Breaking the Spell with Credit-Easing

Self-Confirming Credit Crises in Competitive Search Economies[1]

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HKMA-NYFed Conference on "International and Domestic Dimensions of Unconventional Monetary Policy"

21, March 2014

[1]We gratefully acknowledge financial support by Fondation Banque de France.

[2]Banque de France - The views expressed do not necessarily reflect the ones of Banque de France.

[3]European University Institute, Barcelona GSE - UPF, NBER and CEPR.

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    - earned $ 1.2 bil. in interest income for the US taxpayer.

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- How should a CB react when "lowering the cost of money" is not effective?
- Which market failure can *Credit-Easing* policy cure that other policies cannot?

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- Neither a unique equilibrium nor multiple REE;
- Rigorous framework to discuss how subjective beliefs matters: only excessive risk-taking can be SCE (without being REE).

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- Experimenting through the market: large-scale banks' subsidy to induce "learning by doing".

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  - in contrast to robustness: Sargent and Hansen (2007);

Model

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- A bank needs to anticipate the choices of a firm!

Firms

- A project of size I yields a ex. net profit of

$$\Pi(\varsigma, I, R) = \kappa(\varsigma, R) I - \frac{1}{2} I^2,$$

depending on the type of technology $\varsigma \in \{s, r\}$ adopted,

$$\begin{aligned} \kappa(r, R) &= \alpha(Y - R), \\ \kappa(s, R) &= Y - k - R, \end{aligned}$$

and: α the probability of success of the risky tech., k the per-unit cost of the safe tech., Y the gross project return and R interest rate on financing I.

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- Firms choose $R^* \in H$, ς^* and I^* which maximize

$$J \equiv p(R) \Pi(\varsigma, I, R),$$

where H is the set of announced contracts posted by banks.

Banks

- The expected value of a credit line is

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- R' belongs to H^* if

$$R' = \arg\sup_{R \in \Re} \mathrm{E}^{\beta}\left[V(R) - c\right]$$

$$\text{s.t. } \bar{J} = p(R)\, \mathrm{E}^{\beta}\left[\Pi(\varsigma, I, R)\right]$$

where c is the cost of a vacancy and β is the system of beliefs about firms' reaction held by banks.

Equilibrium

- *A* $R^* \in H^*$ *is* **SCE** *if banks correctly anticipates firms' reaction, at any local deviation from an equilibrium contract, that is*

$$\mathrm{E}^{\beta}\left[I^*\left(R\right), \varsigma^*\left(R\right)\right] = \left[I^*\left(R\right), \varsigma^*\left(R\right)\right]$$

