When Aiyagari meets Piketty: Growth, Inequality and Capital Shares

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This paper

Previous research on the inequality-growth nexus:

- Credible theoretical mechanisms pulling in different directions.
- Conflicting empirical findings on associations & fundamental challenges in identifying causal effects.

We ask: **is the inequality-growth nexus dependent on factor shares?**

We use theory (Aiyagari, 1994, QJE) and cross-country panel data:

- Historical ("Pikettyan") data: Bengtsson and Waldenström (2018, J Econ Hist).
- Recent data: World Inequality Database and Bachas et al. (2021, WP).

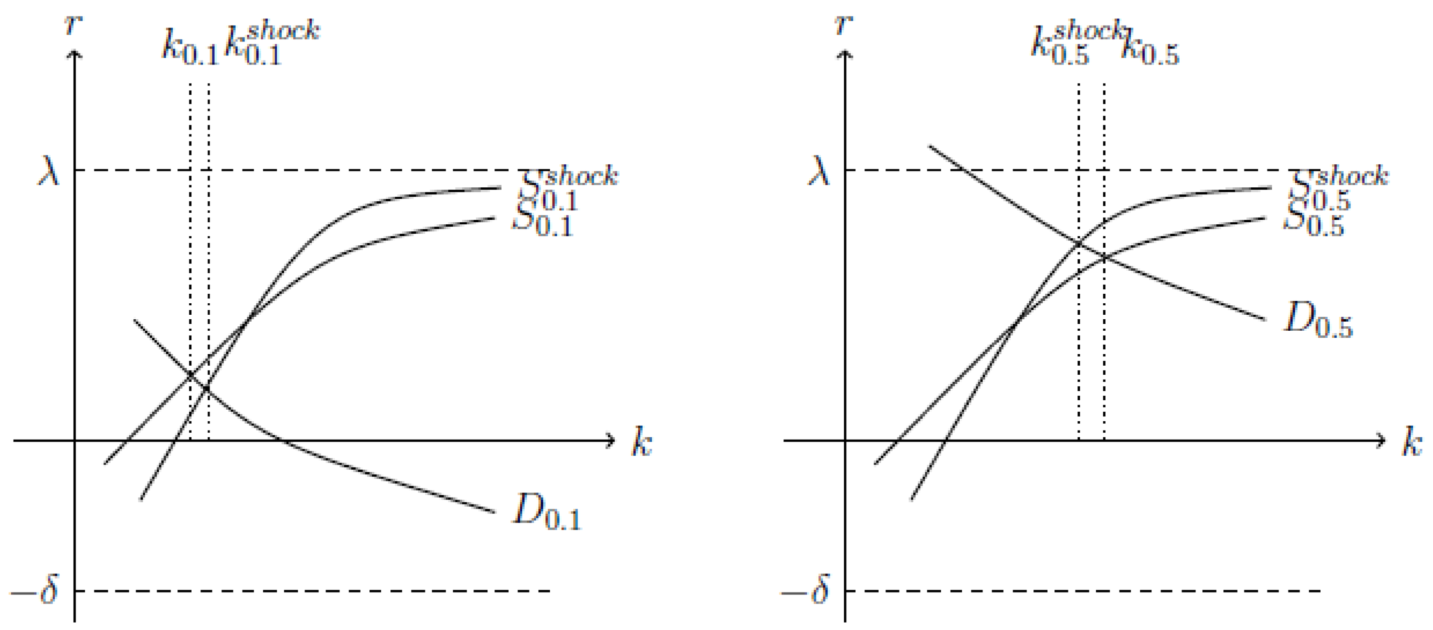
Contribution: reveal a novel link between growth, inequality and factor shares.

