Wealth Effects and Multiple Growth Regimes: The Role of Monetary Policy

Abstract

a la

1 Introduction

2 The Model

$$U = \int^{\infty} u \; c \; + \beta v \; w \quad e^{-\rho t} dt$$

c w ρ

$\beta \geq$

u $u \; c$ $u \; c$

v $v \; w$ $v \; w$

$f \; k$ $f \; k$

$f' \; k$ $f'' \; k$

$$\dot{k} + \dot{m} = f \; k \; - c - \pi m - \delta k + T$$

π δ T

μ

I

$$\dot{k} = I - \delta k$$

$$\varphi_c c + \varphi_I I \leq m \quad \leq \varphi_c \leq \quad \leq \varphi_I \leq$$

φ_c φ_I

φ_c φ_I

φ_c φ_I

φ_I φ_c

$w{=}k$

2.1 Optimization

λ_k λ_m

ξ

$$u'\ c\ = \lambda_m + \xi\varphi_c$$

$$\lambda_k = \lambda_m + \xi\varphi_I$$

$$\dot{\lambda}_k = \ \rho + \delta\ \lambda_k - \lambda_m f'\ k\ - \beta v'\ k$$

$$\dot{\lambda}_m = \ \rho + \pi\ \lambda_m - \xi$$

$$\underset{t\to\infty}{}e^{-\rho t}\lambda_{kt}k_t = \qquad \underset{t\to\infty}{}e^{-\rho t}\lambda_{mt}m_t =$$

2.2 Equilibrium

$T \quad \mu m$

$$\dot{m} = \mu - \pi \ m$$

$$\dot{k} = f \ k \ - c - \delta k$$

$$c \ m \ k \ \lambda_k \ \lambda_m \qquad \pi$$

$$\lambda_k = \frac{\varphi_I}{\varphi_c} u' \ c \ + \quad - \frac{\varphi_I}{\varphi_c} \ \lambda_m \equiv \lambda_k \ c \ \lambda_m$$

$$\dot{c} = \frac{-}{u'' \ c} \frac{\varphi_c}{\varphi_I} \ \lambda_m f' \ k \ + \beta \nu' \ k \ - \ \rho + \delta \ \lambda_k \ c \ \lambda_m \ - \frac{\varphi_I}{\varphi_c} - \quad \dot{\lambda}_m$$

$$f \, k \quad c \ I \qquad\qquad m \quad \varphi_c \ \varphi_I \ c \ \varphi_I f \, k$$

$$\pi = \mu - \frac{\varphi_c \ \varphi_I - \ \dot{c} + f' \ k \ \dot{k}}{\varphi_c \ \varphi_I - \ c + f \ k}$$

$$\dot{c} \qquad \dot{k} \qquad \dot{\lambda}_k \qquad \dot{\lambda}_m$$

$$\pi = \pi \ c \ k \ \lambda_m$$

$$\dot{\lambda}_m = \lambda_m \ \rho + \frac{}{\varphi_I} + \pi \ c \ k \ \lambda_m \quad - \frac{\lambda_k \ c \ \lambda_m}{\varphi_I}$$

$$c \ k \qquad \lambda_m \qquad\qquad \lambda_k \quad \pi \qquad m$$

2.3 Steady State

$$\dot{c} = \dot{k} = \dot{\lambda}_m = \dot{m} = \qquad \dot{m} = \qquad\qquad \pi^* \ \mu$$

$\dot{k} =$

$$f\ k \quad -\delta k \ -c \ =$$

$$\dot{c} =$$

$$+ \quad + \ _I \quad + \quad -f'\ k \quad _m\ c \ = \ v \ k \quad \rho$$

$$\dot{\lambda}_m = \qquad _m\ c$$

$$\lambda_m\ c \quad \equiv \frac{u'\ c}{+\ \rho+\mu\ \varphi_c}$$

v $_m$

$$f'\ k \ < \ \rho+\delta \quad +\varphi_I\ \rho+\mu$$

k c

$k\ c$ $\dot{k} =$ k

$f'\ k$ k $f'\ k$

$\dot{c} =$

$$\dot{c} =$$

$$\rho+\delta\ -f'\ k \quad +\varphi_I\ \rho+\delta \quad \rho+\mu \ =$$

$\dot{c} =$ $k\ c$

$\dot{c} =$

$$\rho+\delta\ -f'\ k \quad +\varphi_I\ \rho+\delta \quad \rho+\mu \ = \frac{\beta v\ \ k}{u'\ c} \quad +\varphi_c\ \rho+\mu$$

