

# Myopic Labor Union

December 22, 2017

## 1 Tables with Results

	No tax	Union tax
$\tau_0$	0.00000	0.38401
$\bar{\tau}$	0.00000	0.33451
Welfare (weighted)	-10.29027	-11.17113
Welfare workers	-5.86690	-5.99304
Welfare entrepreneurs	-19.13699	-21.52730

Experiment	Total welfare	Worker welfare	Entrepreneur welfare
Optimal policy	-0.03003	-0.00378	-0.11265

## 2 Parameters and functional forms

### 2.1 Functional forms etc.

- Occupational choice: No
- Workers save: No
- Decreasing returns to scale: Yes
- Productivity process: Ornstein-Uhlenbeck,  $d \log(z) = -\nu \log(z)dt + \sigma dW$
- Period utility function:

$$u(c, l) = (1 - \gamma)^{-1} c^{1-\gamma} - \nu(l), \quad \nu(l) = (1 + 1/\chi)^{-1} l^{1+1/\chi}$$

- Production function:  $y = F(z, k, n) = zA((k - f_k)^+)^{\alpha}((n - f_n)^+)^{\beta}$
- Tax schedule:  $\tau_l(t) = \bar{\tau}_l + e^{-\gamma t}(\tau_{l,0} - \bar{\tau}_l)$

## 2.2 Parameter values

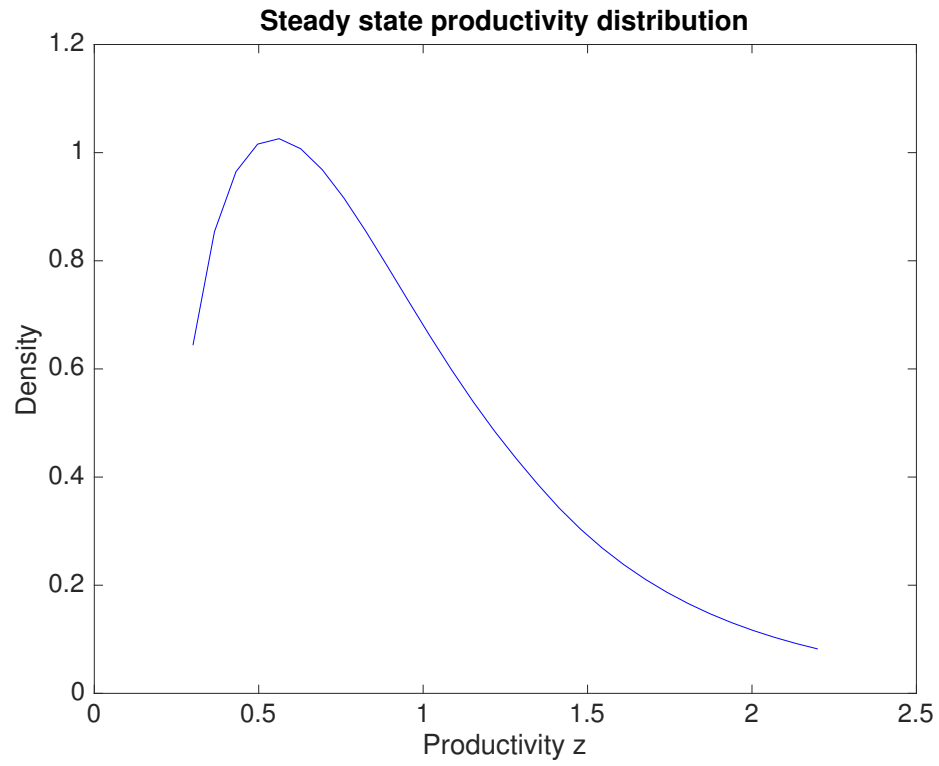
Pareto weight workers		0.667
Population share of workers	$popshare$	0.667
Total population	$popmass$	1.000
Discount rate entrepreneurs	$\rho_e$	0.050
Discount rate workers	$\rho_w$	0.030
Relative risk aversion	$\gamma$	1.000
Inverse Frisch elasticity	$\varphi$	1.000
Depreciation rate	$\delta$	0.000
Death rate	$\theta$	0.000
Fixed cost capital	$f_k$	0.000
Fixed cost labor	$f_n$	0.000
Financial constraint parameter	$\lambda$	2.000
Common TFP parameter	$A$	1.000
Capital share	$\alpha$	0.297
Labor share	$\beta$	0.603
Returns to scale	$\alpha + \beta$	0.900
Interest rate	$r^*$	0.030
Effect of productivity on effective labor supply	$\eta$	0.000
Productivity drift parameter	$\nu$	0.163
Productivity yearly autocorrelation	$e^{-\nu}$	0.850
Productivity standard deviation parameter	$\sigma$	0.300
Productivity mean	$\bar{z}$	1.148
Poisson arrival rate		0.100
Parameter of Pareto distribution of Poisson shocks		1.100
Contraction of initial distribution	$\chi$	0.100

## 2.3 Iteration parameters

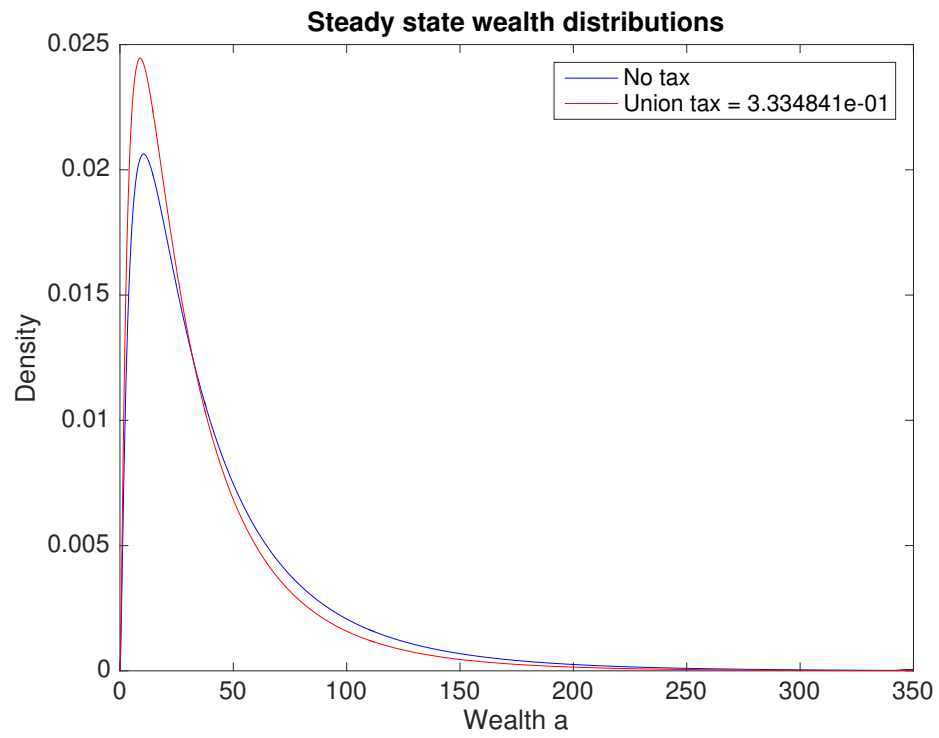
Number of grid points assets	$I$	200.000
Number of grid points productivity	$J$	30.000
Number of grid points time	$N$	150.000
Number of time periods	$T$	150.000
Max assets	$a_{max}$	350.000
Mean wealth relative to steady state		0.100

