Credit Subsidy, rel. Pareto weight 1/2

December 22, 2017

1 Tables with Results

	No cred sub	Optimal policy	Optimal SS cred sub	Optimal Flat cred sub
ς_0	0.00000	1.00000	0.04211	-0.37778
$\bar{\varsigma}$	0.00000	-0.70000	0.04211	-0.37778
Half life	-	7.00000	-	-
Welfare (weighted)	-8.52094	-8.08137	-8.57519	-8.33168
Welfare workers	-5.86691	-5.37733	-5.98215	-5.25293
Welfare entrepreneurs	-19.13709	-18.89753	-18.94735	-20.64669

	Constant ς_0	Constant $\bar{\varsigma}$
ς_0	1.00000	-0.70000
$\bar{\varsigma}$	1.00000	-0.70000
Half life	-	-
Welfare (weighted)	-32.80864	-8.41534
Welfare workers	-37.98101	-5.08870
Welfare entrepreneurs	-12.11917	-21.72190

Experiment	Total welfare	Worker welfare	Entrepreneur welfare
Optimal policy	0.01533	0.01480	0.01205
Optimal flat cred sub	0.00657	0.01859	-0.07270
Constant ς_0	-0.60006	-0.65100	0.42034
Constant $\bar{\varsigma}$	0.00366	0.02362	-0.12124

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: $y = F(z,k,n) = zA((k-f_k)^+)^\alpha((n-f_n)^+)^\beta$

- Credit subsidy schedule: $\varsigma_k(t) = \bar{\varsigma}_k + e^{-\gamma t}(\varsigma_{k,0} - \bar{\varsigma}_k)$

2.2 Parameter values

Pareto weight workers		0.800
Population share of workers	$popshare$	0.667
Total population	$popmass$	1.000
Discount rate entrepreneurs	ρ_e	0.050
Discount rate workers	ρ_w	0.030
Relative risk aversion	γ	1.000
Inverse Frisch elasticity	φ	1.000
Depreciation rate	δ	0.000
Death rate	θ	0.000
Fixed cost capital	f_k	0.000
Fixed cost labor	f_n	0.000
Financial constraint parameter	λ	2.000
Common TFP parameter	A	1.000
Capital share	α	0.297
Labor share	β	0.603
Returns to scale	$\alpha + \beta$	0.900
Interest rate	r^*	0.030
Effect of productivity on effective labor supply	η	0.000
Productivity drift parameter	ν	0.163
Productivity yearly autocorrelation	$e^{-\nu}$	0.850
Productivity standard deviation parameter	σ	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	χ	0.100

2.3 Iteration parameters

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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
Range of initial credit subsidy rate tested	ς_0	[0.900,1.000]
Range of final credit subsidy rate tested	$\bar{\varsigma}$	[-0.800,-0.700]