Theory

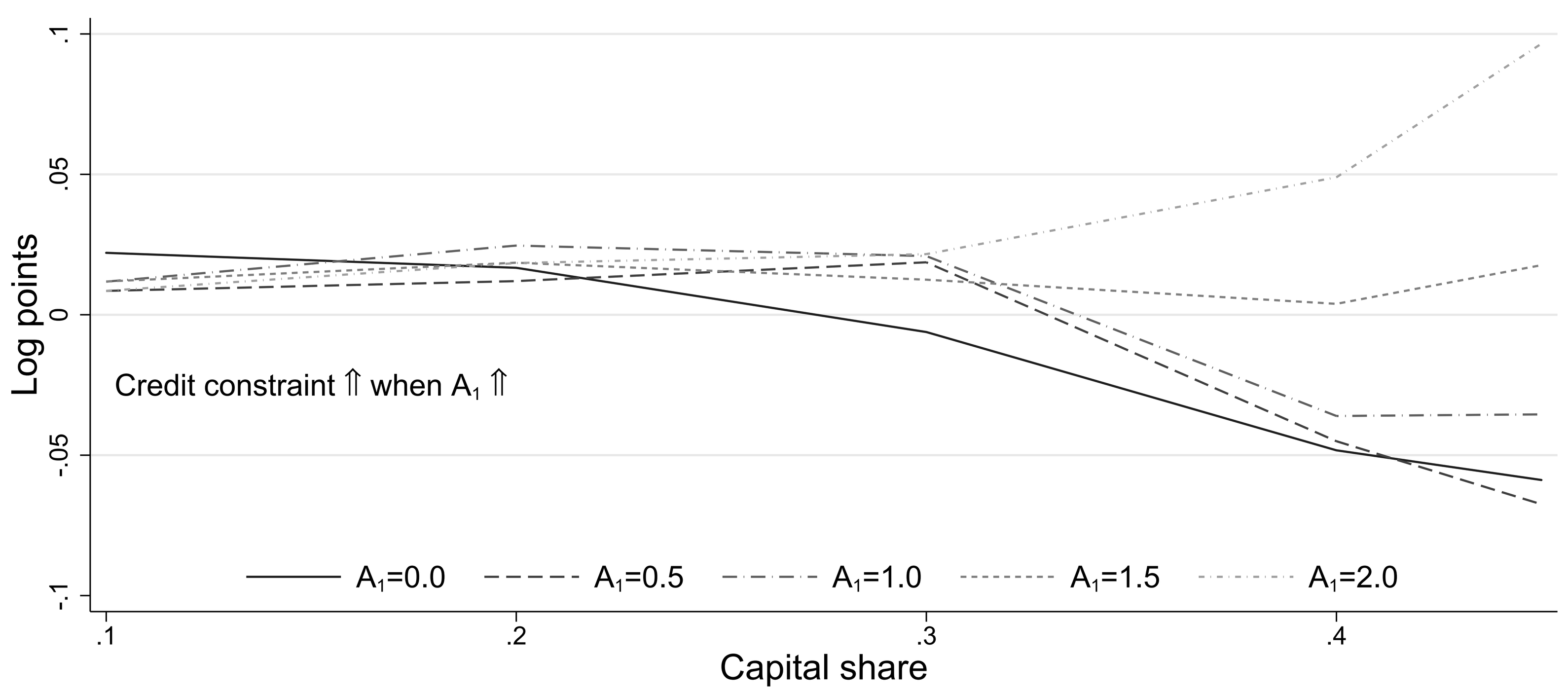
Aiyagari (1994): growth model w/ precaut. saving motives and liquidity constraints:

- We study capital accumulation as the prime engine of growth.
- We pull three levers: 1) inequality, 2) capital share, 3) credit constraint.

Capital market equilibria to illustrate the mechanisms of the model:



Simulated growth reactions to a positive inequality shock:



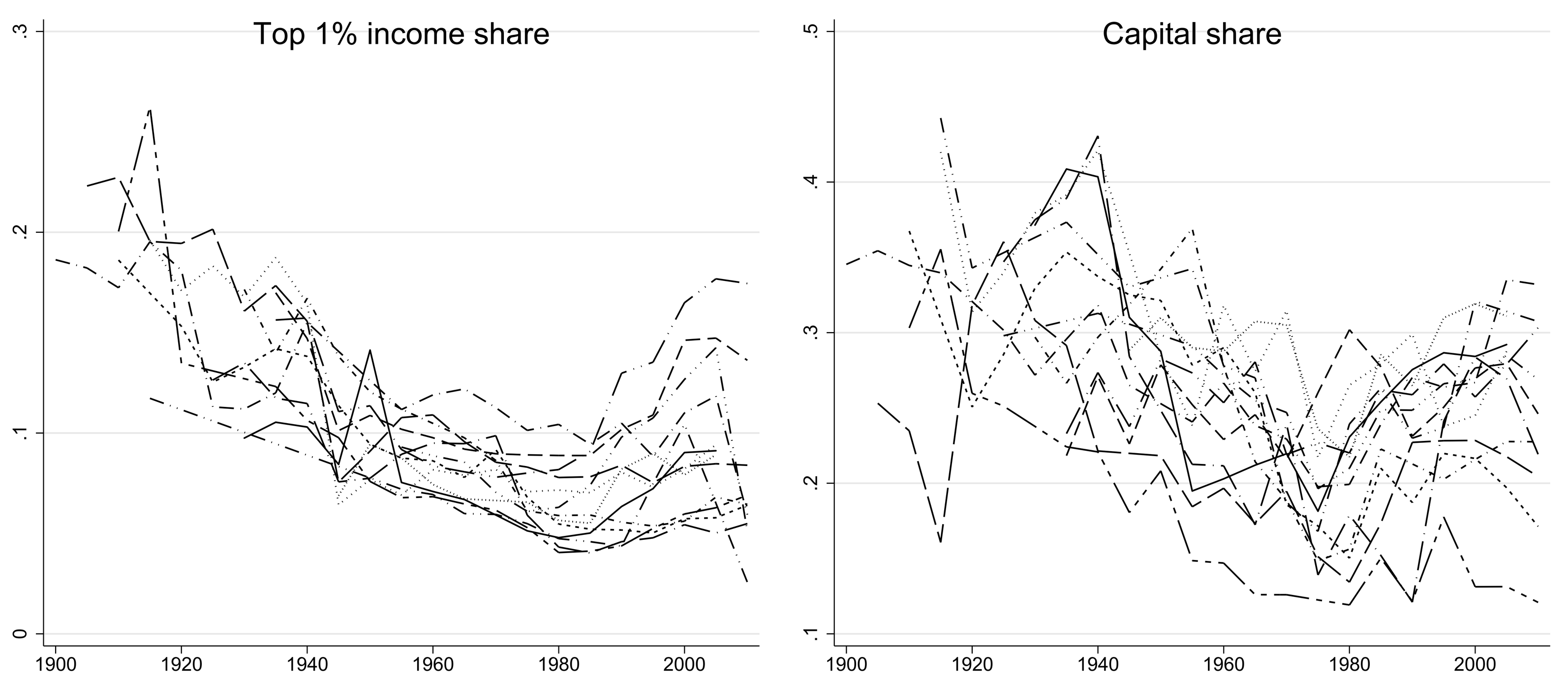
Capital and growth reactions to ineq. ⇑ depend on capital share. When A_1 is low:

- **Positive** association when capital share is **low**.
- **Negative** association when capital share is **high**.

Historical data and empirical approach

Data on top income shares and factor shares (Bengtsson and Waldenström, 2018):

- Unbalanced panel of 13 developed countries, 13-21 five-year growth windows (1900-2014), combine with Maddison Historical Statistics.