k

k c $\dot{c} =$

$k\ c$

k

k

m

c

k

m

internal

2.4 A Numerical Example

$f\ k \quad Ak$

$u\ c \quad c$

$\sigma \quad \rho$

$A \quad \delta \quad \varphi_c \ \ \varphi_I \quad \mu$

$v\ k$

$u\ c \quad k \quad v\ k \quad k$

β

k

β

β

β k k

k k k k β

k

β

u c ln k v k ln k β

k β

β k k k

k k k β

k β

β

A δ ρ φ_c

φ_I

β

A δ

ρ φ_c φ_I

3. Characterization of Equilibrium

k

3.1 Local Analysis

$\dot{k} =$ c $\dot{c} =$

k

$$\left.\frac{\partial k}{\partial \mu}\right|_{\dot{c}=} = \frac{}{\Omega} \; \varphi_I \;\; \rho + \delta \;\; - \varphi_c \frac{\beta v}{u'} \quad \begin{matrix} \le \\ \ge \end{matrix} \quad if \;\; \frac{v}{u'} \begin{matrix} \le \\ \ge \end{matrix} \frac{\varphi_I}{\varphi_c} \frac{\rho + \delta}{\beta} \equiv \xi$$

$\Omega \equiv f'' + \frac{\beta v''}{u'} \quad + \varphi_c \;\; \rho + \mu \quad <$

$\dot{c} =$ $\dot{c} =$

$\dot{c} =$

$\dot{c} =$

v' u' ξ

I c

I c

c I v u v

c I v u v v u

c I I v u v v u

I

c I I

I c

I

c

c I

I c

I c

I c

3.2 Global Analysis

ξ

$\dot{c} =$

ξ

$\dot{c} =$

k k

3.3 A Numerical Example

β

k k

k

μ k k

μ

---

k μ k_2 μ

k

μ μ
k μ
k

μ μ
k k

β k
k k
μ
k k
μ

μ μ k

μ μ
k

3.4 Some Experiences

$\mu=$

$\mu=$

k μ k_2 μ
k

$\mu=$ $\mu=$

$\dot{c} =$

4 Concluding Remarks

References

Journal

of Monetary Economics

American Economic Review

Journal of

Economic Growth

Quarterly

Journal of Economics

American

Economic Review

Journal of Political Economy

Economic Growth

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Review of Economic Studies

International Economic Review ,

Philosophy and Public Affairs

American Economic Review

Symposium

Proceedings: Achieving Price Stability

European Journal of Political Economy

, Journal of Money, Credit and Banking

International Economic Review

Journal of Macroeconomics

Western

Economic Journal

Carnegie-Rochester Conference Series on Public Policy

Economics Letters
Review of Economic Studies
Brookings Papers on Economic Activity
Canadian Journal of Economics
Journal of Political Economy
Journal of Political Economy
Journal of Economic Behavior and Organization
Econometrica
Economic Journal
Journal of Economic Theory
American Economic Review
Review of Economic Studies
Journal of Money, Credit and Banking
International Journal of Economic Theory

Southern Economic Journal

Journal of Development Economics

International Economic Review

Journal of Population Economics

Economic Inquiry

Journal of Money, Credit and Banking

Quarterly Journal of Economics

Quarterly Journal of Economics

Journal of Macroeconomics

CORE Discussion Paper

Econometrica

Human Capital, Trade and Public Policy in Rapidly Growing Economies: From Theory to Empirics,

Journal of Political Economy

American Economic Review

Journal of Monetary Economics

NBER Historical Paper

Econometrica

Zeitschrift-fur-die-gesamte-Staatswissenchaft

A Theory of the Leisure Class

Journal of Money, Credit and Banking

The Protestant Ethic and the Spirit of Capitalism

European Journal of Political Economy

Journal of International Money and Finance

Appendix: The local stability property of the model is proved as follows.