3   Figures

Optimal steady state credit subsidy rate = 0.042
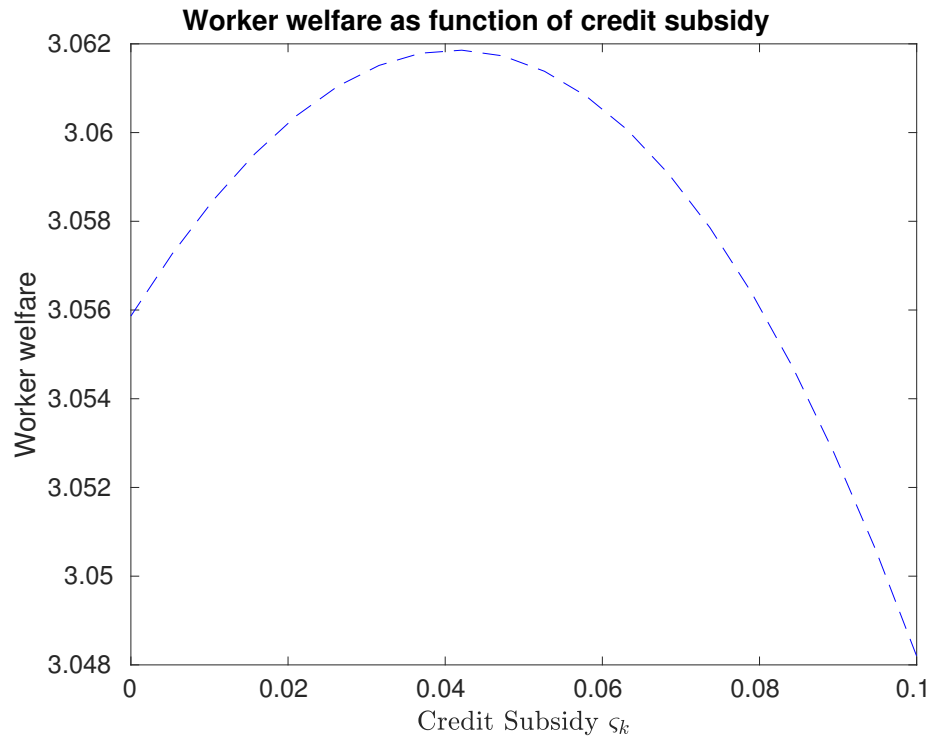
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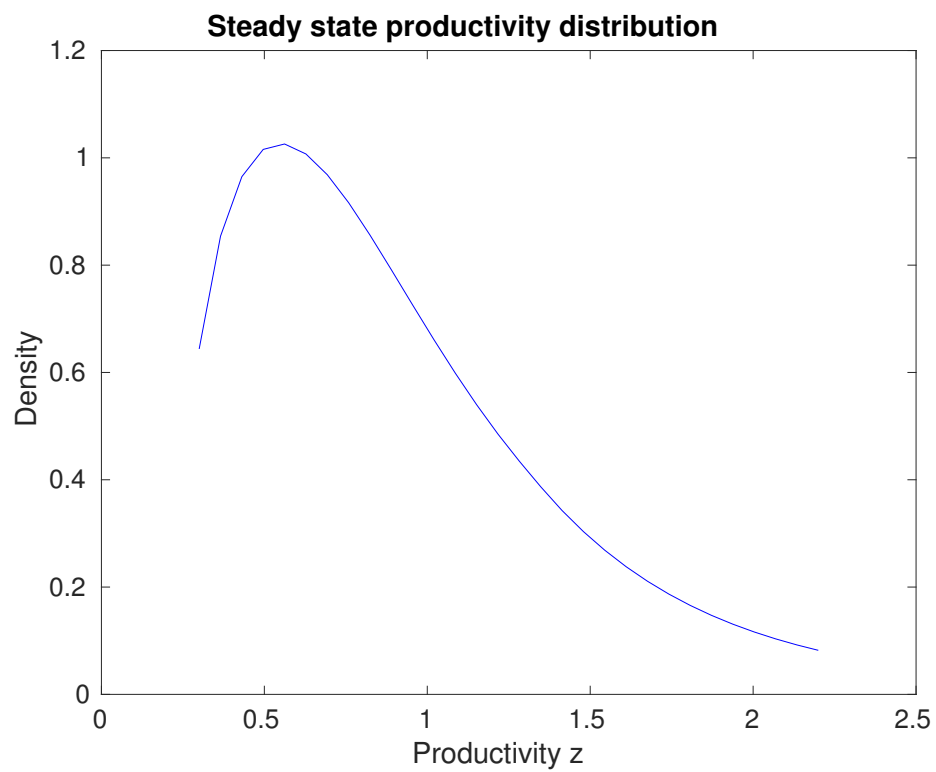
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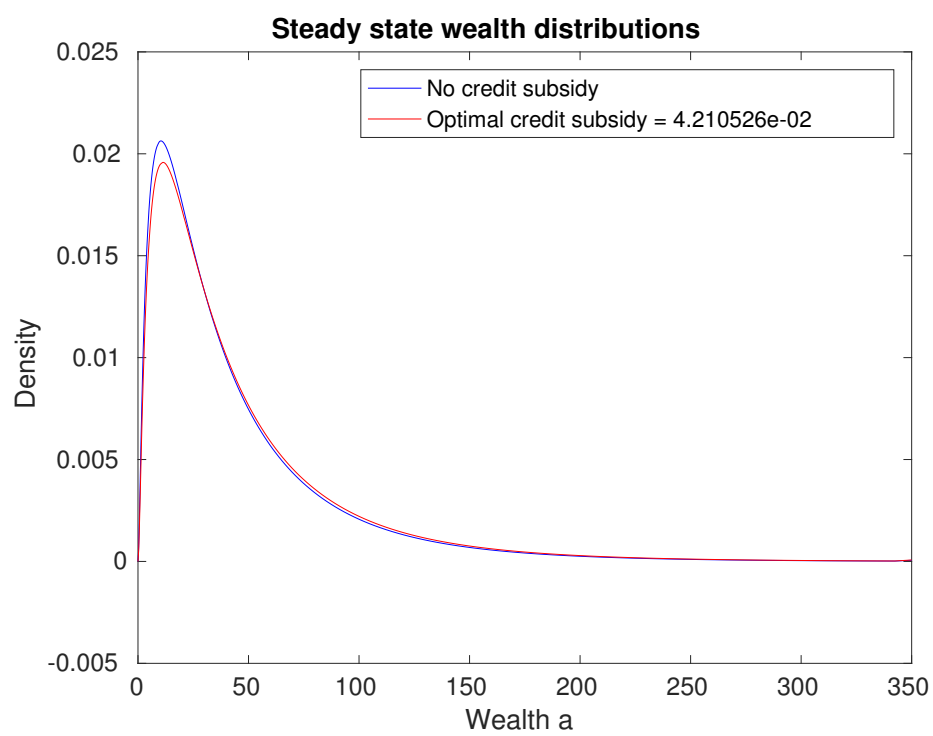
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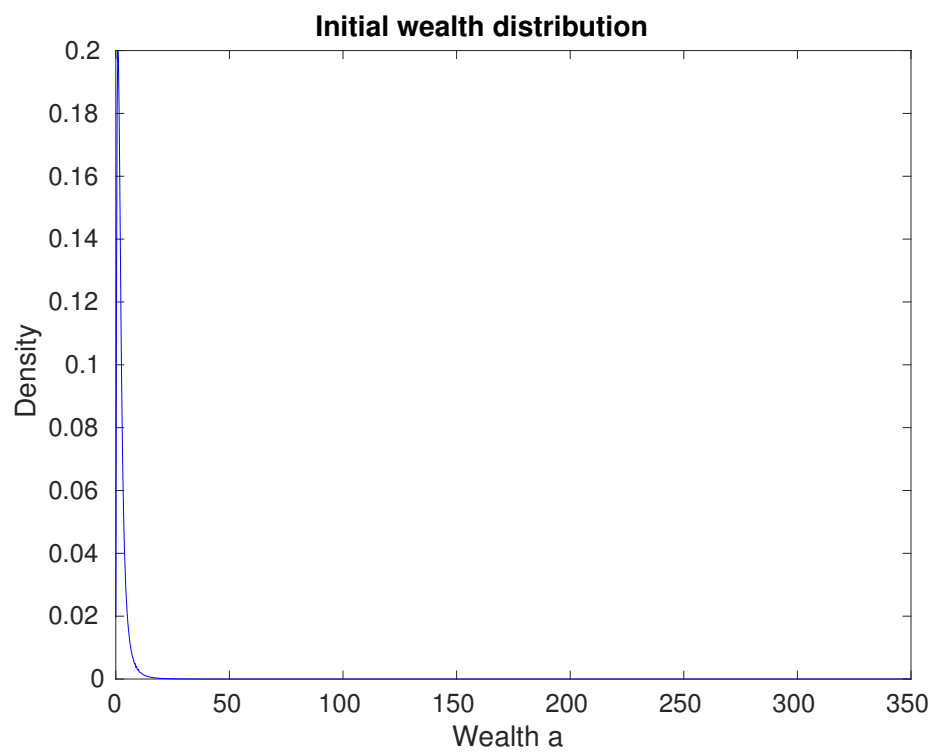