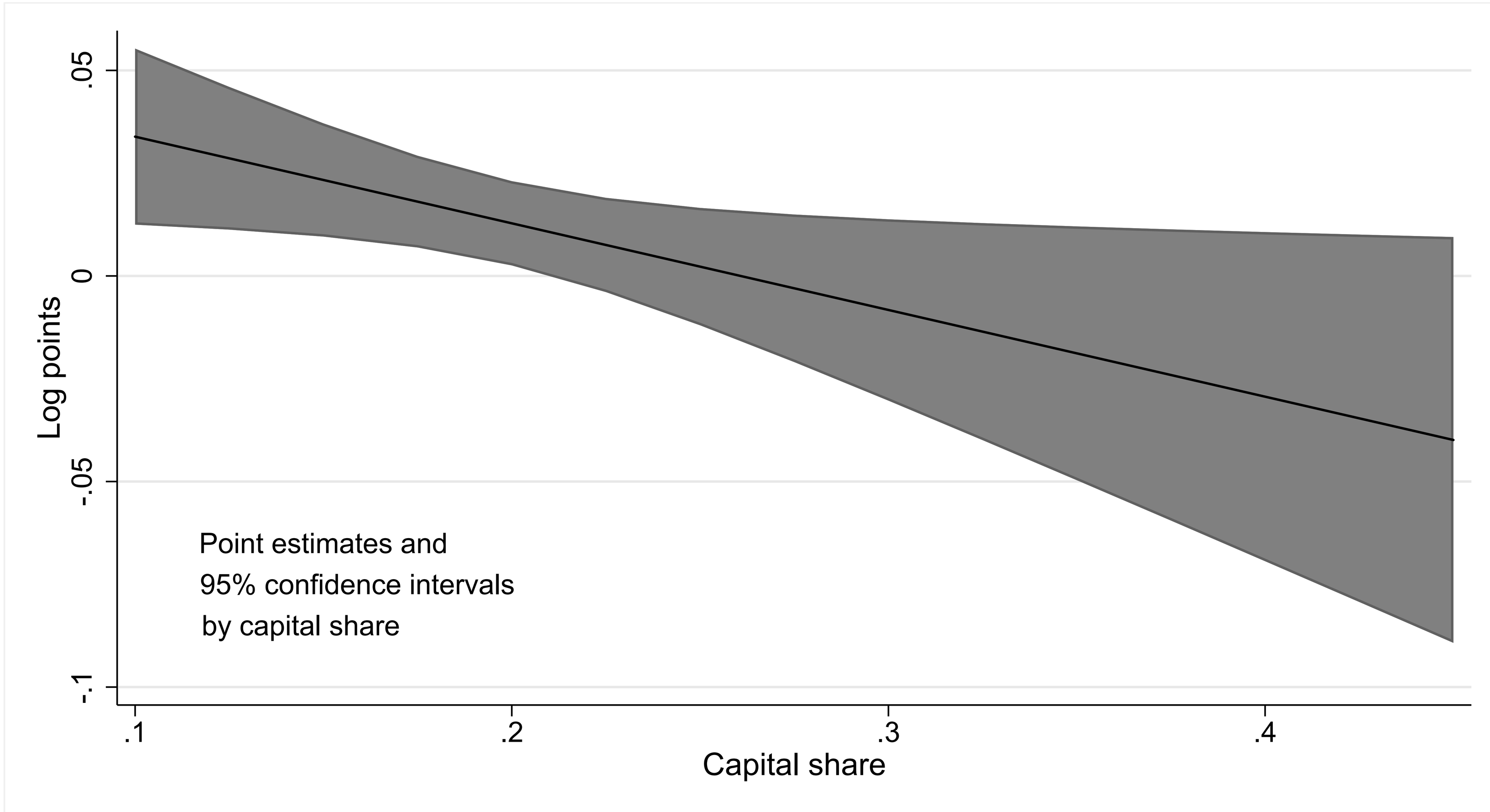


Regress per capita growth on top 1% share, capital share and their interaction (also include year & country dummies and controls) ⇒ association ≠ causal effect

Empirical findings using historical data

Association between top 1% share and growth conditional on capital share:

- **Positive** association when capital share is **low**.
- **Negative** association when capital share is **high**.



