Table 1: Calibration

Macroeconomic Parameters		
γ	0.36	Capital's Share of Income
$\daleth$	$0.94^{1/4}$	Depreciation Factor
σ^2_Θ	0.00001	Variance Aggregate Transitory Shocks
σ^2_Ψ	0.00004	Variance Aggregate Permanent Shocks
Steady State of Perfect Foresight DSGE Model		
$(\sigma_\Psi = \sigma_\Theta = \sigma_\psi = \sigma_\theta = \wp = \mathsf{D} = 0,\ \Phi_t = 1)$		
$\breve{K}/\breve{K}^{\varepsilon}$	12.0	SS Capital to Output Ratio
$\breve{K}$	≈ 48.55	SS Capital to Labor Productivity Ratio ($= 12^{1/(1-\varepsilon)}$)
$\breve{\mathsf{W}}$	≈ 2.59	SS Wage Rate ($= (1-\varepsilon)\breve{K}^{\epsilon}$)
$\breve{\mathsf{r}}$	$= 0.03$	SS Interest Rate ($= \varepsilon \breve{K}^{\varepsilon-1}$)
$\breve{\mathcal{R}}$	≈ 1.015	SS Between-Period Return Factor ($= \daleth + \breve{\mathsf{r}}$)
Preference Parameters		
ρ	2.	Coefficient of Relative Risk Aversion
β_{SOE}	≈ 0.963	SOE Discount Factor ($= 0.99 \cdot \not{D}/(\breve{\mathcal{R}}\mathbb{E}[\boldsymbol{\psi}^{-\rho}])$)
β_{DSGE}	≈ 0.986	HA-DSGE Discount Factor ($= \breve{\mathcal{R}}^{-1}$)
Π	0.25	Probability of Updating Expectations (if Sticky)
Idiosyncratic Shock Parameters		
σ^2_θ	0.120	Variance Idiosyncratic Tran Shocks (=4× Annual)
σ^2_ψ	0.003	Variance Idiosyncratic Perm Shocks (=$\frac{1}{4}$× Annual)
$\wp$	0.050	Probability of Unemployment Spell
D	0.005	Probability of Mortality

Table 2: Equilibrium Statistics

	SOE Model		HA-DSGE Model	
	Frictionless	Sticky	Frictionless	Sticky
Means				
A	7.76	7.70	59.95	59.82
C	2.71	2.71	3.48	3.48
Standard Deviations				
Aggregate Time Series ('Macro')				
$\log A$	0.344	0.333	0.276	0.273
$\Delta \log \mathbf{C}$	0.011	0.007	0.010	0.005
$\Delta \log \mathbf{Y}$	0.011	0.011	0.008	0.008
Individual Cross Sectional ('Micro')				
$\log \mathbf{a}$	1.028	1.030	1.006	1.006
$\log \mathbf{c}$	0.926	0.927	0.687	0.688
$\log p$	0.938	0.938	0.938	0.938
$\log \mathbf{y} \vert \mathbf{y} > 0$	0.995	0.995	0.995	0.995
$\Delta \log \mathbf{c}$	0.099	0.100	0.056	0.057
Cost of Stickiness	5.06e–4		4.79e–4	

Notes: The cost of stickiness is calculated as the proportion by which the permanent income of a newborn frictionless consumer would need to be reduced in order to achieve the same reduction of expected value associated with forcing them to become a sticky expectations consumer.

Table 3: Placeholder for Empirical US table

Table 4: Micro Consumption Regression on Simulated Data

$$\Delta \log \mathbf{c}_{t+1,i} \quad = \quad \varsigma + \chi \Delta \log \mathbf{c}_{t,i} + \eta \mathbb{E}_{t,i}[\Delta \log \mathbf{y}_{t+1,i}] + \alpha \underline{a}_{t,i}$$

Model of Expectations	χ	η	α	$\bar{R}^2$
Frictionless				
	0.020			0.000
	(–)			
		0.011		0.003
		(–)		
			−0.187	0.009
			(–)	
	0.052	0.014	−0.181	0.014
	(–)	(–)	(–)	
Sticky				
	0.013			0.000
	(–)			
		0.011		0.003
		(–)		
			−0.188	0.009
			(–)	
	0.043	0.013	−0.182	0.013
	(–)	(–)	(–)	

Notes: $\mathbb{E}_{t,i}$ is the expectation from the perspective of person i in period t; $\bar{a}$ is a dummy variable indicating that agent i is in the top 99 percent of the normalized a distribution. Simulated sample size is large enough such that standard errors are effectively zero. Sample is restricted to households with positive income in period t. The notation "(—)" indicates that standard errors are close to zero, given the very large simulated sample size.