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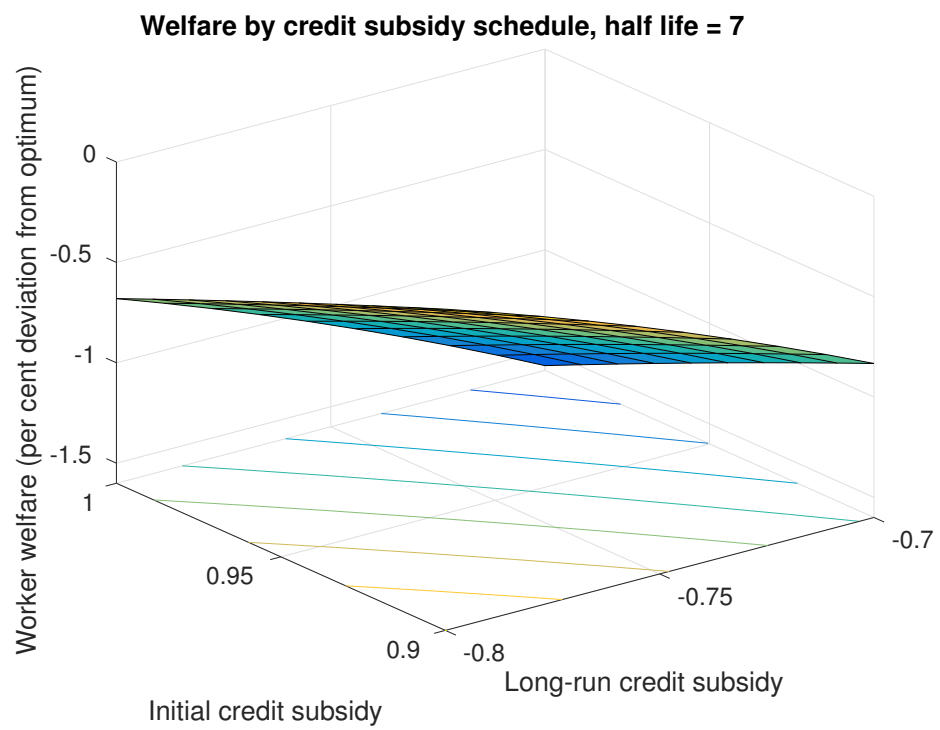
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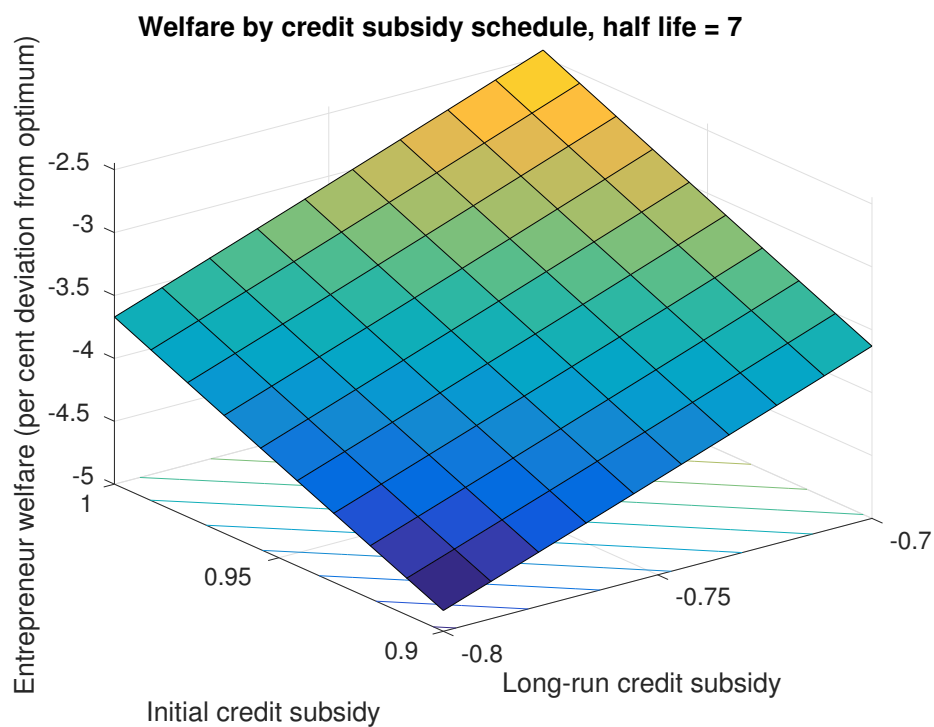
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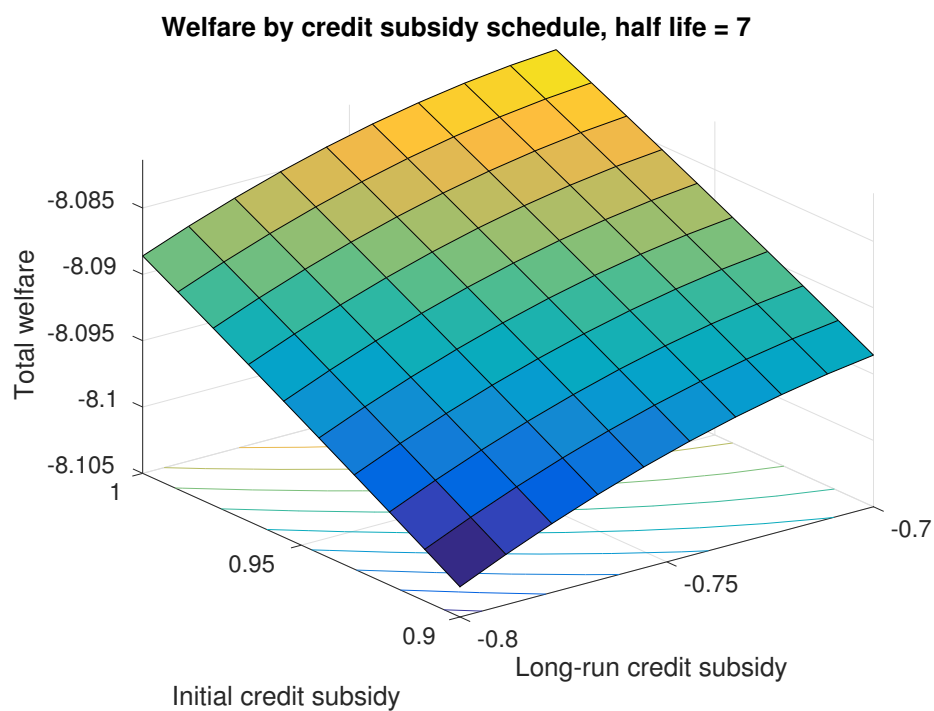
Figure 7

