ODE Model — mmt base 1

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Table 1: Parameters

Name	Symbol	Value
K	K	100.0
nu	ν	2.5
alpha	α	0.02
N	N	100.0
J	J	0.5
jg_wage	w_j	0.9
phi	ϕ	1.0
gamma	γ	0.05
varphi	φ	1.0
u_init	u_0	0.8
P_init	P_0	1.0
phi0	ϕ_0	0.03

Table 2: Initial Conditions

Name	Symbol	Value
Pi	Π	1.0
Y	Y	50.0
u	u	0.6
lambda	λ	0.9

Auxiliary Equations

$$
\begin{aligned}
Y_j &= \varphi \cdot (1 - \lambda) \cdot N \cdot J \\
Y_r &= K/\nu \\
\Phi &= \phi_0 \cdot (\lambda/(1 - \lambda))
\end{aligned}
$$

ODE Equations

$$
\begin{aligned}
\frac{d\lambda}{dt} &= \lambda \cdot (\gamma \cdot (1 - \omega) - \alpha) \\
\frac{d\omega}{dt} &= \omega \cdot (\Phi - \alpha) \\
\frac{du}{dt} &= u \cdot (\Phi + (\omega/\lambda) \cdot \frac{d\lambda}{dt} + (1/P) \cdot \frac{dP}{dt} - \alpha) \\
\frac{dP}{dt} &= \Phi + 0.01 \cdot (\omega - w_j)
\end{aligned}
$$