Discussion of "The Cyclicality of the Opportunity Cost of Employment" by Gabriel Chodorow-Reich and Loukas Karabarbounis

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Framework for cyclical changes in z

z is the sum of the changes in four flow values upon taking a job

- ▶ reduction in benefits
- ▶ increase in utility from higher consumption, valued at marginal utility
- ▶ decrease in utility from higher work, valued at marginal utility
- ▶ the cost of the extra consumption of an employed individual

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z is thus surprisingly *procyclical* and positively correlated with productivity

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This paper is agnostic on the level and only studies the movements over time

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THE PAPER

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because productivity is not much correlated with unemployment—it's not the right driving force

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Hall (2013): high discount rates depress the capitalized value of a new hire

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THE DMP MODEL WITH NASH WAGE BARGAIN

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THE DMP MODEL WITH NASH WAGE BARGAIN

$$J = \frac{1+r}{r+s}(x - w) = \frac{c}{q}$$

$$w = (1 - \beta)z + \beta x + \beta c\theta$$

$$\frac{(1 - \beta)(x - z) - \beta c\theta}{r + s} = \frac{c}{q}$$

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TAMING THE NEGATIVE FEEDBACK THROUGH TIGHTNESS

$$w^x = (1 - \beta)z + \beta x + \beta c \bar{\theta}$$

Taming the negative feedback through tightness

$$w^x = (1 - \beta)z + \beta x + \beta c\bar{\theta}$$

$$w = \psi w^N + (1 - \psi)w^x$$

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Similar results in alternating-offer bargaining model of Hall-Milgrom, *AER* 2008

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In particular, productivity shocks are amplified

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FACT: TIGHTNESS θ AND HOURS PRODUCTIVITY x HAVE LOW CORRELATION
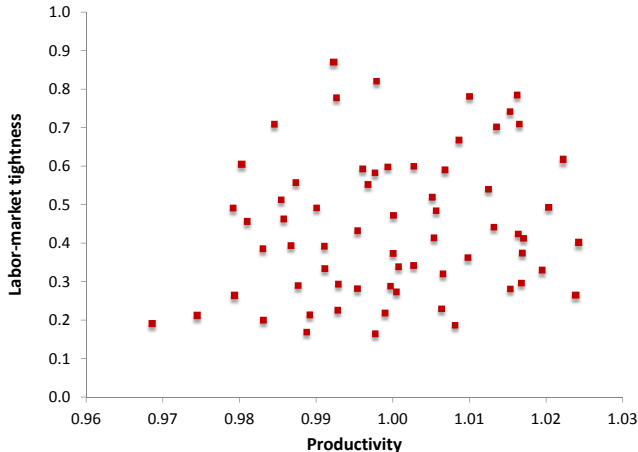
C-RK: Link z to productivity

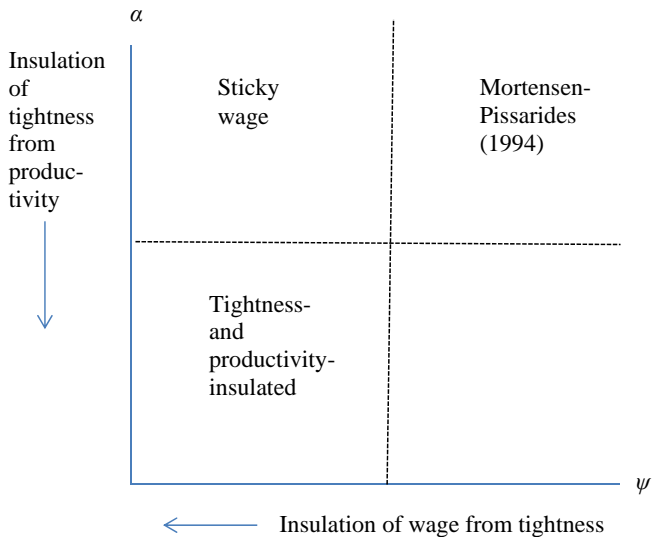$$z = [(1 - \alpha)x + \alpha\bar{x}]\bar{z}$$

C-RK: LINK z TO PRODUCTIVITY

$$z = [(1 - \alpha)x + \alpha\bar{x}]\bar{z}$$

Their finding of low α is exactly what is needed to prevent x from having spurious effects on unemployment—it saves the DMP models with other driving forces

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DMP MODELS WITHIN THE PARAMETER SPACE