### 3 Figures

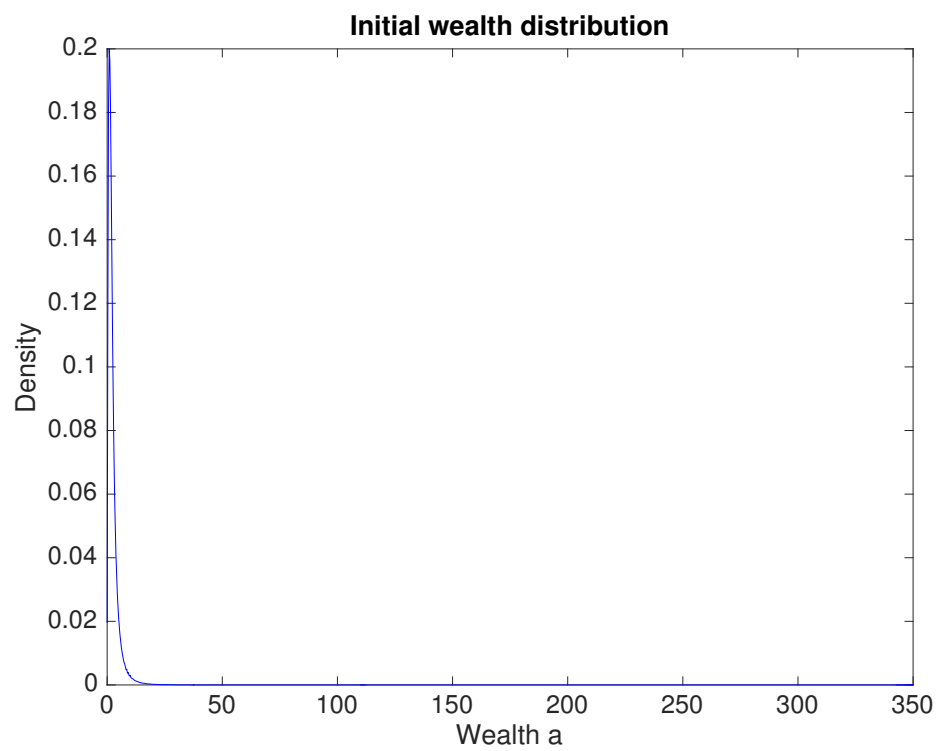
Union steady state tax rate = 0.333



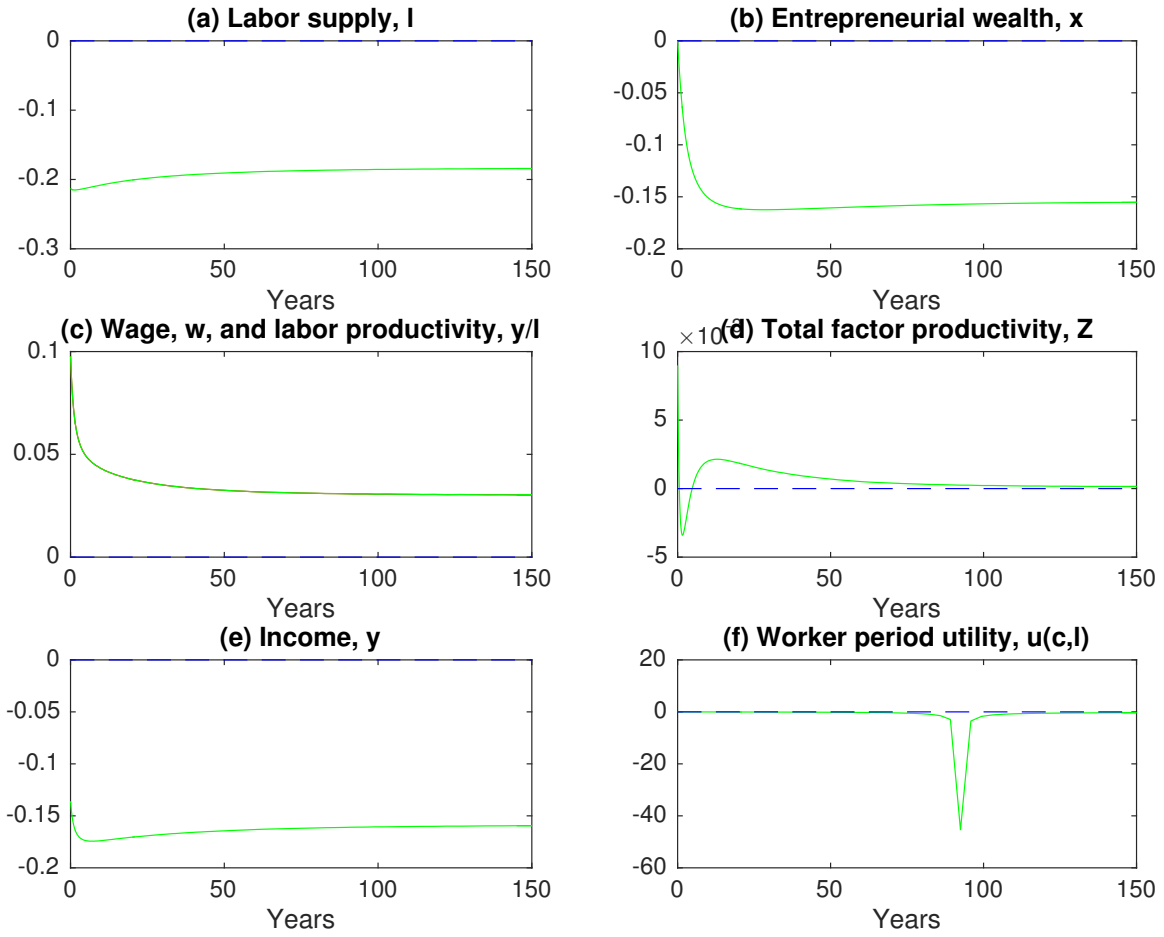
**Figure 1**



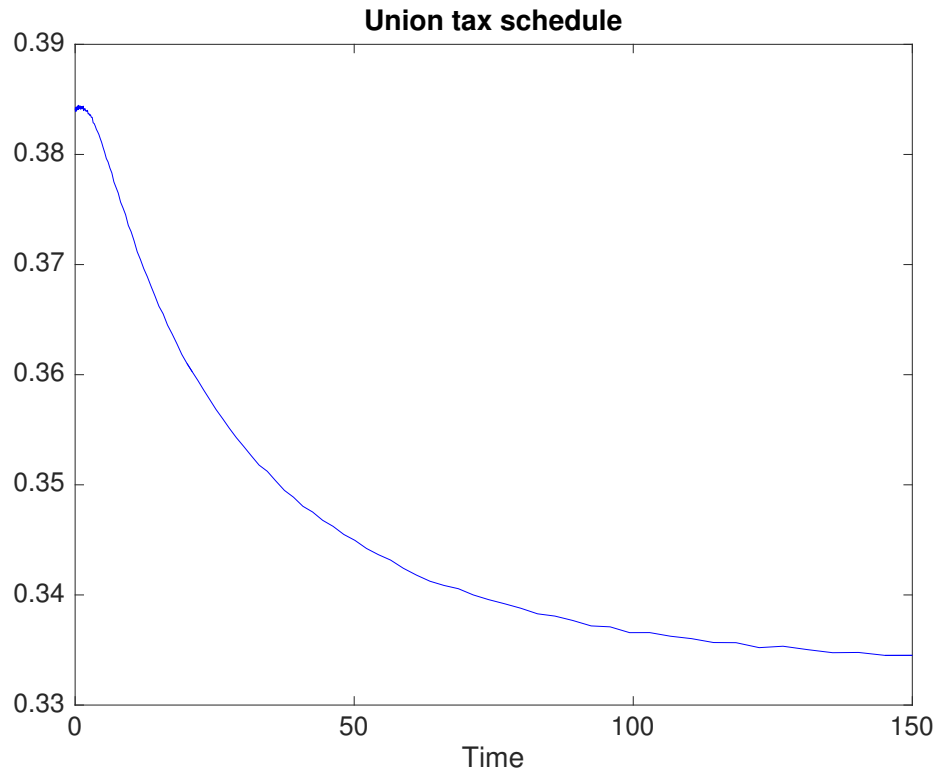
