

Discussion of R. Hall's "Quantifying the Lasting Harm to the U.S. Economy from the Financial Crisis"

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Why is the output recovery slow after the 2007-9 financial crisis? What are the prospect of recovery?

Extend the Solow-type growth accounting

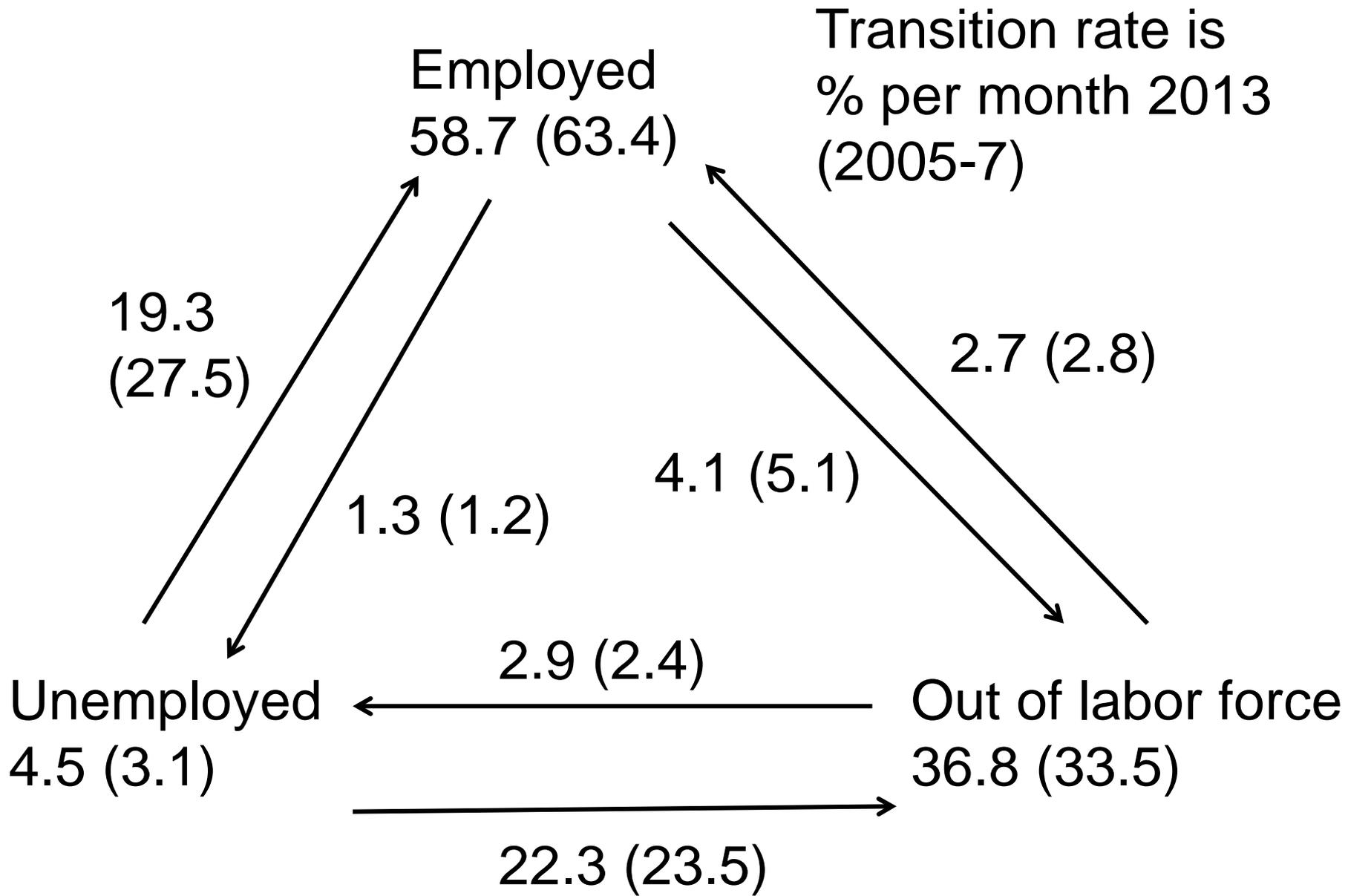
$$Y_t = Z_t K_t^{0.38} (H_t E_t P_t N_t O_t)^{0.62}$$

Contribution	Y_t	Z_t	K_t	H_t	E_t	P_t	N_t	O_t
2007-10	12.4	3.1	2.1	1.6	3.5	1.2	0.8	0.1
2007-13	13.3	3.5	3.9	0.8	2.2	2.4	1.3	-0.8

% fall from the 1990-2007 trend

Expect the eventual recovery of E_t and K_t . The recovery of Z_t and P_t is uncertain

Many fascinating observations



Critical Comments

1. Need a theoretical framework to analyze the dynamics of worker between employed, unemployed and out of labor force

The model of reservation and offered wages describes the decision between employment vs non-employment, not labor force participation

