

TABLE 2. VARIANCE DECOMPOSITION OF PRODUCTIVITY GROWTH, LABOR, AND INVESTMENT SHARE  
(Means and Root Mean Squared Errors)

	What Fraction of Variance is Due to $\varepsilon_z$ ?			What Fraction of Variance is Due to $\varepsilon_l$ ?			What Fraction of Variance is Due to $\varepsilon_x$ ?		
	$\Delta \log y_t/l_t$	$\log l_t$	$\log x_t/y_t$	$\Delta \log y_t/l_t$	$\log l_t$	$\log x_t/y_t$	$\Delta \log y_t/l_t$	$\log l_t$	$\log x_t/y_t$
True	45	3.4	8.9	36	69	19	19	28	72
Restricted SS									
Tight constraints	46 (4.0)	3.4 (.9)	9.4 (3.1)	35 (7.0)	68 (12)	20 (8.5)	19 (6.6)	29 (12)	71 (11)
Modest constraints	48 (6.9)	3.5 (1.9)	10 (5.6)	36 (8.0)	70 (14)	23 (14)	17 (8.5)	26 (14)	66 (17)
Loose constraints	46 (9.3)	5.6 (8.2)	12 (12)	34 (10)	68 (23)	25 (22)	20 (15)	27 (19)	63 (22)
Unrestricted SS	40 (23)	13 (21)	15 (22)	33 (24)	50 (35)	33 (30)	27 (25)	38 (20)	52 (35)
VARMA	45 (30)	3.4 (40)	8.9 (35)	–	–	–	–	–	–

NOTES: For each model, parameters are estimated by the method of maximum likelihood. This is done for 1000 datasets of length 200 periods. The estimated parameters are used to compute the variance decompositions reported in the table.  $\Delta \log y_t/l_t$  is the growth in labor productivity,  $y_t$  is output,  $l_t$  is labor, and  $x_t$  is investment. ‘SS’ indicates state space model and ‘VARMA’ indicates vector autoregressive moving average model of order (1,1). For the ‘Tight constraints’ case of the restricted state space model, only  $\psi$ ,  $\sigma$ , and the stochastic processes of the exogenous shocks are estimated. For the ‘Modest constraints,’ all parameters are estimated but the parameters are constrained to be economically plausible. For the ‘Loose constraints’ case, the only restriction imposed is that an equilibrium can be computed. The numbers in parentheses are the root mean square errors. Some statistics are not reported for the VARMA representation because they are not identifiable.