**Figure 2**



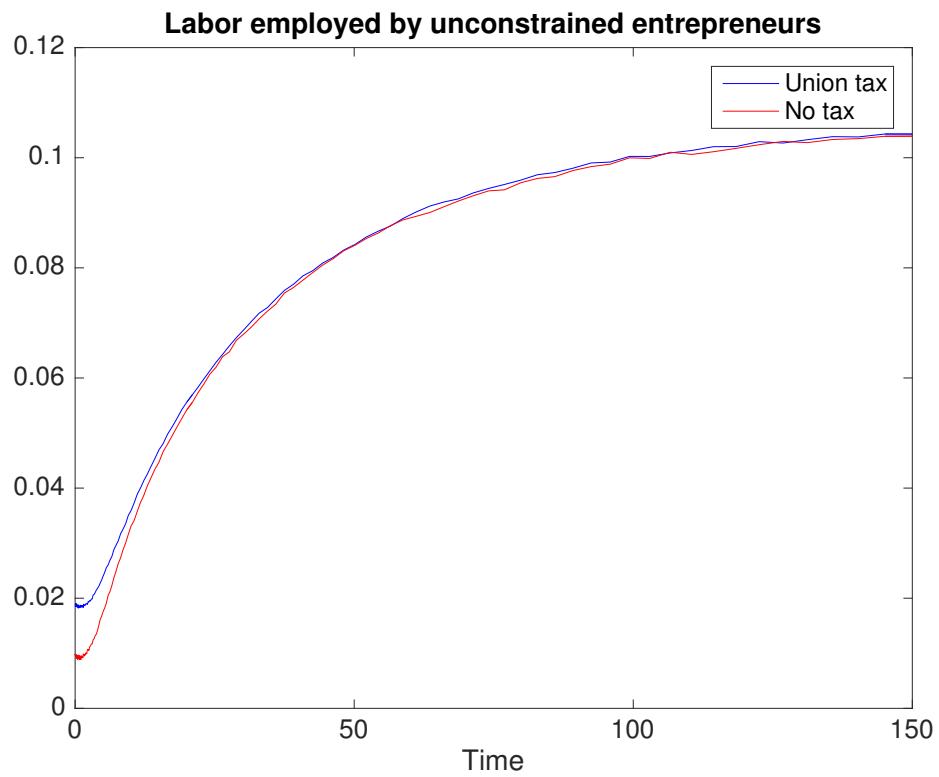
**Figure 3**



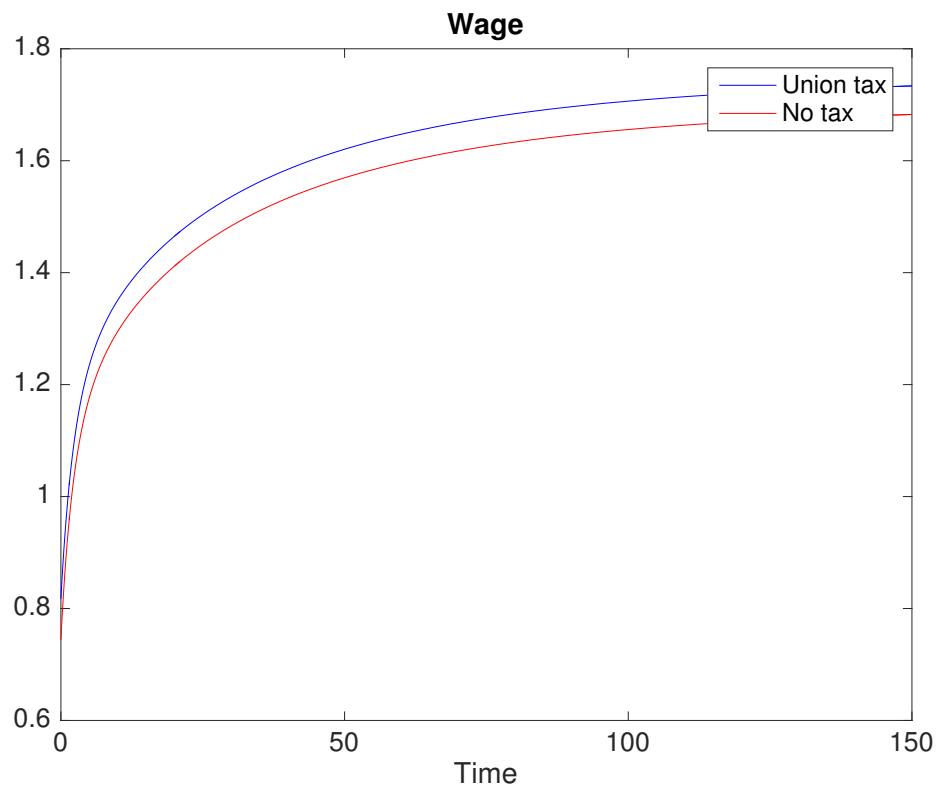
**Figure 4** – Proportional deviations of optimal tax equilibrium from the laissez-faire equilibrium