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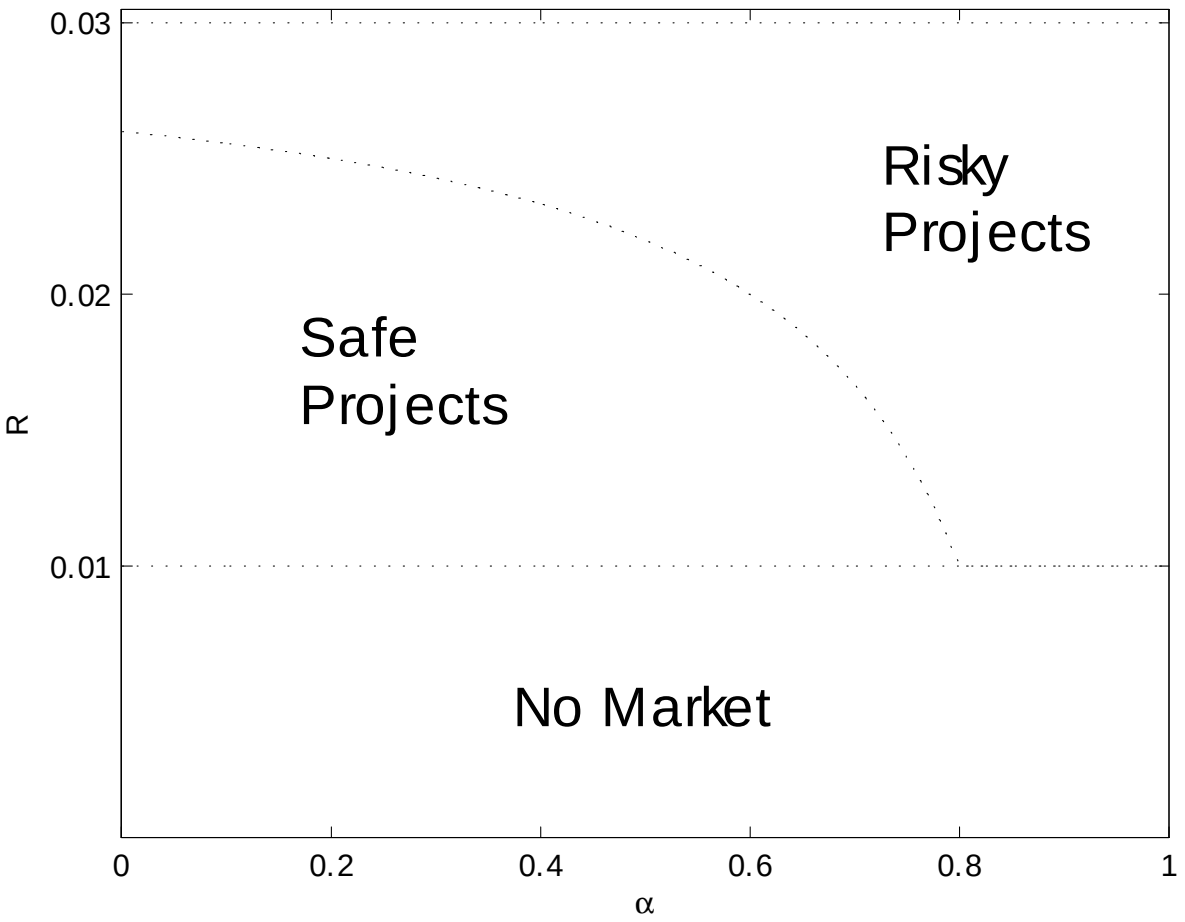
- *That is, in a SCE banks' priors about firms' payoffs away from the equilibrium are not restricted!*

The choice of projects by firms



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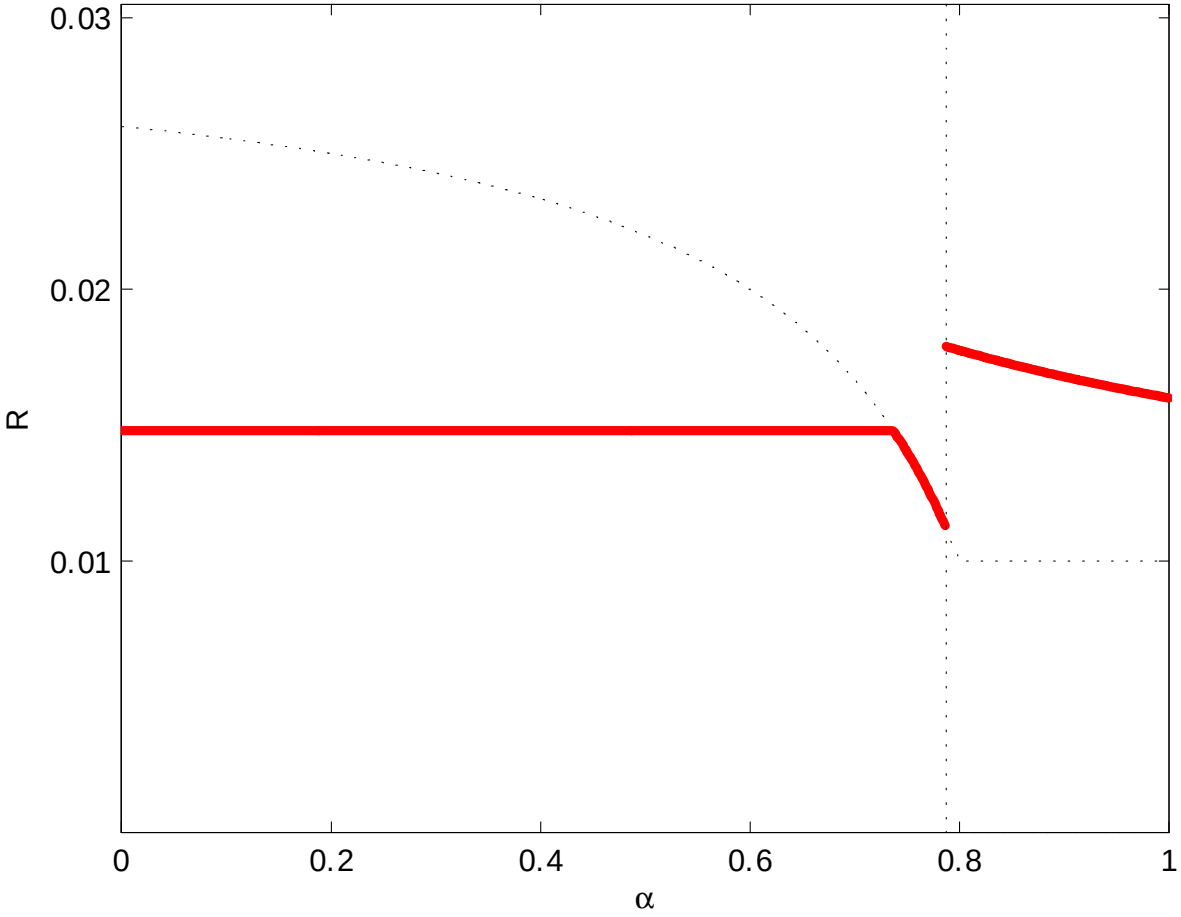
Unique REE



