A global bifurcation result is obtained for families of competitive systems of difference equations

\[
\begin{aligned}
x_{n+1} &= f_\alpha(x_n, y_n) \\
y_{n+1} &= g_\alpha(x_n, y_n)
\end{aligned}
\]

where \(\alpha\) is a parameter, \(f_\alpha\) and \(g_\alpha\) are continuous real valued functions on a rectangular domain \(\mathcal{R}_\alpha \subset \mathbb{R}^2\) such that \(f_\alpha(x, y)\) is non-decreasing in \(x\) and non-increasing in \(y\), and \(g_\alpha(x, y)\) is non-increasing in \(x\) and non-decreasing in \(y\). A unique interior fixed point is assumed for all values of the parameter \(\alpha\).

As an application of the main result for competitive systems a global period-doubling bifurcation result is obtained for families of second order difference equations of the type

\[
x_{n+1} = F_\alpha(x_n, x_{n-1}), \quad n = 0, 1, \ldots
\]

where \(\alpha\) is a parameter, \(F_\alpha : \mathcal{I}_\alpha \times \mathcal{I}_\alpha \to \mathcal{I}_\alpha\) is a decreasing function in the first variable and increasing in the second variable, and \(\mathcal{I}_\alpha\) is a interval in \(\mathbb{R}\), and there is a unique interior equilibrium point. Examples of application of the main results are also given. (Received September 18, 2007)