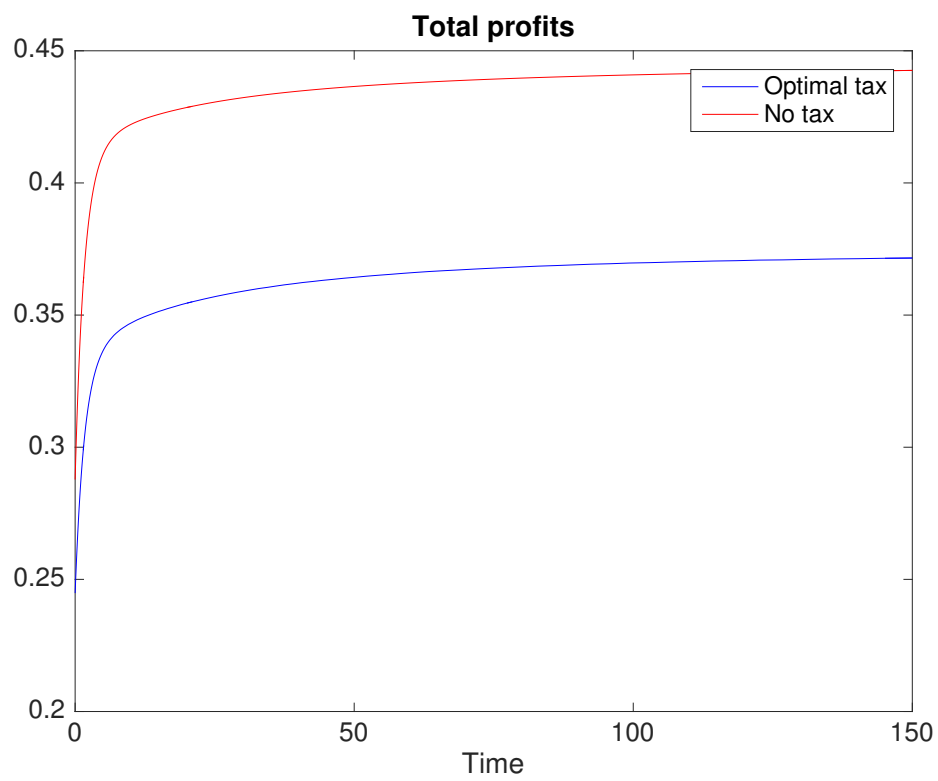
**Figure 5**



**Figure 6**



**Figure 7**



**Figure 8**



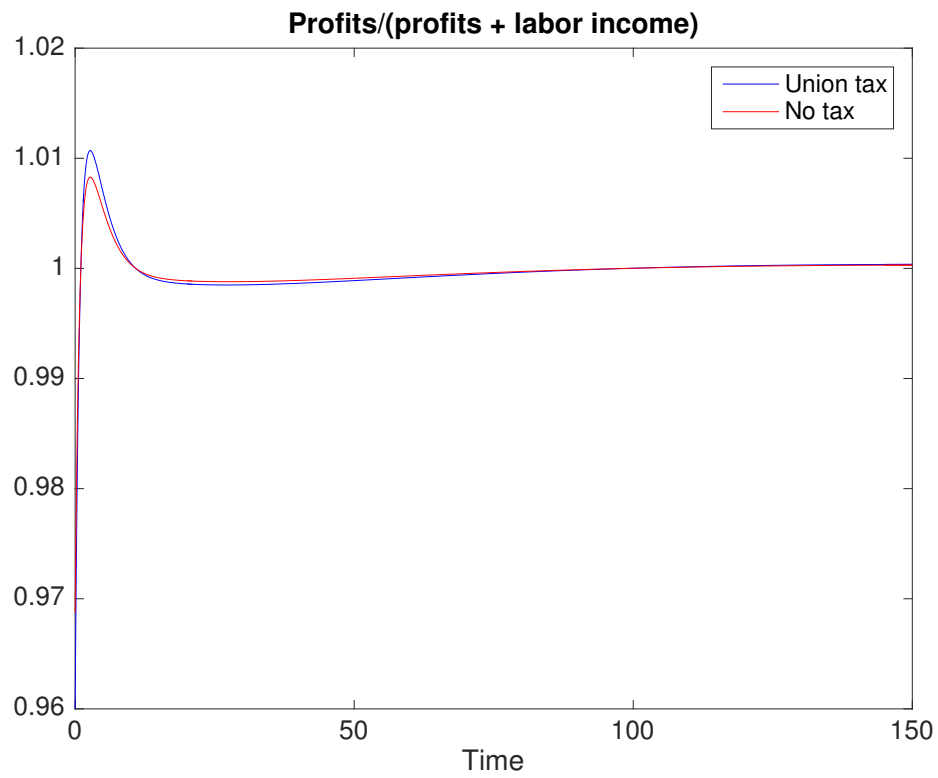