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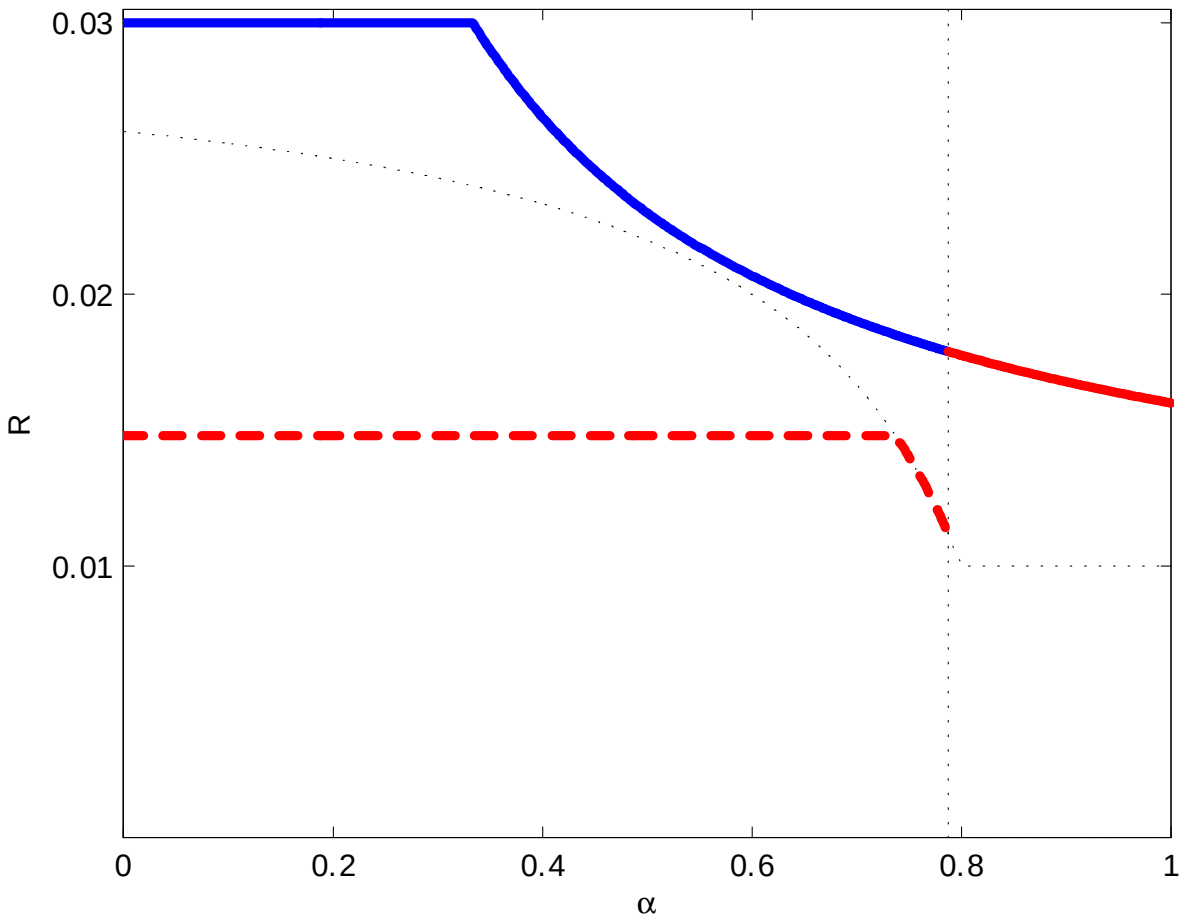

