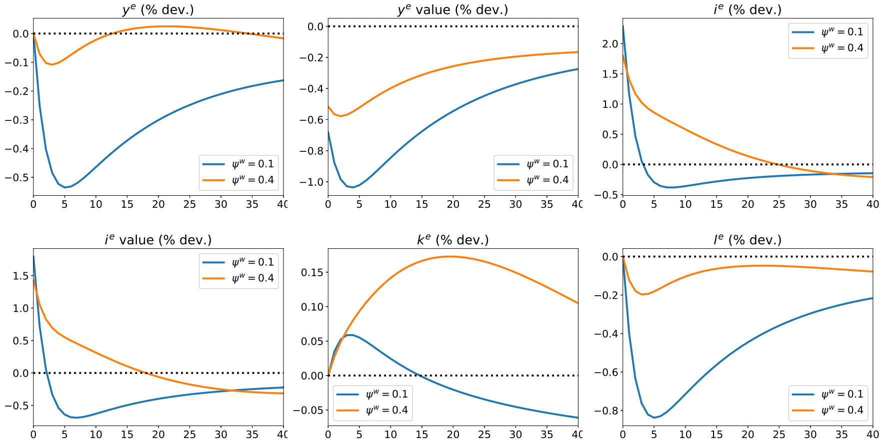


1% Drop in Export Price – Nontradable



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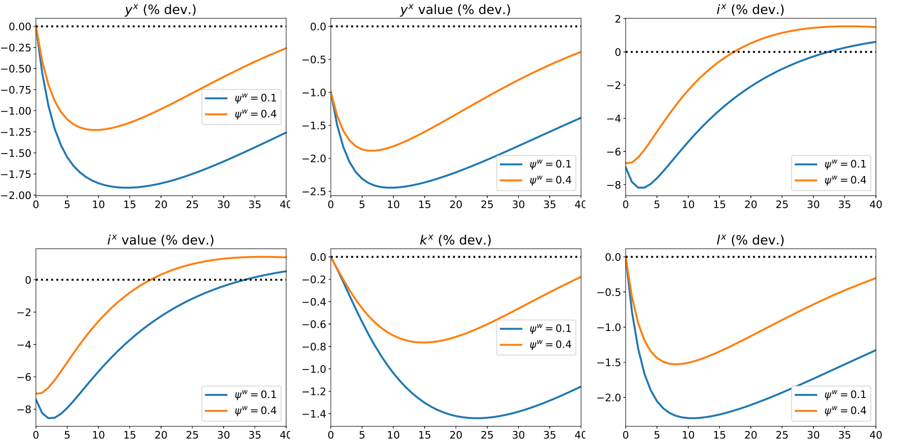

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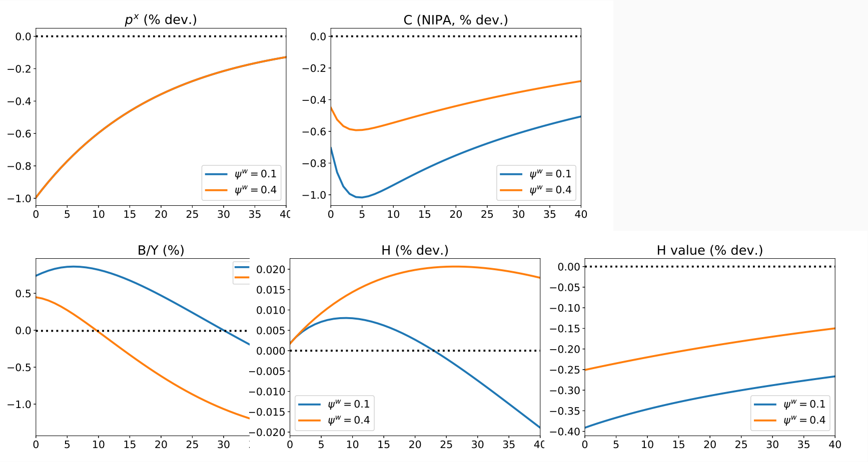

NIPA Definition

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- Expenditure Account: $GDP = C + I + NX$
  - $C = p^c C^{HH} - \underbrace{\bar{w}x_0}_{\text{home production}} + \underbrace{\alpha \times rp^h H^{HH}}_{\text{imputed rent}}$
  - $I = p^i(i^e + i^x) + p^h \times newH$
- Production Account:
  $GDP = p^e y^e + p^x y^x + p^h newH - \kappa * (v^e + v^x) - m^e - m^x - m^h$
- Distributional Account
  $GDP = w(l^e + l^x) + \pi^e + \pi^x + p^i \delta_k(k^e + k^x) + \underbrace{p^s s}_{\text{housing dep}}$

Back

TO DO

NIPA

- Less detail before equations
- shares because fixed factors are owned by local
- $imigrant = 0.001(y - y^{ss})$
- Permanent shock
- spell check
- smaller elasticity (Check literature)
- check NIPA again