Figure 9

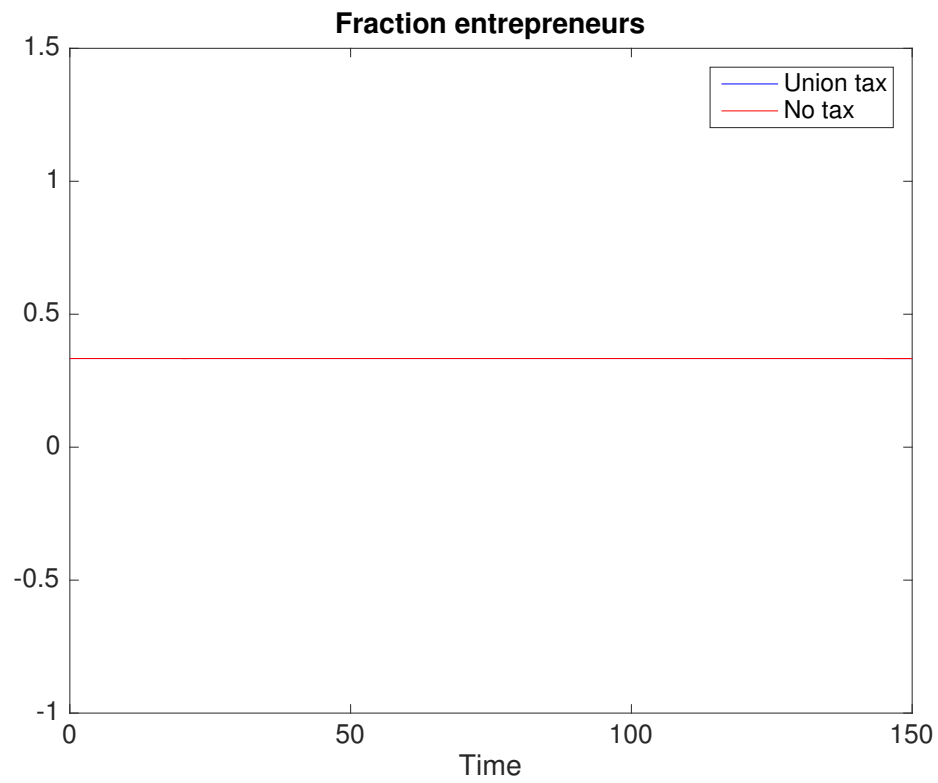
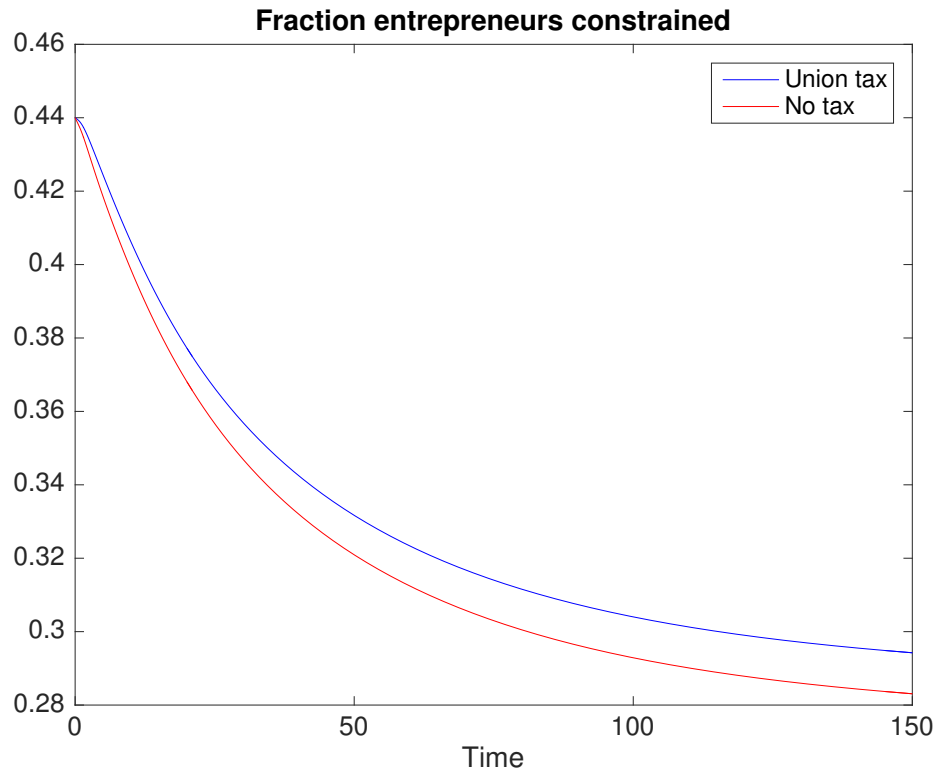
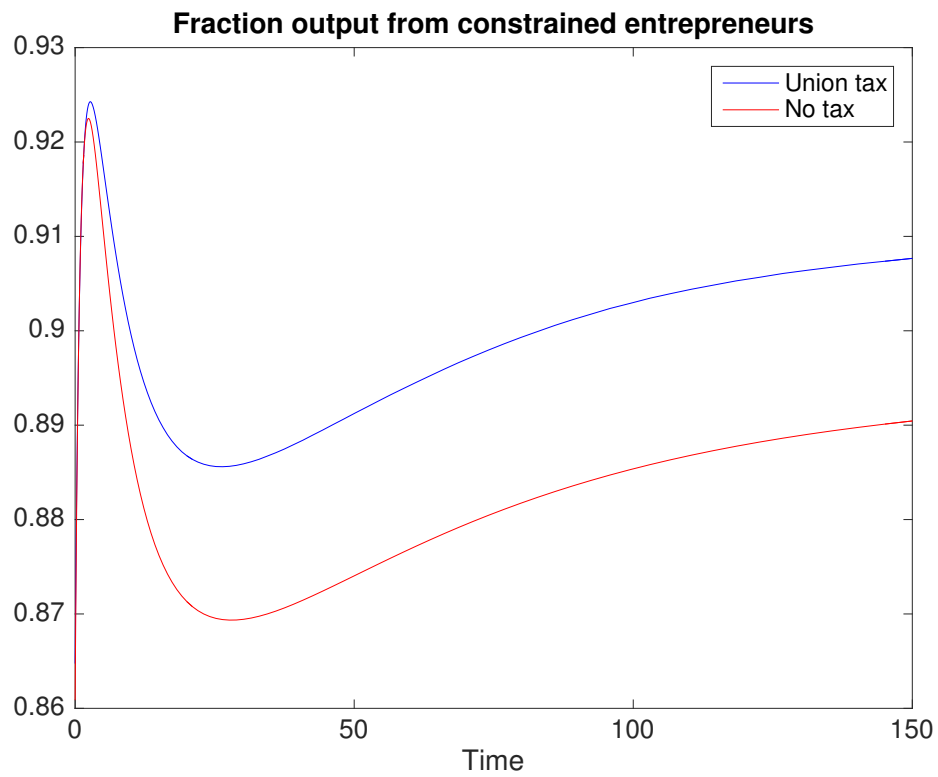