α

Insulation
of
tightness
from
produc-
tivity

Sticky
wage

Mortensen-
Pissarides
(1994)

Tightness-
and
productivity-
insulated

ψ

← Insulation of wage from tightness

General strategy

$$\frac{(1-\beta)(x_t - z_t(\alpha)) - \beta c \hat{\theta}_t(\psi)}{r_t + s} = \frac{c}{q_t}$$

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Judge the reasonability of the resulting measure, within the (ψ, α) parameter space

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Standard Deviations of Implied Discount Rates within the Parameter Space, Percents at Annual Rates

		ψ: weight on tightness in wage determination										
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
	1	22	30	43	57	71	86	101	115	130	146	161
α: size of constant in non-market value	0.8	18	28	42	56	71	86	101	116	131	146	161
	0.6	15	27	41	56	71	86	101	116	132	147	162
	0.4	13	27	42	57	72	87	102	117	132	148	163
	0.2	12	27	42	57	72	88	103	118	133	149	164
	0	12	28	43	58	73	89	104	119	134	150	165

DISCOUNT RATE FOR THE LABOR MARKET AND THE LIVINGSTON PANEL'S RATE FOR THE STOCK MARKET
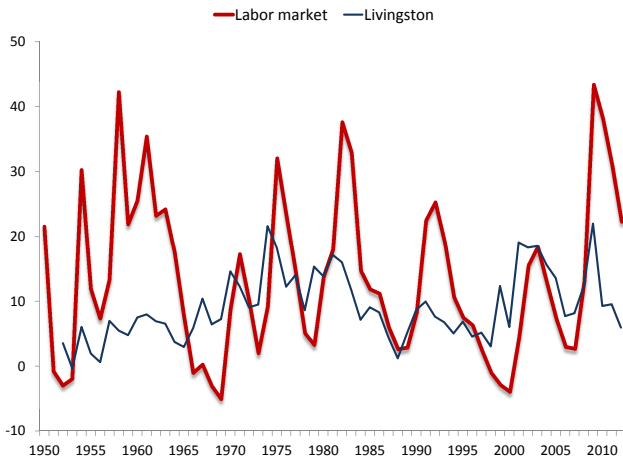
IMPLIED VOLATILITY OF THE DISCOUNT RATE IN THE CREDIBLE-BARGAINING MODEL

		δ: role of tightness in wage determination										
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
α: size of constant in non-market value	1	4.E+02	35	54	72	89	103	117	129	141	151	161
	0.8	5.E+02	33	53	72	89	104	117	130	141	152	161
	0.6	5.E+02	31	53	72	89	104	118	130	142	152	162
	0.4	382	30	53	73	90	105	119	131	143	153	163
	0.2	211	30	54	73	91	106	120	132	143	154	164
	0	2	32	55	75	92	107	121	133	145	155	165

Movements of z not related to productivity

Because the correlation of z with unemployment is bigger in magnitude than the correlation of productivity with unemployment, there is a component of z that is orthogonal to productivity but is negatively correlated with unemployment

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The next step is to plug C-RK's time series for z into the equilibrium condition and solve for one or more of these other driving forces

Conclusions

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Given liberation from productivity as a driving force, we
should pursue various driving forces potentially in
combination

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Variable hours

$$T = \frac{(x - w(x))h}{(r + s)c}$$

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$$T = \frac{\sqrt{\theta}}{\mu}$$

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$$T = \frac{xh - w(x)h}{(r + s)c_0}$$

Recruiting cost is per-worker

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$$T = \frac{(x - w(x))h}{(r + s)c_0}$$

$$T = \frac{xh - w(x)h}{(r + s)c_0}$$

$$T = \frac{xh - \frac{w(x)}{x}xh}{(r + s)c_0}$$

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COMBINE EFFECTS OF HOURLY PRODUCTIVITY AND HOURS INTO HOURS PER WORKER?

$$H = xh$$

Combine effects of hourly productivity and hours into hours per worker?

$$H = xh$$

$$T(H) = \frac{H - w_0 H}{(r + s)c_0}$$

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$$w(x) = w_0 x$$

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Productivity per worker should not be taken as a driving force in a setting where hours per worker are volatile. The condition for combining hours and hourly productivity into a single variable is much too restrictive to take that shortcut.

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The variability of hours per worker independent of variations in output per hour calls for further attention. If it is true that recruiting costs are per worker rather than per hour of work, the driving force that accounts for the variation in hours is also a driving force of tightness.

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