Figure 8

Figure 9

Welfare by credit subsidy schedule, half life = 8

Figure 10

Welfare by credit subsidy schedule, half life = 9
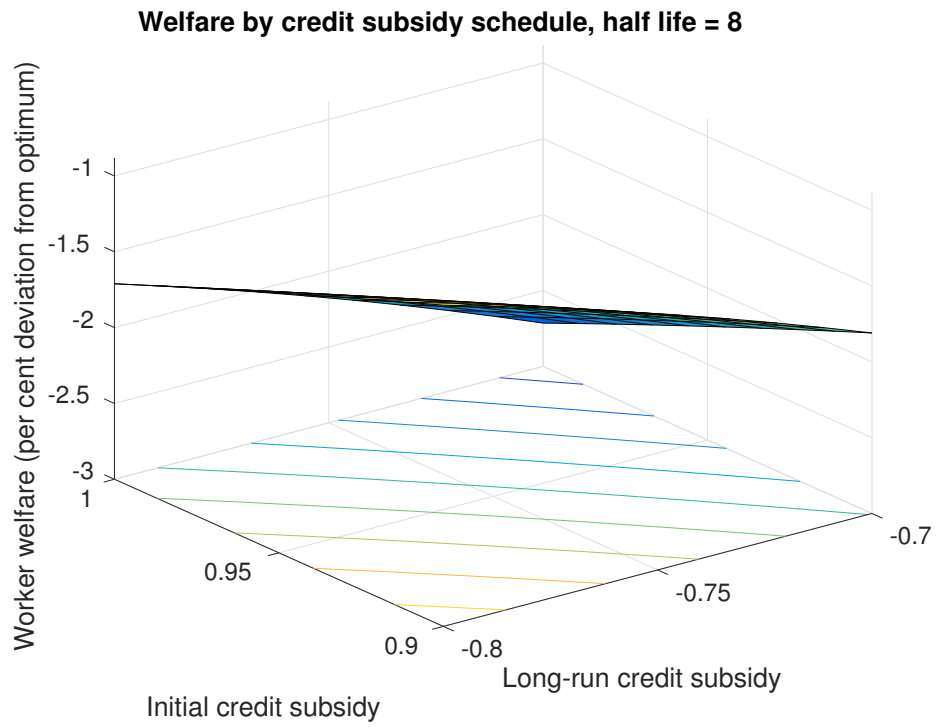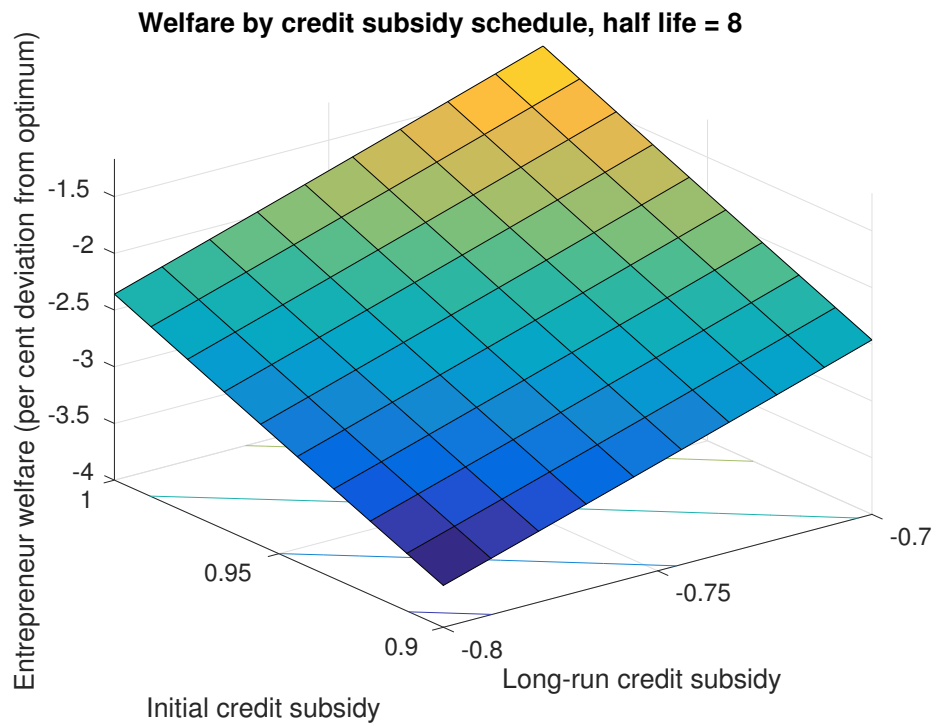