# number of firms

numero delle firm

# wages-shock-xi

set wage-offered-Wb max(list minimum-wage-W-hat

(wage-offered-Wb \* (1 + wages-shock-xi)));

*submodels 8 and 9*

**wage-offered-Wb** ; contractual wage: if no vacancies the max of previous wage

*; and minimum wage; otherwise previous wage is also pondered*

*; by an idiosyncratic shock, e.g., 1 + wage-shock-xi*

# interest-shock-phi

set operational-interest-rate random-float interest-shock-phi;

**banks-own[**

*; Repayment schedule (eq. 3.6, p. 53) is represented in firms-pay procedure as inp.50:; "If gross profits are high enough, they “validate” debt commitments, i.e. firms pay back both the principal and the interest to the bank"; r-bar (instead r-hat) (eq. 3.7, p. 53) is represented as a reporter (interest-rate-policy-rbar)total-amount-of-credit-C ; a multiple of its equity base in terms of capital req. coeff (buy default v= 0.23).*

patrimonial-base-E

operational-interest-rate

my-borrowing-firms

interest-rate-r

bad-debt-BD

bankrupt?

# price/production shock

production-Y ; labor \* labor productivity

labor-productivity-alpha ; labor productivity > 0

to adapt-expected-demand-or-price

let avg-market-price average-market-price

ask firms [

let minimum-price-Pl ifelse-value (production-Y > 0)[( total-payroll-W + amount-of-Interest-to-pay ) / production-Y] [avg-market-price]

(ifelse

(inventory-S = 0 and individual-price-P >= avg-market-price and production-Y > 0)

[ set expected-demand-De max (list 1 ceiling (production-Y \* (1 + **production-shock-rho**)))]

(inventory-S > 0 and individual-price-P < avg-market-price)

[ set expected-demand-De max (list 1 ceiling (production-Y \* (1 - **production-shock-rho**)))]

(inventory-S = 0 and individual-price-P < avg-market-price)

[ set individual-price-P max(list minimum-price-Pl (individual-price-P \* (1 + **price-shock-eta**)))]

(inventory-S > 0 and individual-price-P >= avg-market-price)

[ set individual-price-P max(list minimum-price-Pl (individual-price-P \* (1 - **price-shock-eta**)))]

[ show (word "No selected strategies ")]

)

]

end

# v

to credit-market; observer-procedure

ask banks [

set total-amount-of-credit-C patrimonial-base-E / v; submodel 12

set operational-interest-rate random-float interest-shock-phi; part of submodel 14

]

## labor-market-M

## credit-bank-H

## goods-market-Z

[set my-potential-firms (turtle-set my-firm n-of (labor-market-M - 1 ) potential-firms)]

set my-potential-banks n-of credit-market-H banks

let id-store [who] of my-large-store

set my-stores (turtle-set my-large-store n-of (goods-market-Z - 1) firms with [who != id-store])

# beta

set propensity-to-consume-c 1 / (1 + (fn-tanh (savings / average-savings)) ^ beta)

# dividens

set retained-profits-pi (1 - dividends-delta ) \* net-profits

# size-replacing firms

set wage-offered-Wb (1 - size-replacing-firms) \* mean [wage-offered-Wb] of incumbent-firms