« « »227< b• – « ™ æ'"º 2R• ate, we obtain

$$\begin{bmatrix} c \\ k \\ \lambda_m \end{bmatrix} = \begin{bmatrix} J & J & J \\ - & J & \\ J & J & J \end{bmatrix} \begin{bmatrix} c - c \\ k - k \\ \lambda_m - \lambda_m \end{bmatrix}$$

$$x \;=\; \varphi_c - \varphi_I \;\; c \;\; + \varphi_I f \;\; k \quad + \frac{\varphi_c - \varphi_I \;\; \lambda_m}{u'' \;\; c} \quad - \frac{\varphi_c}{\varphi_I}$$

$$z \;= \mu \;\; \varphi_c - \varphi_I \;\; c \;\; + \varphi_I f \;\; k \quad - \frac{\varphi_c - \varphi_I}{u'' \;\; c} \quad - \frac{\varphi_c}{\varphi_I} \quad \rho + \frac{}{\varphi_I} \; \lambda_m - \frac{\lambda_k}{\varphi_I}$$

$Det\ J$

$$DetJ = \; f' \;\; k \quad - \delta \quad J \quad J \quad - J \quad J \quad + J \quad J \quad - J \quad J \qquad \frac{}{u'' \;\; c} \frac{\varphi_c}{\varphi_I} \quad + \frac{\lambda_m \;\; \varphi_c - \varphi_I}{x \; u'' \;\; c \quad \varphi_I} \quad \Phi \; \substack{< \\ >} \qquad \Phi \; \substack{> \\ <}$$

$$\Phi \equiv \frac{u'' \;\; c \quad f' \;\; k \;\; - \delta}{\varphi_c} \quad \rho + \delta \quad \varphi_I \;\; \rho + \mu \; + \quad - f' \;\; k \quad - f'' \;\; k \quad \lambda_m \;\; \rho + \mu + \frac{}{\varphi_c} \; - \beta v'' \;\; k \quad \rho + \mu + \frac{}{\varphi_c}$$

$c \qquad k$

$$\left.\frac{dc}{dk}\right|_{\dot{c}=} \; = \frac{\Xi}{\Gamma} >$$

$$\Gamma \equiv \beta \;\; u'' \;\; c \quad \frac{v' \;\; k}{u' \;\; c} \quad + \varphi_c \;\; \rho + \mu \quad <$$

$$\Xi \equiv f'' \;\; k \quad + \beta v'' \;\; k \quad \frac{}{u' \;\; c} \quad + \varphi_c \;\; \rho + \mu \quad <$$

$c \qquad k$

$$\left.\frac{dc}{dk}\right|_{\dot{k}=} \; = f' \;\; k \;\; - \delta >$$

$\dot{c} =$

$\dot{k} =$

$f' \; k^{*} - \delta$

$Det\ J$

$$J = J \quad + J \quad + J \quad = \; \rho + \mu + \frac{}{\varphi_I} + f' \;\; k \qquad + \frac{\lambda_m \;\; \varphi_c - \varphi_I}{x \; u'' \;\; c \quad \varphi_I} \; + \rho >$$

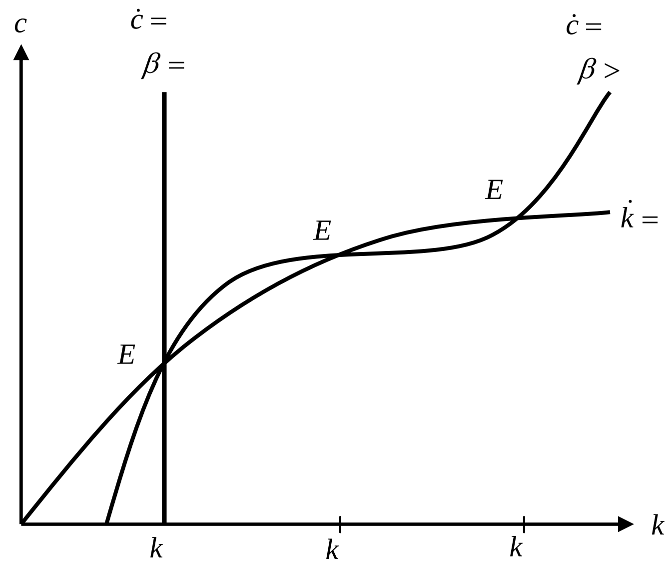
$\dot{c} =$

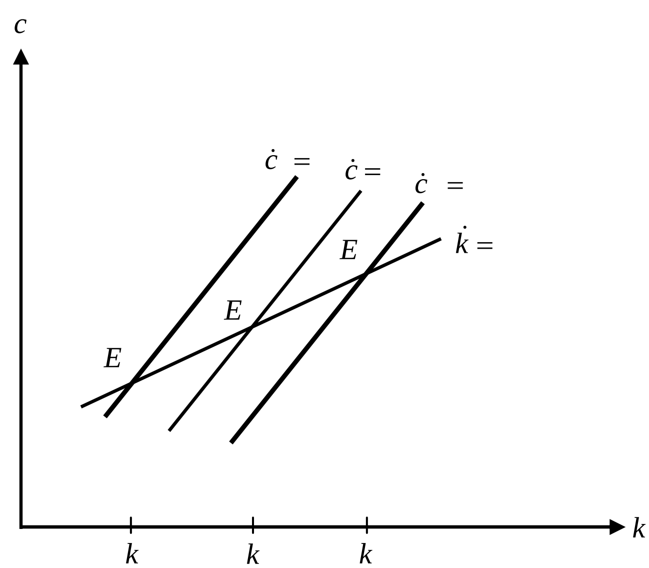
	k	k	k
$\mu=$			
$\mu=$			
$\mu=$			
$\mu=$			
$A=$			
$\delta=$			
φ_c			
φ_I			
ρ			