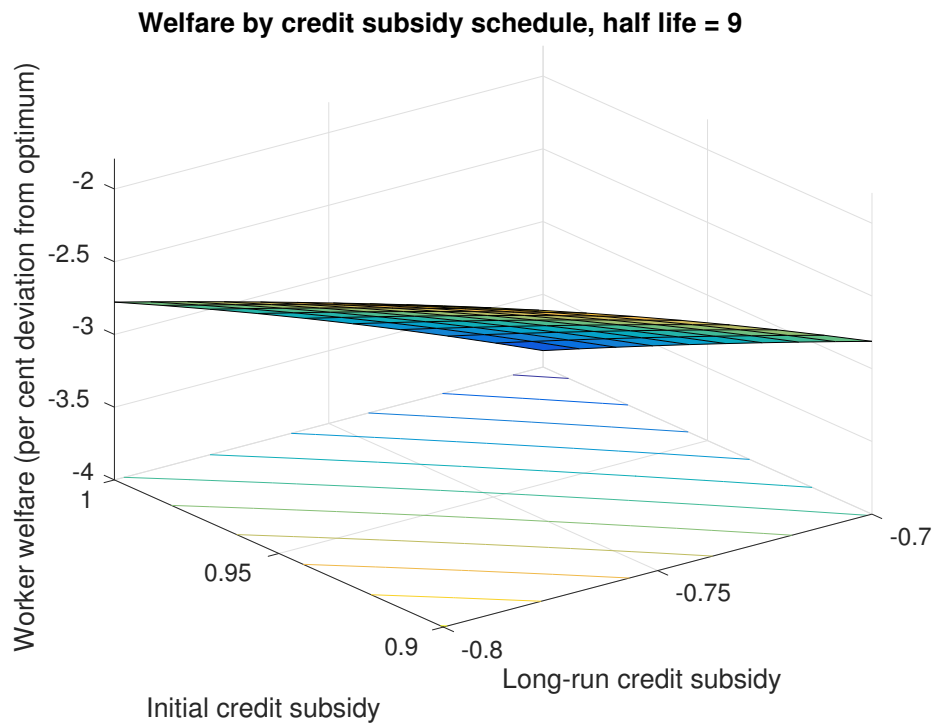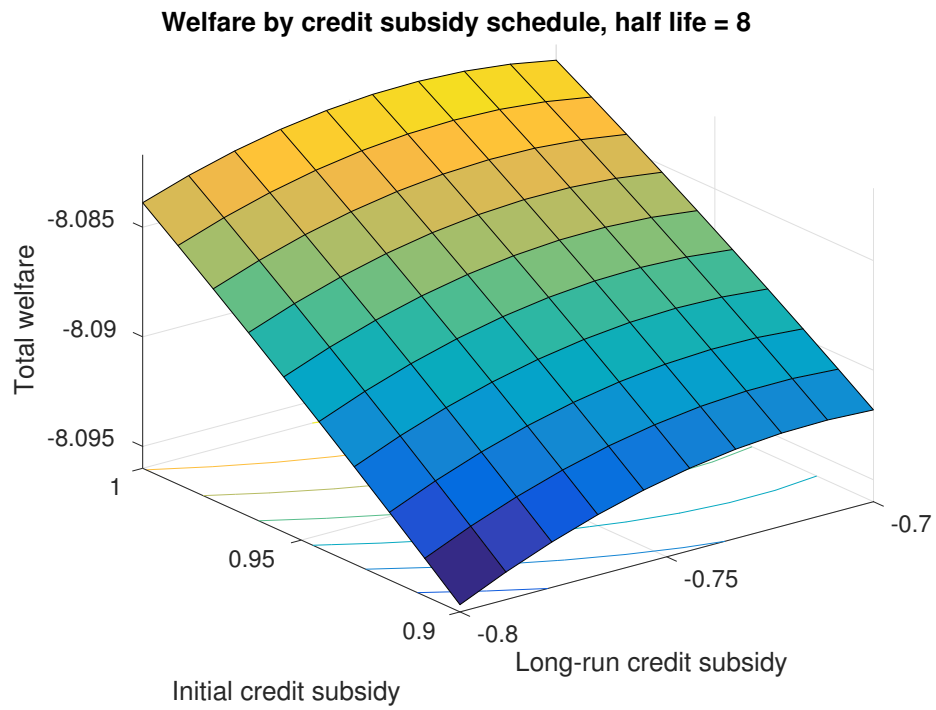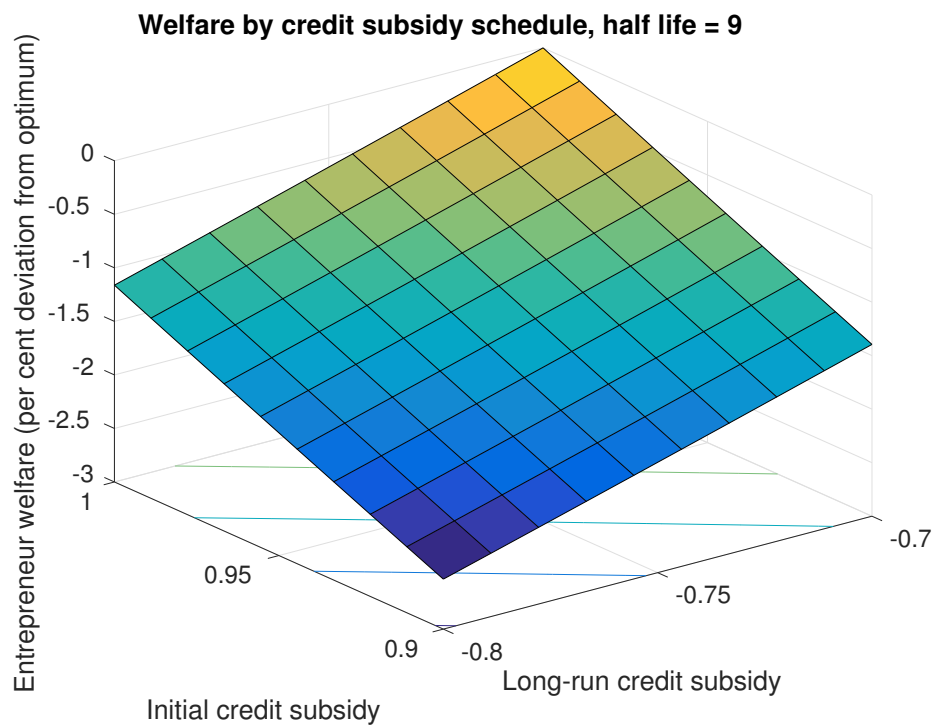
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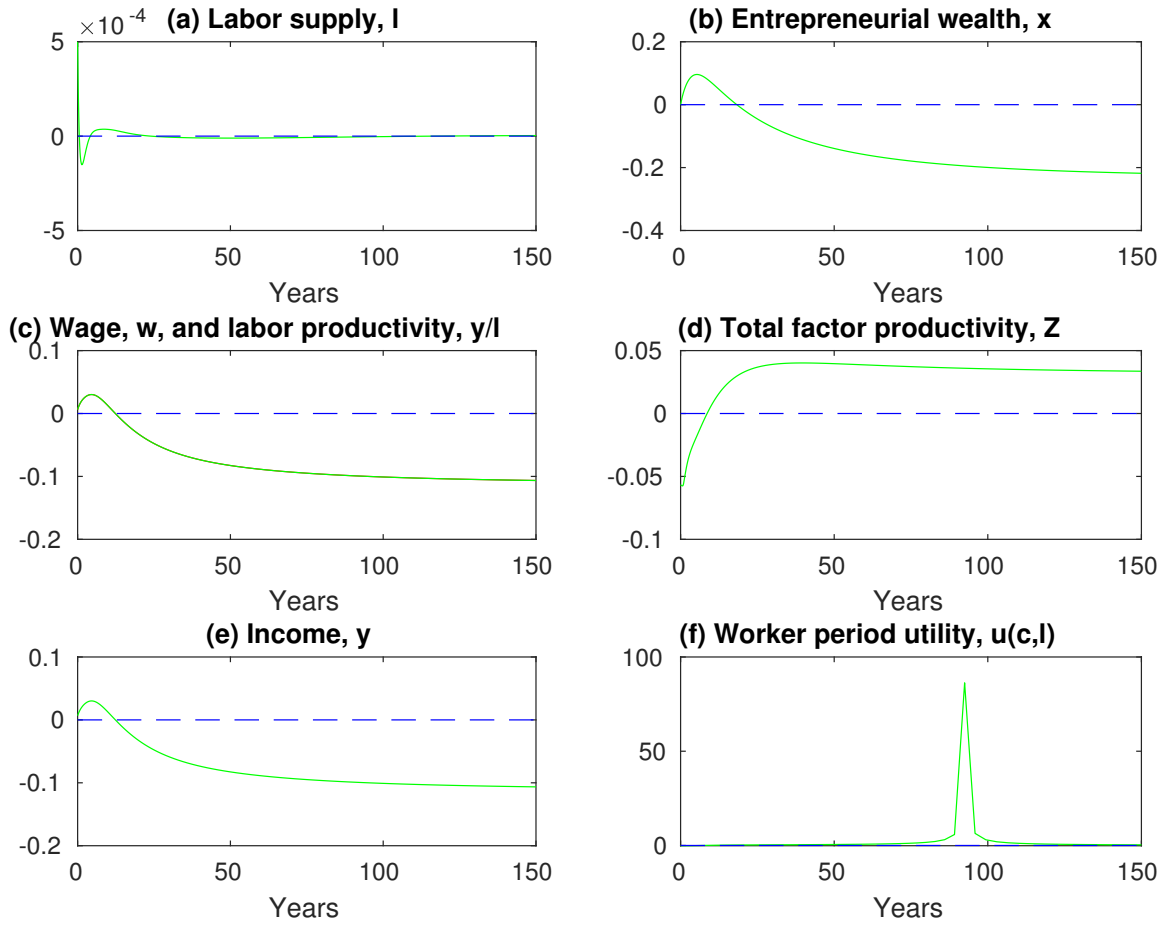
Figure 12