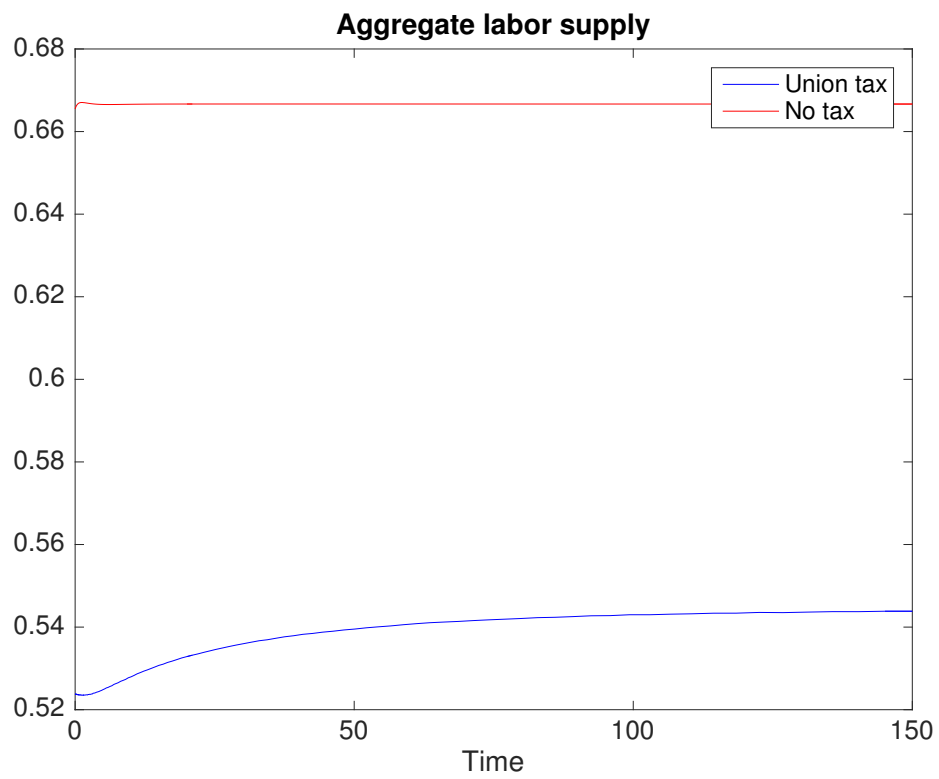
Figure 10



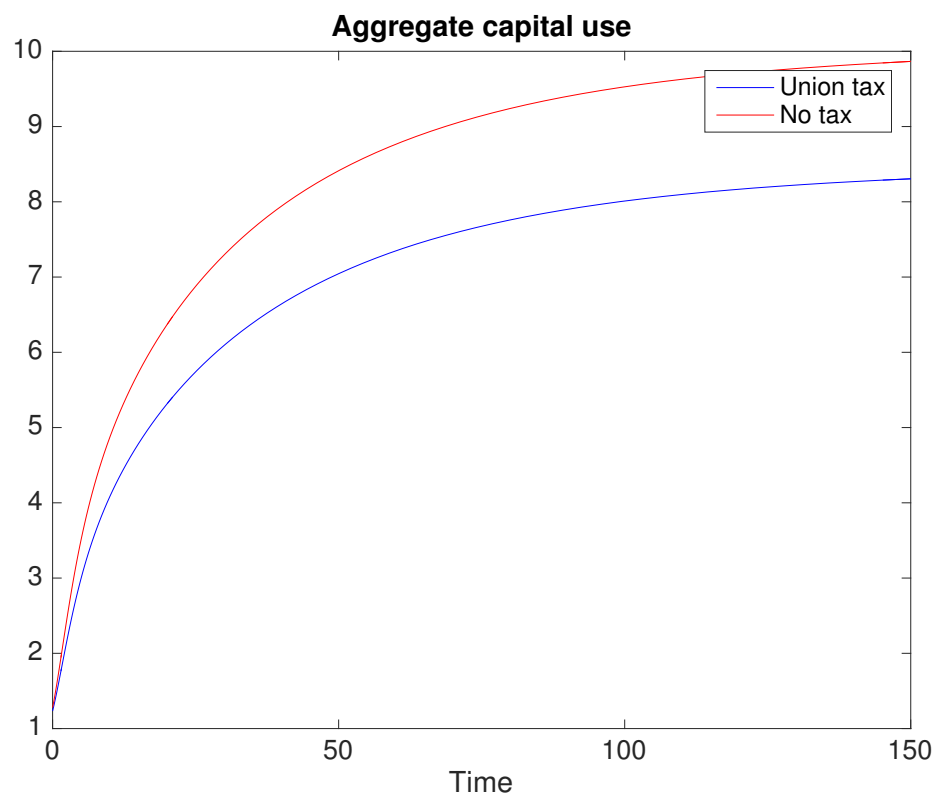
**Figure 11**



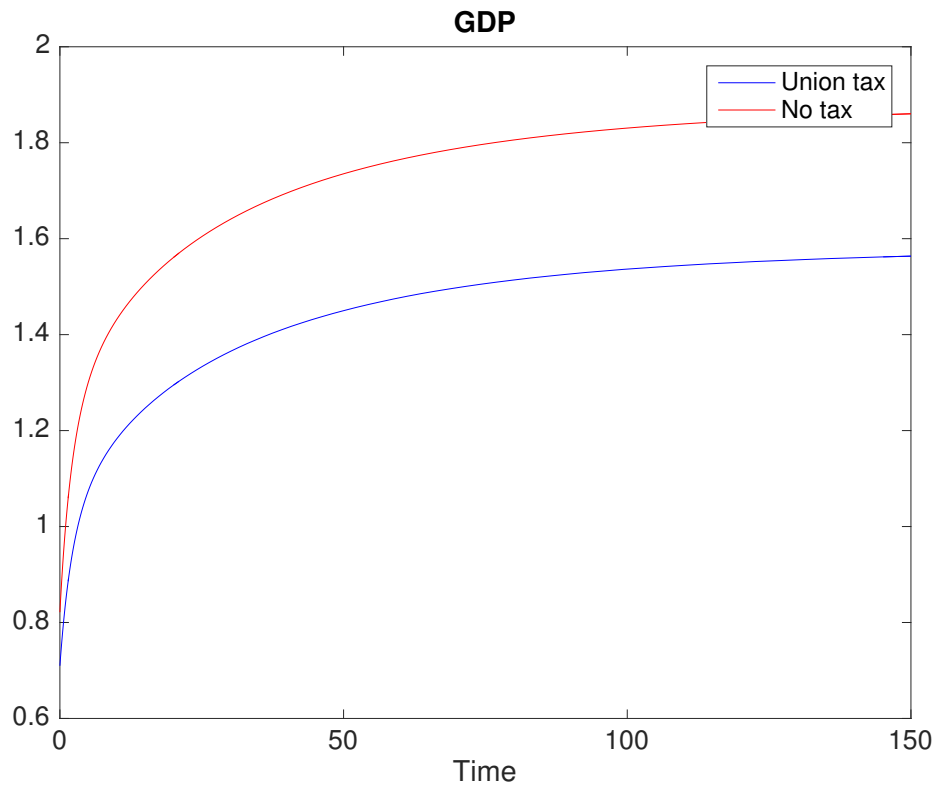
