

Global stability for price models with delay

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In 2004, Erdélyi, Brunowsky and Walther 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 [1] 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.

References

- [1] István Balázs, Tibor Krisztin: Global Stability for Price Models with Delay, *Journal of Dynamics and Differential Equations* (2017), <https://doi.org/10.1007/s10884-017-9583-5>