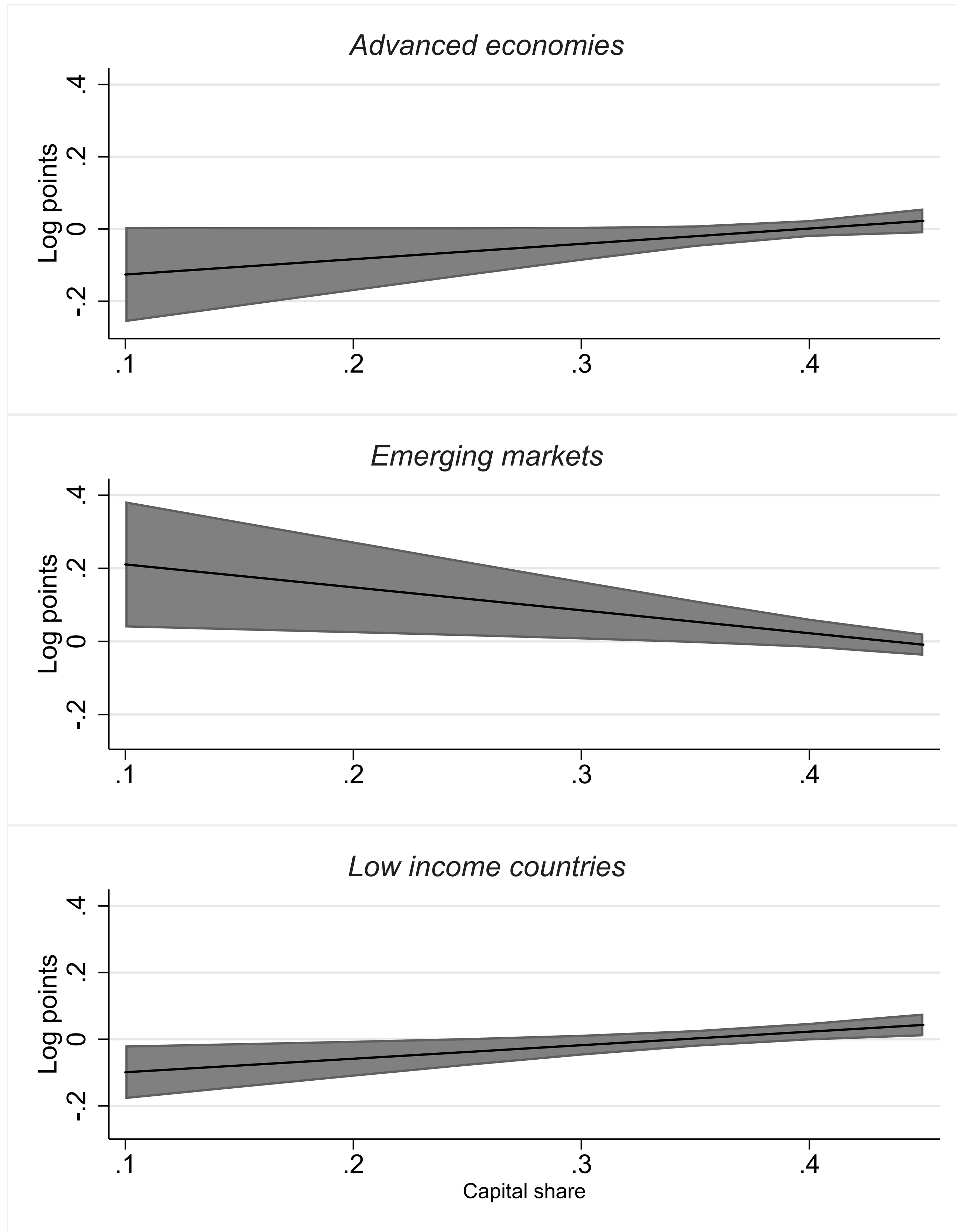
Robustness:

- Dependency to the level of inequality rather than capital share? No.
- Top 10% and top 0.1%? Similar but magnitudes vary.
- Down-ward sloping pattern also when we examine the association between top 1% share and gross capital formation conditional on capital share.
- Define growth windows in several ways, exclude extreme growth rates, address capital depreciation in different ways, use various estimators, . . .

Empirical findings using recent data

Recent data on top income shares (WID) and factor shares (Bachas et al., 2021):

- Cover 132 countries over 1980-2019: enables us to group countries.
- Down-ward sloping pattern in emerging markets, where the accumulation of physical capital was the prime engine of growth over the sample period.



Conclusion

We reveal a novel link between inequality and factor shares:

- Previous literature: capital share positively associated with income inequality.
- We show: **inequality-growth nexus depends on factor shares.**

Limitations: 1) historical perspective & capital accumulation vs. modern economies, 2) association ≠ causal effect, 3) cross-country variation vs. country-level policies.

Future work: complement the existing work with Finnish registry data.

Contact & the paper

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