**Figure 12**



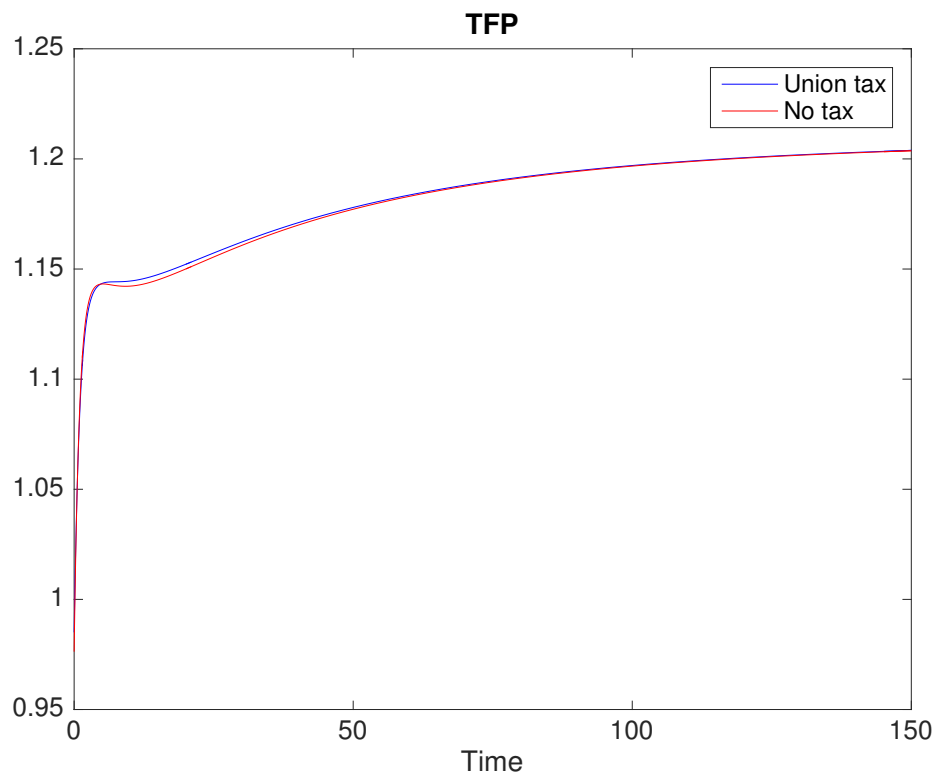
**Figure 13**



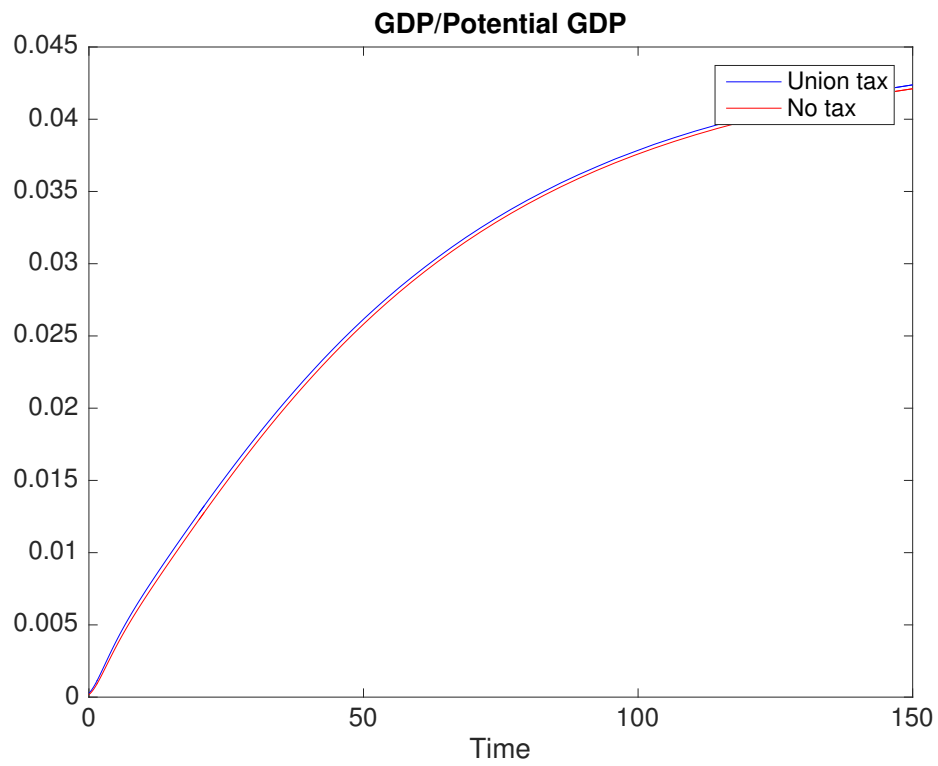
**Figure 14**



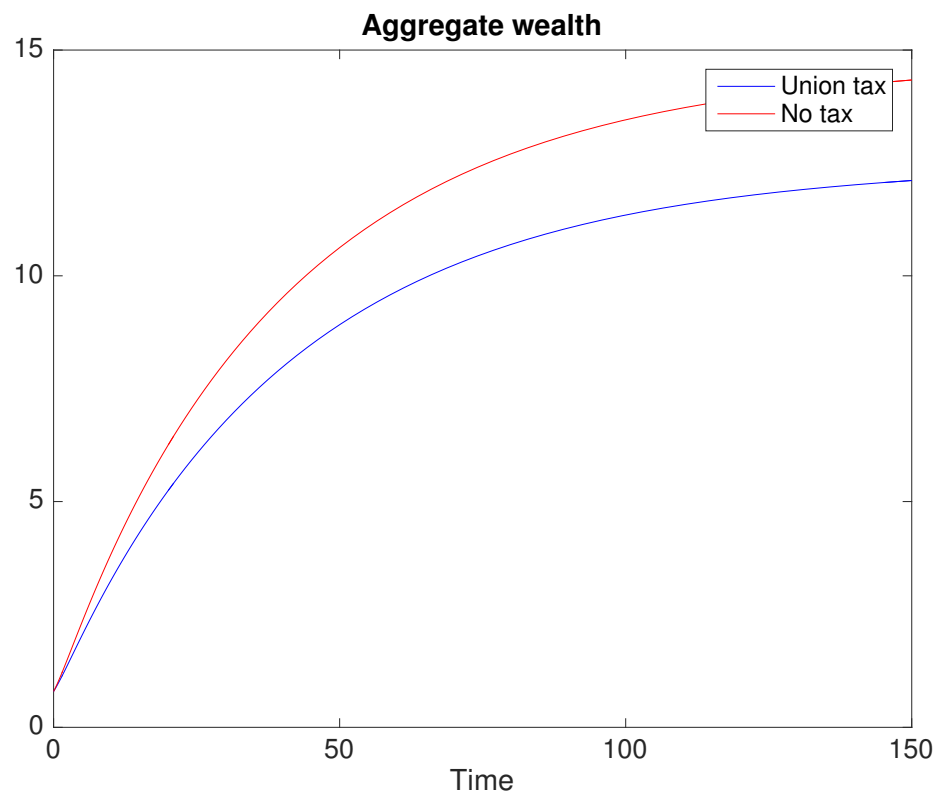
