

# A PRICE MODEL WITH TWO DELAYS

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The delay differential equation

$$x'(t) = a[x(t) - x(t-1)] - g(x(t-\tau)), \quad (1)$$

models the dynamics of exchange rate. It is known that if  $\tau = 0$  then  $x = 0$  is a global attractor for all  $a \in (0, 1)$ . If  $\tau = 0$  and  $a > 1$  then there is a stable periodic orbit.

We show that, for any  $a > 0$ , there is a dense set (in  $(0, \infty)$ ) of delays  $\tau > 0$  such that equation (1) has a periodic solution. For  $a \in (0, 1)$ , we estimate the region of attractivity of the equilibrium  $x = 0$ . Joint work with Tibor Krisztin.