Figure 13

Figure 14 – Proportional deviations of optimal credit subsidy equilibrium from the laissez-faire equilibrium

Optimal credit subsidy schedule, half life = 7.000

Figure 15

Wage

Figure 16

15

Total profits

Figure 17

Profits/(profits + labor income)

Figure 18

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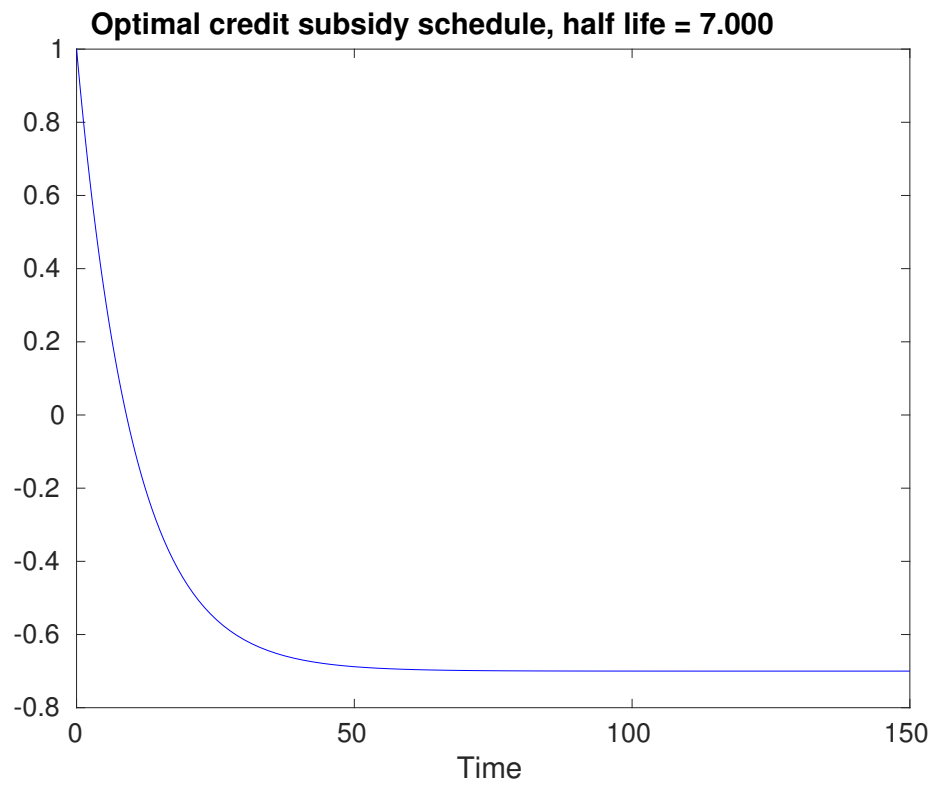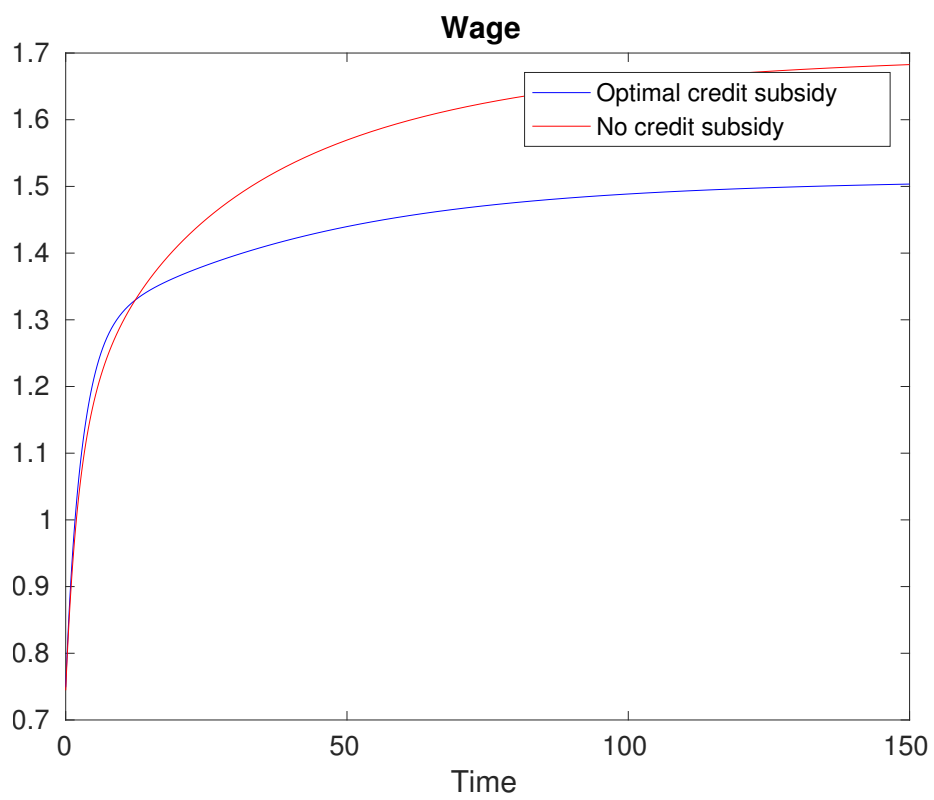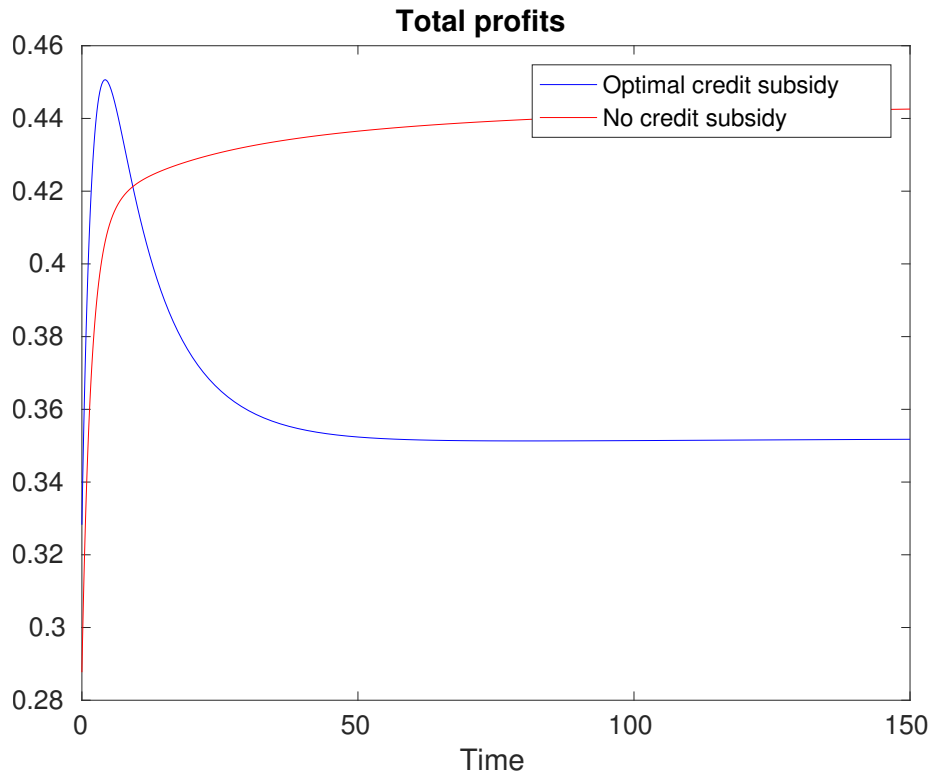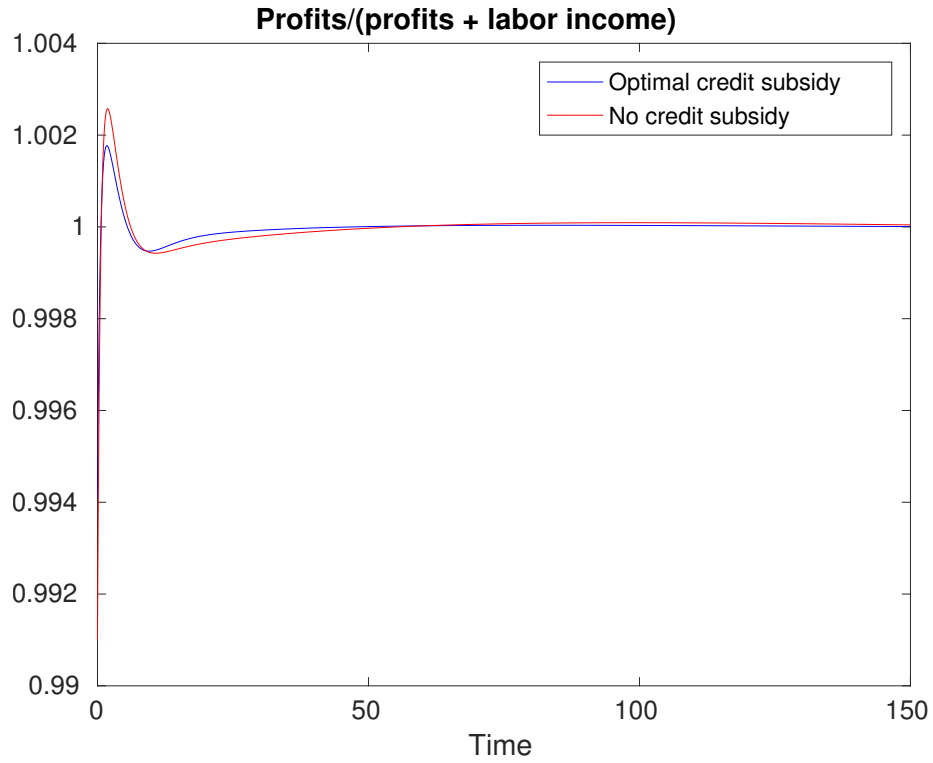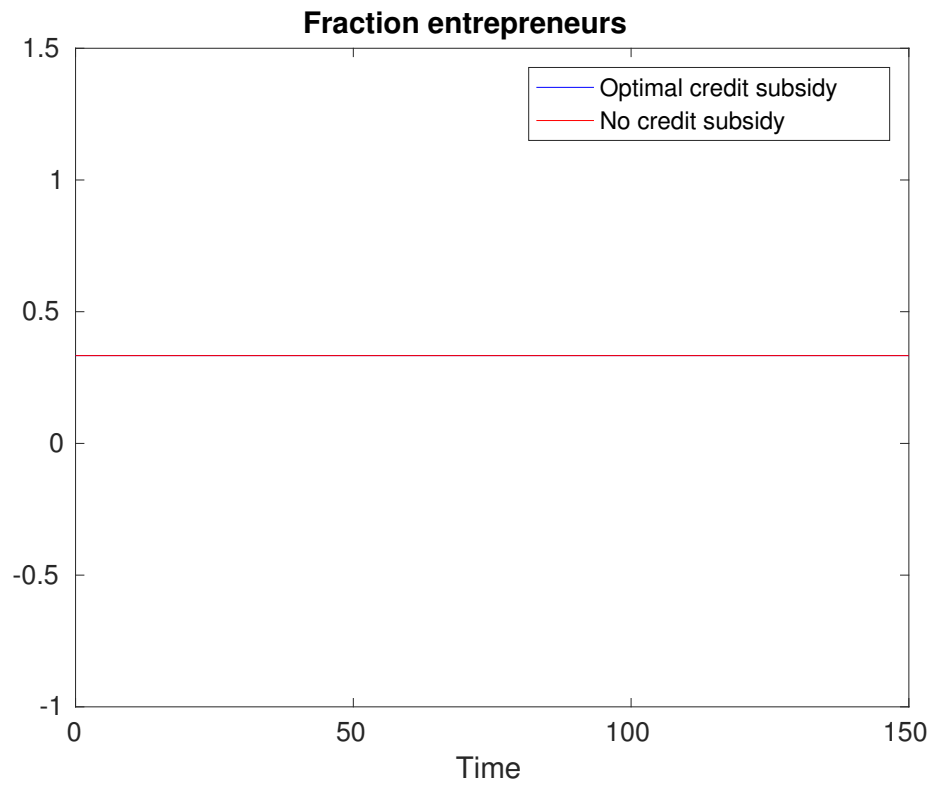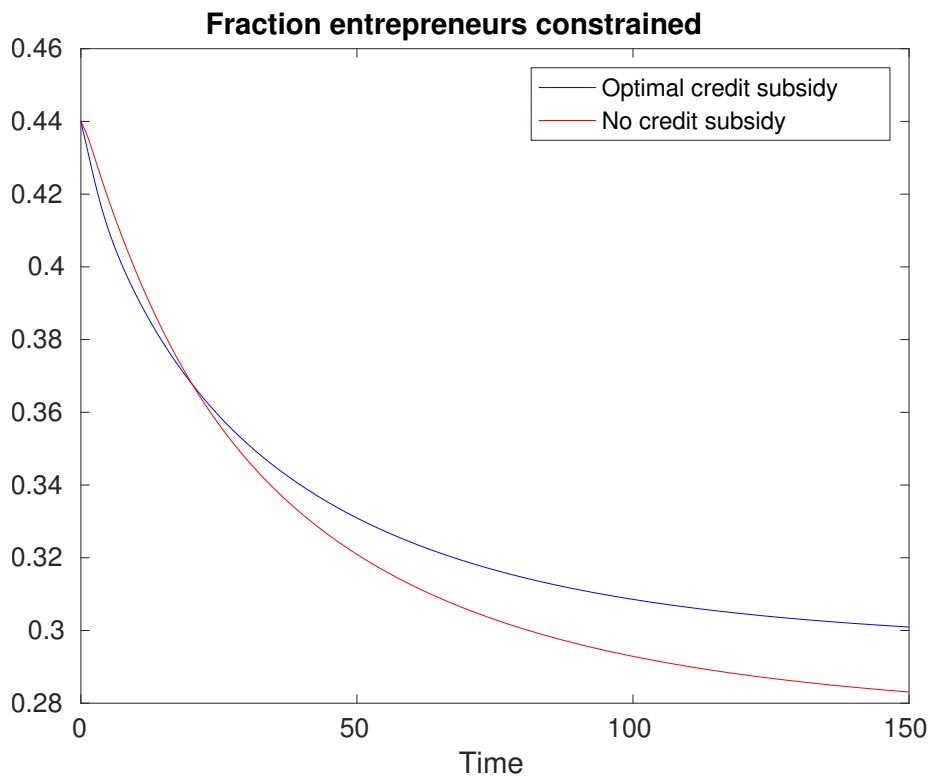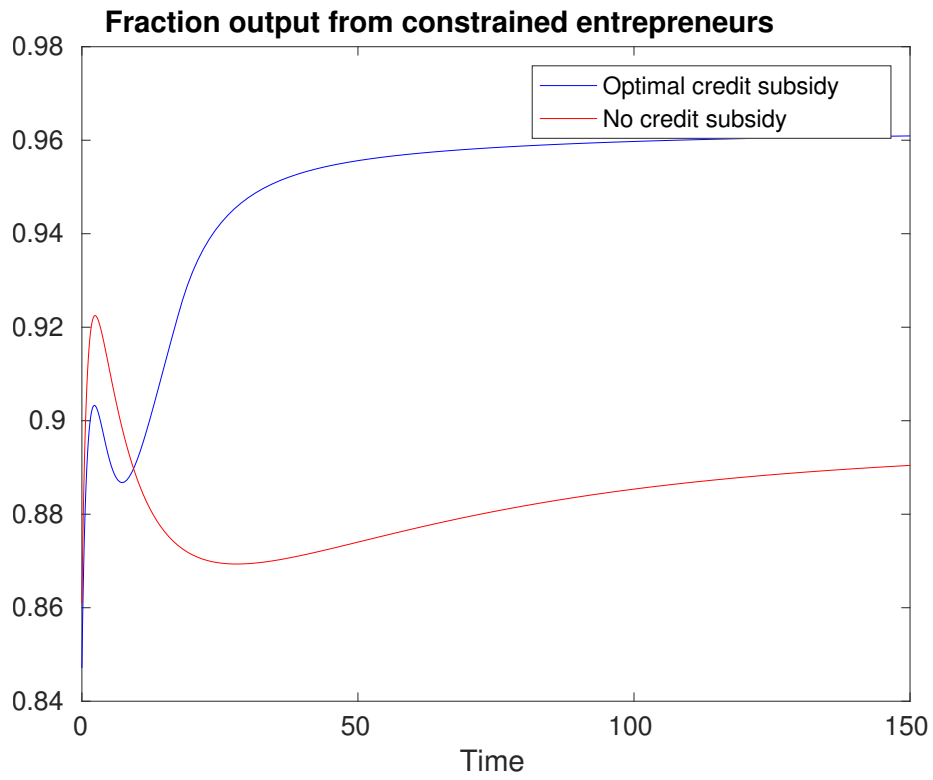
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Figure 20