2. An alternative decomposition of employment-population ratio (Jessie Liu's senior thesis)

$$\frac{\text{Employment}_t}{\text{Population}_t} = \frac{\sum_i EM_{it}}{\sum_i N_i} = \sum_i \frac{EM_{it}}{LF_{it}} \frac{LF_{it}}{N_{it}} \frac{N_{it}}{N_t} = \sum_i e_{it} p_{it} n_{it}$$

$$\text{Effect of employment rate: } \sum_i e_{it} p_{i0} n_{i0}$$

$$\text{Effect of participation: } \sum_i e_{i0} p_{it} n_{i0}$$

$$\text{Effect of demography: } \sum_i e_{i0} p_{i0} n_{it}$$

Effect of employment rate dominates in the short run with participation in the second

Effect of the labor force participation rate dominates in the long run with demography in the second

Labor force participation is heterogeneous

Age, sex and business cycle matter: In here

Cohort and race matter: Not in here

Labor force participation of a newer cohort is higher for female until 1998, and lower for male (except for the old)

Black labor force participation rate is lower than white for male and equal for female on average, and is more volatile

Hispanic labor force participation rate is higher than white for male, is lower for female, and the gaps are shrinking

3. A general equilibrium model is needed to analyze interactions between labor, capital and TFP, especially with financial and real frictions

Production is not on the aggregate production frontier

Businesses reduce investment in intangible capital during and after the crisis

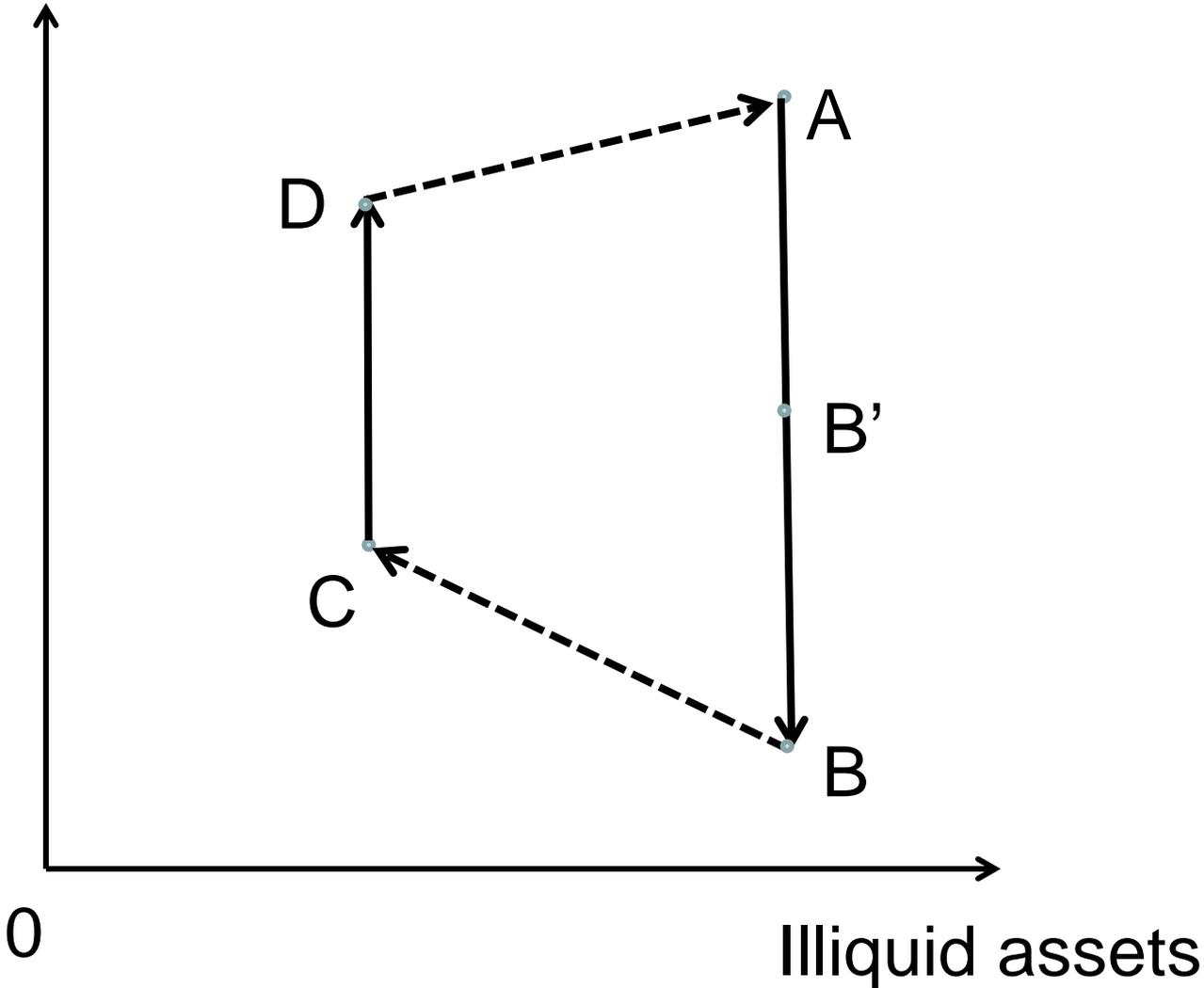
Reduce hiring young permanent workers and training them

Reduce investment in R&D and brand

→ Slower growth in TFP and capital stock

Real rigidity and financial friction

Liquid assets



A. Caggese "Financial constraints, irreversibility and investment dynamics," J. Monetary Economics (2007)