

The Value of Replication Studies: Insights from Rogoff & Reinhart's 2003 Publication

Mahdi Abu Atmeh

Fresenius University of Applied Science

Data Science and Data Analytics (WS 2025/26)

Prof. Dr. Stephan Huber and Benjamin Groß

2026-12-17

Author Note

Correspondence concerning this article should be addressed to Mahdi Abu Atmeh,

Email: abu_atmeh.mahdi@stud.hs-fresenius.de

The Value of Replication Studies: Insights from Rogoff & Reinhart's 2003 Publication

1 Introduction

- **Replication** is essential to scientific credibility.
 - In economics, replication tests whether results hold up under re-analysis.
 - Today's focus: *Rogoff & Reinhart (2003)* — a pivotal paper in macroeconomics.
 - We explore what this paper teaches us about replication's value.
-

2 The 2003 Paper: “Debt Intolerance”

- Authors: Carmen M. Reinhart, Kenneth S. Rogoff & Miguel A. Savastano
 - Published in *Brookings Papers on Economic Activity (2003)*
 - Main argument:
 - > Some countries are “debt intolerant” — they experience crises at debt levels manageable by advanced economies.
 - Key idea: Institutions and history matter more than a single debt threshold.
 - Link: [Brookings Institution Article](#)
-

3 Why This Paper Matters for Replication

- Influential in shaping debt policy debates in emerging markets.
 - Built on cross-country data and novel concepts.
 - Encouraged policy discussions around debt thresholds.
 - Its influence makes it a prime candidate for replication scrutiny.
-

4 What Are Replication Studies?

- **Replication:** Re-running the same analysis with original data and methods.
- **Reproduction:** Confirming findings using new data or independent methods.
- Replication enhances:
 - Credibility and transparency
 - Error detection and robustness

- Cumulative scientific progress
 - However, replication is often difficult due to unavailable data/code.
-

5 Elements of a Strong Replication Study

- Transparent data and full documentation
 - Clear sample definitions and exclusions
 - Shared code or reproducible workflow
 - Robustness and sensitivity tests
 - Publication of both confirmations and discrepancies
-

6 The Broader Rogoff–Reinhart Line of Research

- Later work: “*Growth in a Time of Debt*” (2010)
 - Widely cited — argued growth slows above 90% debt/GDP.
 - Replication by Herndon, Ash & Pollin (2013) found:
 - Coding and weighting errors
 - Selective country exclusions
 - Lesson: Even leading research benefits from transparent replication.
-

7 Lessons from the Replication Debate

- Errors can occur even in top-tier research.
 - Data/code transparency allows faster correction and learning.
 - Policy implications must reflect uncertainty and replication risks.
 - Open data enhances public trust and academic rigor.
 - Teaching replication improves empirical skills and ethical awareness.
-

8 Linking Back to “Debt Intolerance”

- The 2003 paper's contribution: highlighting institutional factors behind debt crises.
 - A replication could:
 - Update the dataset with recent decades
 - Test sensitivity to data definitions
 - Assess predictive validity across income levels
 - This exercise shows replication as a *path to knowledge refinement*.
-

9 Challenges and Limitations

- Data access restrictions
 - Ambiguity in variable definitions
 - Code unavailability or proprietary tools
 - Incentive problem: Replication studies undervalued in publication metrics
 - Yet: these are reasons to *encourage* replication, not avoid it.
-

10 Conclusion

- Replication strengthens the credibility and reliability of economics research.
 - The Rogoff–Reinhart case illustrates how influential findings demand scrutiny.
 - Encouraging a **replication culture** benefits:
 - Policymakers (better decisions)
 - Researchers (deeper insights)
 - Society (greater trust in science)
 - *Replication is not about criticism — it's about scientific integrity.*
-

- Reinhart, C. M., Rogoff, K. S., & Savastano, M. A. (2003). *Debt Intolerance*. Brookings Papers on Economic Activity, 2003(1), 1-74.
- Herndon, T., Ash, M., & Pollin, R. (2013). *Does High Public Debt Consistently Stifle Economic Growth?* University of Massachusetts Amherst Working Paper.

- Dimitrova, V. (2013). *Reinhart-Rogoff revisited: Coding errors happen...* LSE Impact Blog.
 - Chang, A. C., & Li, P. (2015). *Is Economics Research Replicable?* Finance & Economics Discussion Series, Federal Reserve Board.
 - Brookings Institution (2003). *Debt Intolerance*. brookings.edu
-