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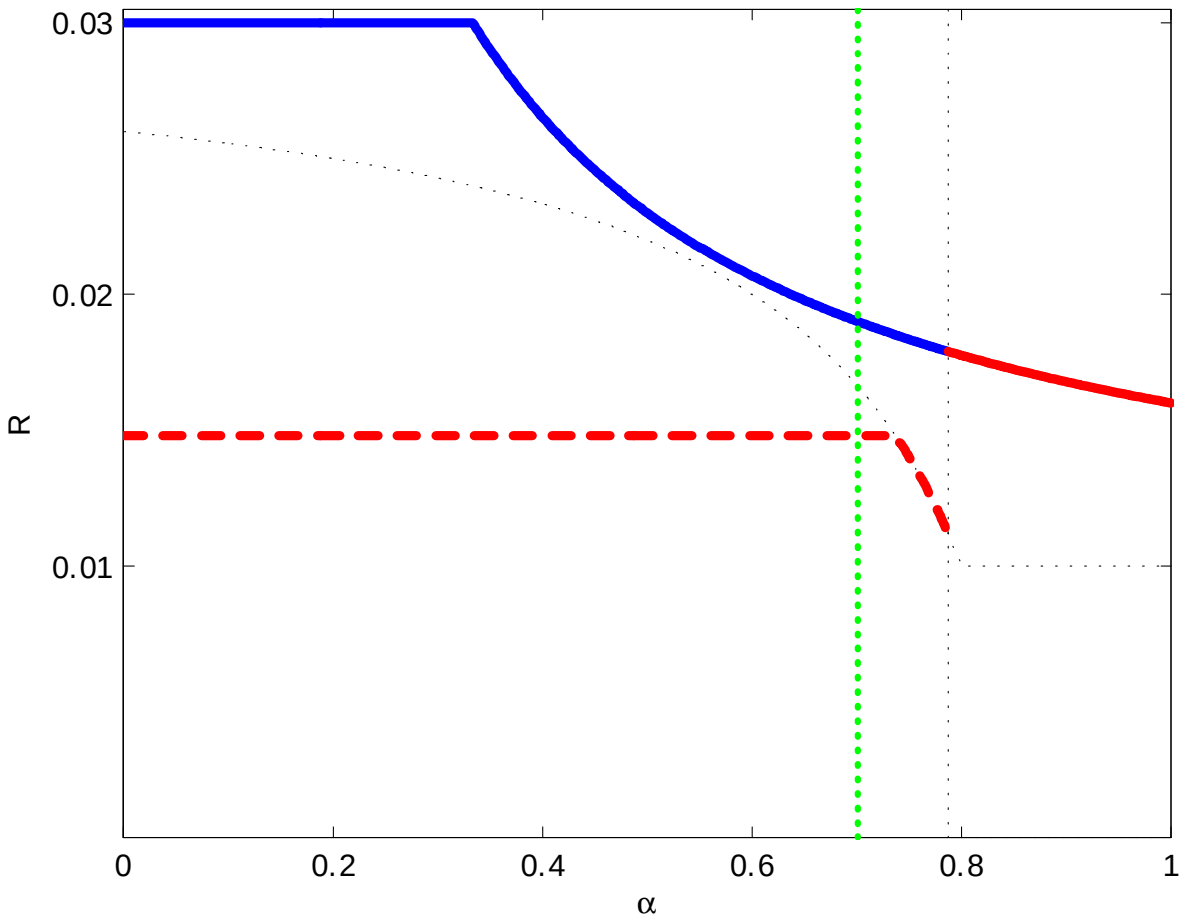

