Global stability for price models with delay

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In 2004, Erdélyi, Brunowsky and Walther [1, 2] formulated a global stability conjecture on a differential equation. The equation models the change of a price considering the past values. In the joint article [3] with Tibor Krisztin, we managed to prove the conjecture, in a much more general form than the original one. The base of the proof is that the equation can be written in a so-called neutral form. For this, we give a brief introduction to the theory of neutral differential equations, and then we will show how we applied the Lyapunov method.

[1] P. Brunovský, A. Erdélyi, H.-O. Walther, On a model of a currency exchange rate - local stability and periodic solutions, *J. Dynam. Diff. Eq.* **16** (2004), 393–432.

[2] P. Brunovský, A. Erdélyi, H.-O. Walther, Erratum to: "On a model of a currency exchangerate - local stability and periodic solutions", *J. Dynam. Diff. Eq.* **20** (2008), 271–276.

[3] I. Balázs, T. Krisztin, Global Stability for Price Models with Delay, *J. Dyn. Diff. Eq.* (2017), https://doi.org/10.1007/s10884-017-9583-5