**Figure 15**



**Figure 16**



**Figure 17**



**Figure 18**

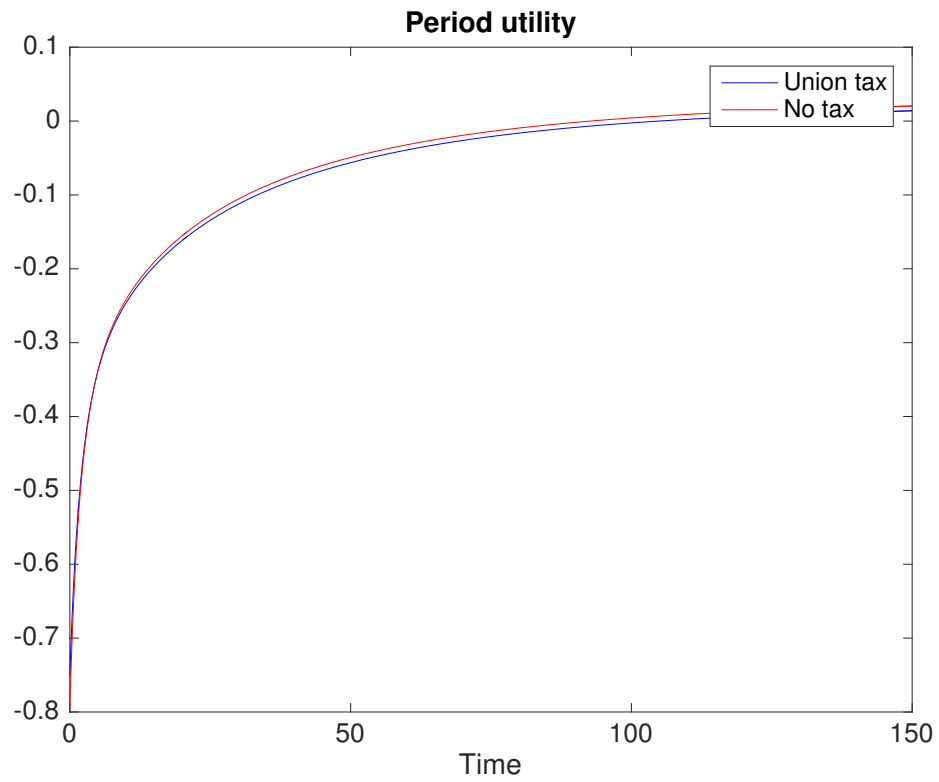


Figure 19

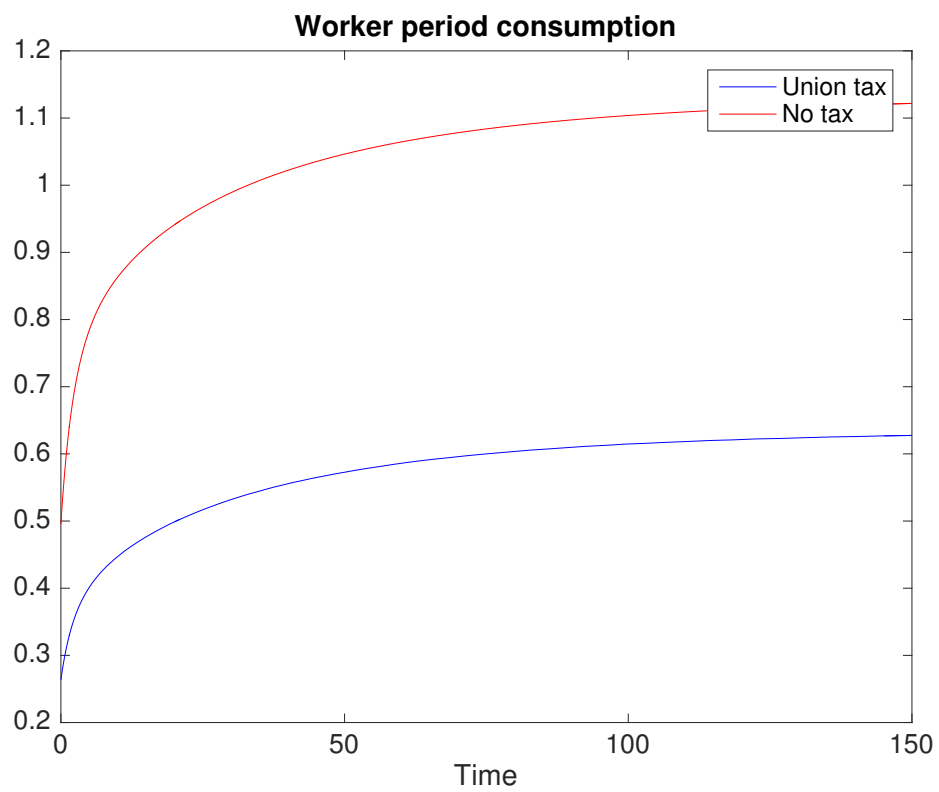


Figure 20