

Complicated Dynamics and Parametric Restrictions in the Robinson-Solow-Srinivasan (RSS) Model*

M. Ali Khan[†] and Tapan Mitra[‡]

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Abstract: Since the 2005 demonstration of optimal topological chaos in a particular instance of the 2-sector RSS model, the delineation of the optimal policy function (*OPF*) for “small” discount factors has remained open. This paper (i) provides an explicit solution of the *OPF* when the discount factor is less than the labor/capital-output ratio. It also (ii) establishes the existence of optimal topological chaos for a non-negligible parametric range of the model, (iii) presents exact restrictions on the labor/capital-output ratio for optimal turbulence and three-period cycles, and (iv) extends the 1996 Mitra-Nishimura-Yano theorems on discount factor restrictions to the RSS case. This work underscores the initial promise of the RSS model as a “simple model with very complicated dynamics,” May (1976). (120 words)

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[†]Department of Economics, The Johns Hopkins University, Baltimore, MD 21218.

[‡]Department of Economics, Cornell University, Ithaca, New York 14853.