Non-autonomous saddle-node bifurcations

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We study the effect of external forcing on the saddle-node bifurcation pattern of interval maps. Replacing fixed points of unperturbed maps by invariant graphs, we obtain direct analogues to the classical result both in a measure-theoretic and a topological setting. As an interesting new phenomenon, a dichotomy appears for the behaviour at the bifurcation point, which allows the bifurcation to be either "smooth" (as in the classical case) or "non-smooth".