Figure 21

Figure 22

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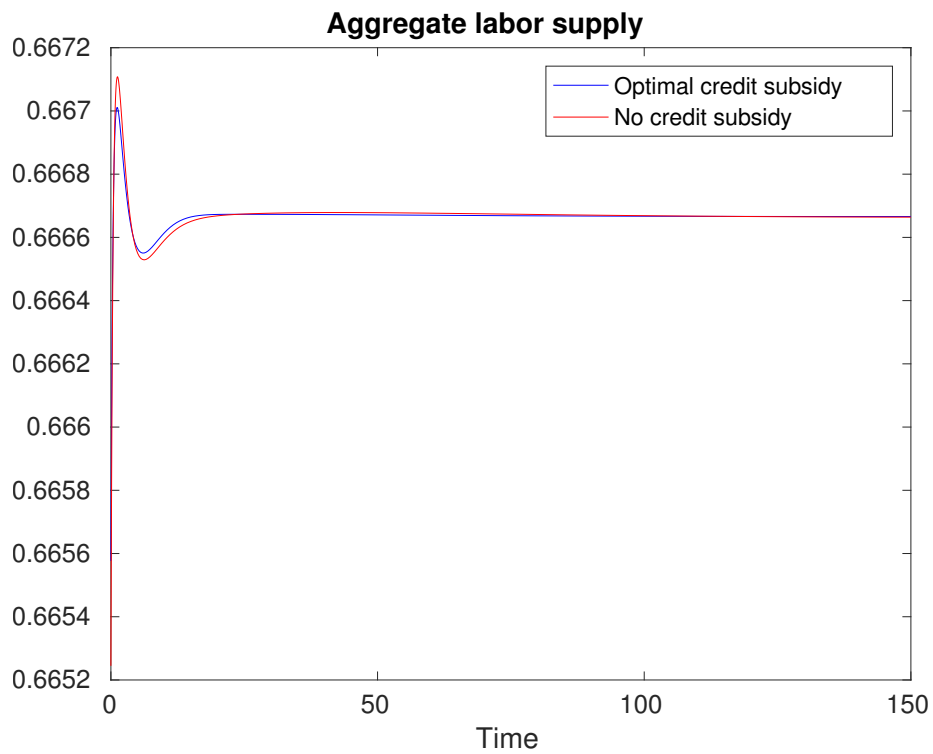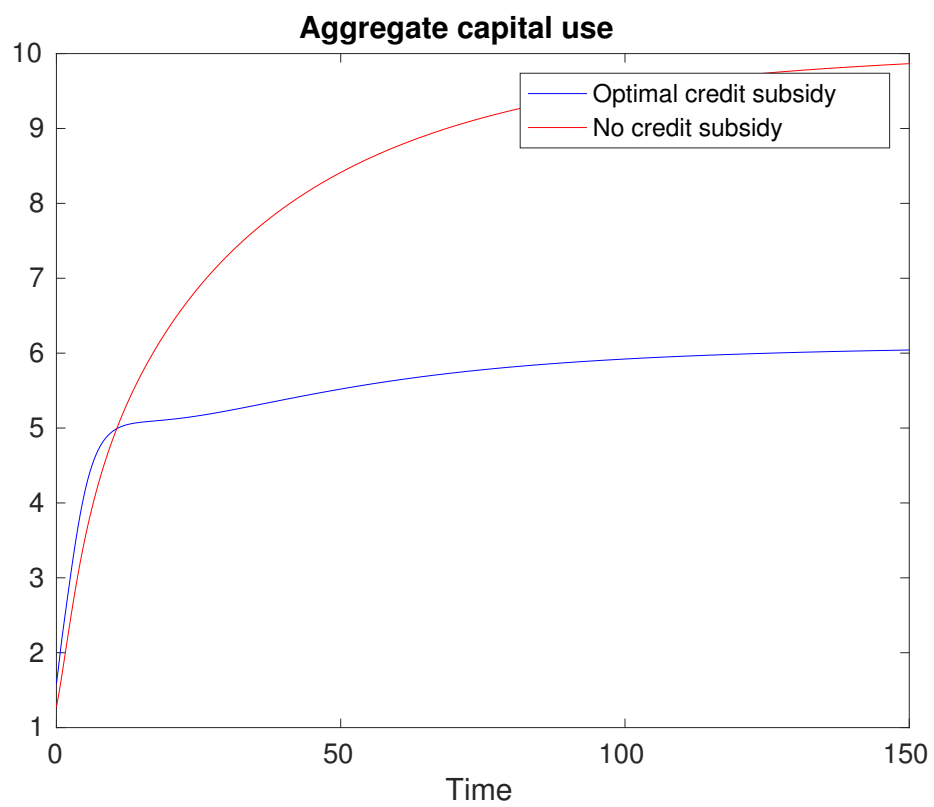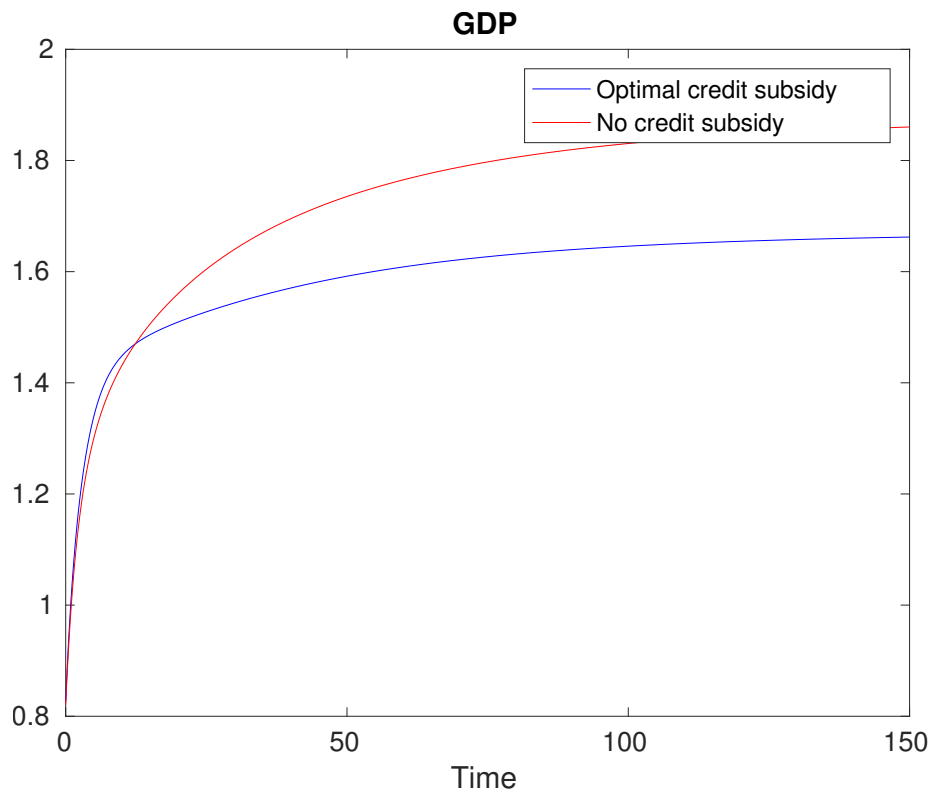
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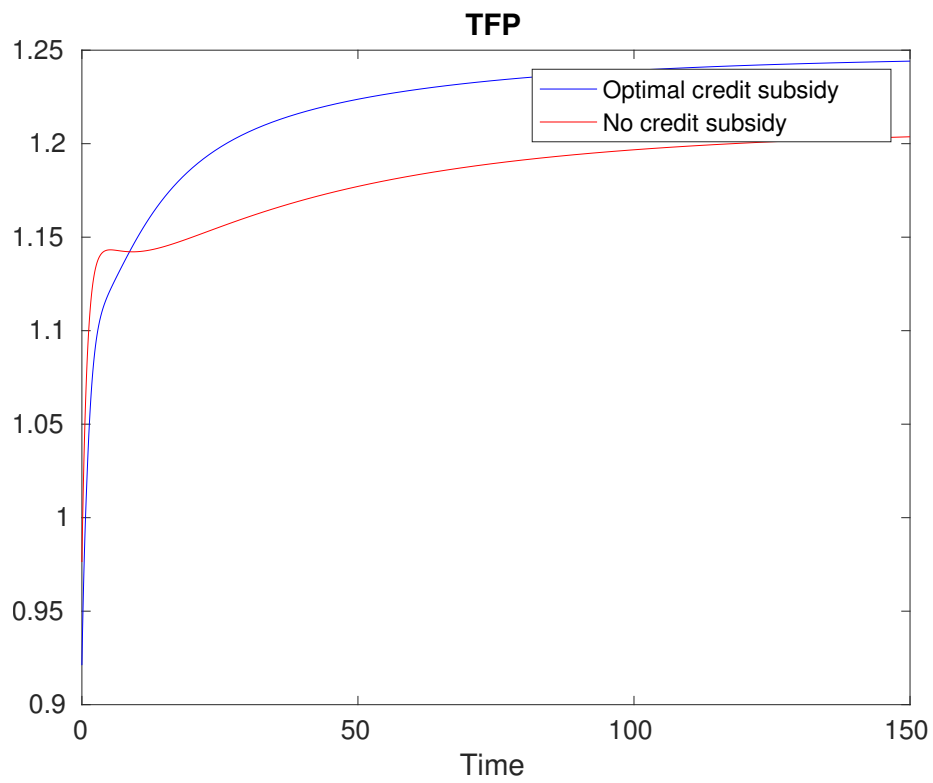
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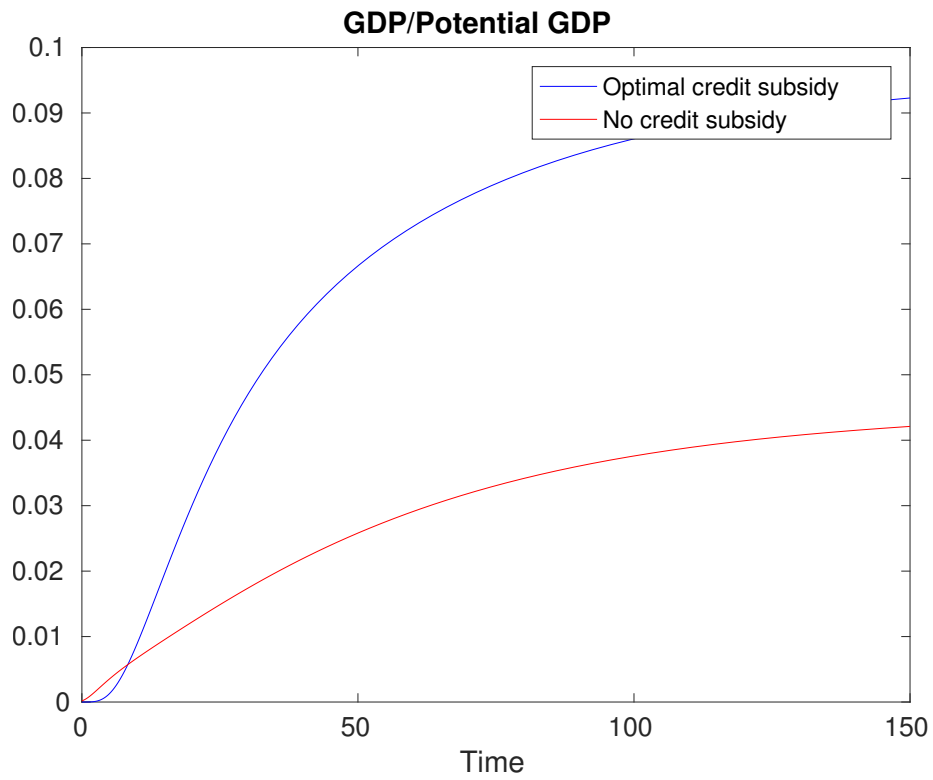
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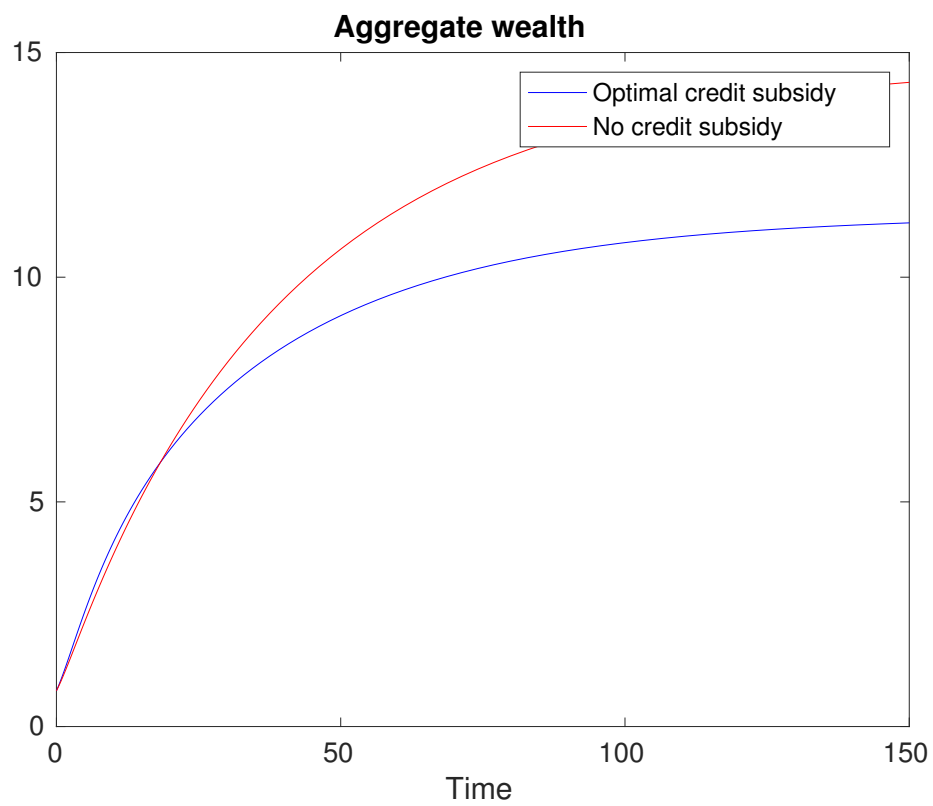
Figure 27

Figure 28

Figure 29