Table 5: Aggregate Consumption Dynamics in SOE Model

$$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$$

Expectations : Dep Var Independent Variables			OLS or IV	2nd Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
$0.287^{\bullet\bullet\bullet}$			OLS	0.083	
(0.066)					
$0.643^{\bullet\bullet}$			IV	0.037	0.245
(0.312)					0.586
	$0.436^{\bullet\bullet}$		IV	0.032	0.071
	(0.211)				0.434
		−6.19e–4	IV	0.025	0.000
		(5.57e–4)			0.367
0.407	0.245	0.31e–4	IV	0.038	0.528
(0.440)	(0.368)	(9.11e–4)			0.541
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.037$; var$(\xi_t) = 6.14$e–6					
Sticky : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
$0.501^{\bullet\bullet\bullet}$			OLS	0.256	
(0.059)					
$0.799^{\bullet\bullet\bullet}$			IV	0.252	0.000
(0.105)					0.545
	$0.828^{\bullet\bullet\bullet}$		IV	0.188	0.072
	(0.183)				0.239
		−7.58e–4$^{\bullet\bullet}$	IV	0.063	0.000
		(3.75e–4)			0.001
$0.663^{\bullet\bullet\bullet}$	0.181	0.49e–4	IV	0.254	0.376
(0.183)	(0.260)	(4.65e–4)			0.549
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.253$; var$(\xi_t) = 6.14$e–6					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.

Table 6: Aggregate Consumption Dynamics in HA-DSGE Model

$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$

Expectations : Dep Var Independent Variables			OLS or IV	2^{nd} Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
$0.185^{\bullet\bullet}$			OLS	0.035	
(0.073)					
0.461			IV	0.018	0.318
(0.350)					0.556
	0.339		IV	0.016	0.141
	(0.309)				0.463
		−0.34e–4	IV	0.015	0.000
		(0.93e–4)			0.443
0.283	0.181	−0.06e–4	IV	0.019	0.596
(0.475)	(0.561)	(1.74e–4)			0.545
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.022$; var$(\xi_t) = 4.22$e–6					
Sticky : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
$0.461^{\bullet\bullet\bullet}$			OLS	0.217	
(0.061)					
$0.772^{\bullet\bullet\bullet}$			IV	0.227	0.000
(0.107)					0.533
	$0.841^{\bullet\bullet\bullet}$		IV	0.136	0.139
	(0.241)				0.197
		$-0.95\text{e–}4^{\bullet}$	IV	0.058	0.000
		(0.52e–4)			0.002
$0.676^{\bullet\bullet\bullet}$	0.150	0.08e–4	IV	0.228	0.481
(0.177)	(0.332)	(0.79e–4)			0.555
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.230$; var$(\xi_t) = 4.22$e–6					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.

Table 7: Aggregate Consumption Dynamics in RA Model

$$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$$

Expectations : Dep Var Independent Variables			OLS or IV	2nd Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
-0.015			OLS	0.002	
(0.077)					
0.403			IV	0.015	0.360
(0.391)					0.581
	0.395		IV	0.017	0.078
	(0.307)				0.471
		$-0.27\text{e–}4$	IV	0.016	0.000
		(1.08e–4)			0.490
0.133	0.267	0.11e–4	IV	0.019	0.561
(0.528)	(0.586)	(2.13e–4)			0.579
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.018$; var$(\xi_t) = 3.33\text{e–}6$					
Sticky : $\Delta \log \mathbf{C}^*_{t+1}$ (with measurement error $\mathbf{C}^*_t = \mathbf{C}_t \times \xi_t$);					
$\Delta \log \mathbf{C}^*_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.412•••			OLS	0.179	
(0.063)					
0.789•••			IV	0.184	0.001
(0.136)					0.541
	0.650•••		IV	0.130	0.077
	(0.162)				0.185
		$-0.49\text{e–}4$	IV	0.076	0.000
		(0.50e–4)			0.023
0.638•••	0.114	0.10e–4	IV	0.185	0.322
(0.225)	(0.290)	(0.78e–4)			0.494
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}^*_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.187$; var$(\xi_t) = 3.33\text{e–}6$					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.