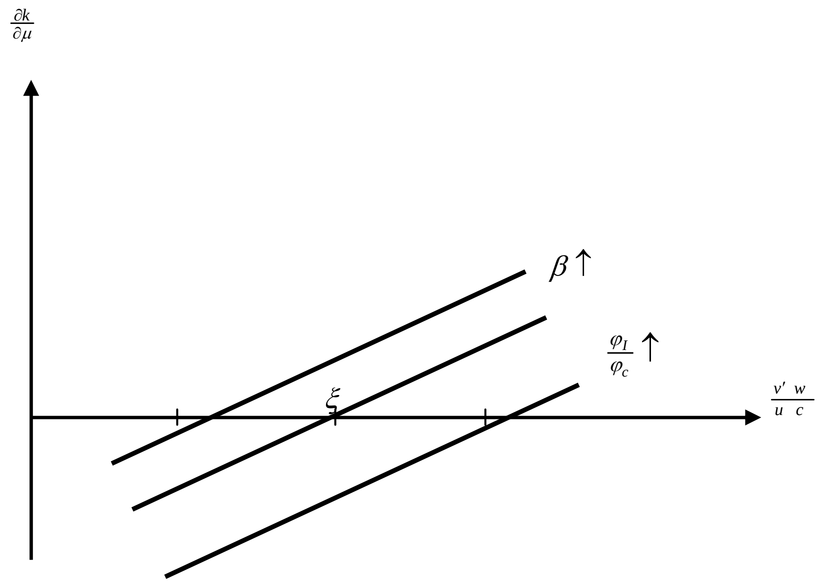
β ρ σ θ A η δ φ_c φ_I μ

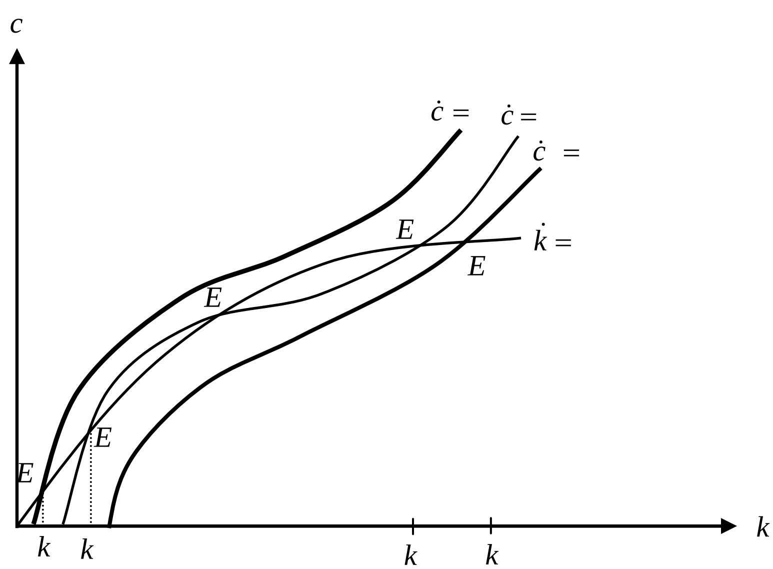
	k	k	k
$\mu=$			
$\mu=$			
$\mu=$			
$\mu=$			
$A=$			
$\delta=$			
φ_c			
φ_I			
ρ			

β ρ σ θ A η δ φ_c φ_I μ


c
$\dot{c}=$
$\beta=$
$\dot{c}=$
$\beta>$
E
E
E
E
$\dot{k}=$
k
k
k
k


c
$\dot{c}$ =
$\dot{c}=$
$\dot{c}$ =
$\dot{k}=$
E
E
E
k
k
k
k


∂k/∂μ
β ↑
φ_I/φ_c ↑
ξ
v′/u w/c


c
ċ =
ċ =
ċ =
k̇ =
E
E
E
E
E
k
k
k
k
k