Table 8: Aggregate Consumption Dynamics in SOE Model

$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$

Expectations : Dep Var Independent Variables			OLS or IV	2$^{\text{nd}}$ Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.384$^{\bullet\bullet\bullet}$			OLS	0.148	
(0.063)					
0.674$^{\bullet\bullet}$			IV	0.045	0.215
(0.287)					0.567
	0.446$^{\bullet\bullet}$		IV	0.037	0.073
	(0.197)				0.407
		−6.22e–4	IV	0.028	0.000
		(5.26e–4)			0.345
0.459	0.252	0.61e–4	IV	0.046	0.532
(0.410)	(0.337)	(8.42e–4)			0.514
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.044$					
Sticky : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.864$^{\bullet\bullet\bullet}$			OLS	0.747	
(0.035)					
0.825$^{\bullet\bullet\bullet}$			IV	0.381	0.000
(0.046)					0.321
	0.840$^{\bullet\bullet\bullet}$		IV	0.261	0.067
	(0.164)				0.136
		−7.58e–4$^{\bullet\bullet}$	IV	0.086	0.000
		(3.12e–4)			0.000
0.730$^{\bullet\bullet\bullet}$	0.130	0.62e–4	IV	0.381	0.333
(0.076)	(0.111)	(2.06e–4)			0.379
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.372$					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.

Table 9: Aggregate Consumption Dynamics in HA-DSGE Model

$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$

Expectations : Dep Var Independent Variables			OLS or IV	2nd Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.252$^{\bullet\bullet\bullet}$			OLS	0.064	
(0.072)					
0.499			IV	0.023	0.292
(0.337)					0.541
	0.344		IV	0.018	0.139
	(0.295)				0.445
		−0.35e–4	IV	0.017	0.000
		(0.88e–4)			0.426
0.324	0.205	−0.01e–4	IV	0.024	0.592
(0.484)	(0.551)	(1.74e–4)			0.535
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.026$					
Sticky : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.834$^{\bullet\bullet\bullet}$			OLS	0.696	
(0.040)					
0.802$^{\bullet\bullet\bullet}$			IV	0.355	0.000
(0.051)					0.365
	0.852$^{\bullet\bullet\bullet}$		IV	0.195	0.133
	(0.222)				0.120
		−0.95e–4$^{\bullet\bullet}$	IV	0.082	0.000
		(0.43e–4)			0.000
0.739$^{\bullet\bullet\bullet}$	0.102	0.12e–4	IV	0.355	0.437
(0.085)	(0.162)	(0.39e–4)			0.469
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.348$					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.

Table 10: Aggregate Consumption Dynamics in RA Model

$\Delta \log \mathbf{C}_{t+1} = \varsigma + \chi \Delta \log \mathbf{C}_t + \eta \mathbb{E}_t[\Delta \log \mathbf{Y}_{t+1}] + \alpha A_t + \epsilon_{t+1}$

Expectations : Dep Var Independent Variables			OLS or IV	2^{nd} Stage $\bar{R}^2$	KP p-val Hansen J p-val
Frictionless : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.017			OLS	0.003	
(0.078)					
0.421			IV	0.017	0.339
(0.378)					0.569
	0.378		IV	0.018	0.077
	(0.294)				0.453
		−0.27e–4	IV	0.018	0.000
		(1.04e–4)			0.472
0.126	0.202	0.20e–4	IV	0.021	0.531
(0.525)	(0.555)	(2.04e–4)			0.582
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.020$					
Sticky : $\Delta \log \mathbf{C}_{t+1}$ (no measurement error)					
$\Delta \log \mathbf{C}_t$	$\Delta \log \mathbf{Y}_{t+1}$	A_t			
0.790•••			OLS	0.625	
(0.044)					
0.825•••			IV	0.306	0.000
(0.069)					0.401
	0.684•••		IV	0.195	0.068
	(0.147)				0.106
		−0.50e–4	IV	0.107	0.000
		(0.41e–4)			0.003
0.725•••	0.078	0.15e–4	IV	0.305	0.275
(0.112)	(0.142)	(0.40e–4)			0.431
Memo: For instruments $\mathbf{Z}_t$, $\Delta \log \mathbf{C}_{t+1} = \mathbf{Z}_t \zeta$, $\bar{R}^2 = 0.298$					

Notes: Reported statistics are the average values for 100 samples of 200 simulated quarters each. Bullets indicate that the average sample coefficient divided by average sample standard error is outside of the inner 90%, 95%, and 99% of the standard normal distribution. Instruments $\mathbf{Z}_t = \{\Delta \log \mathbf{C}_{t-2}, \Delta \log \mathbf{C}_{t-3}, \Delta \log \mathbf{Y}_{t-2}, \Delta \log \mathbf{Y}_{t-3}, A_{t-2}, A_{t-3}, \Delta_8 \log \mathbf{C}_{t-2}, \Delta_8 \log \mathbf{Y}_{t-2}\}$.