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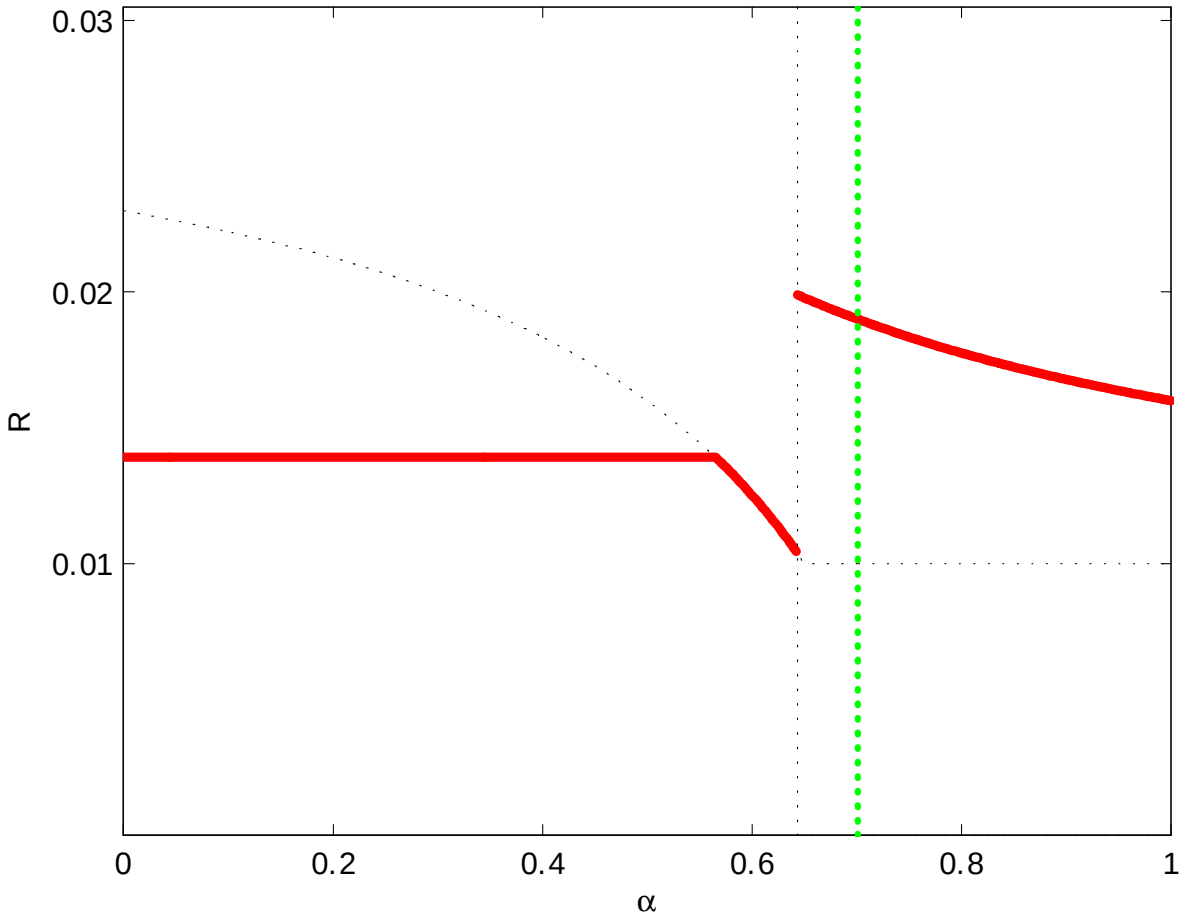

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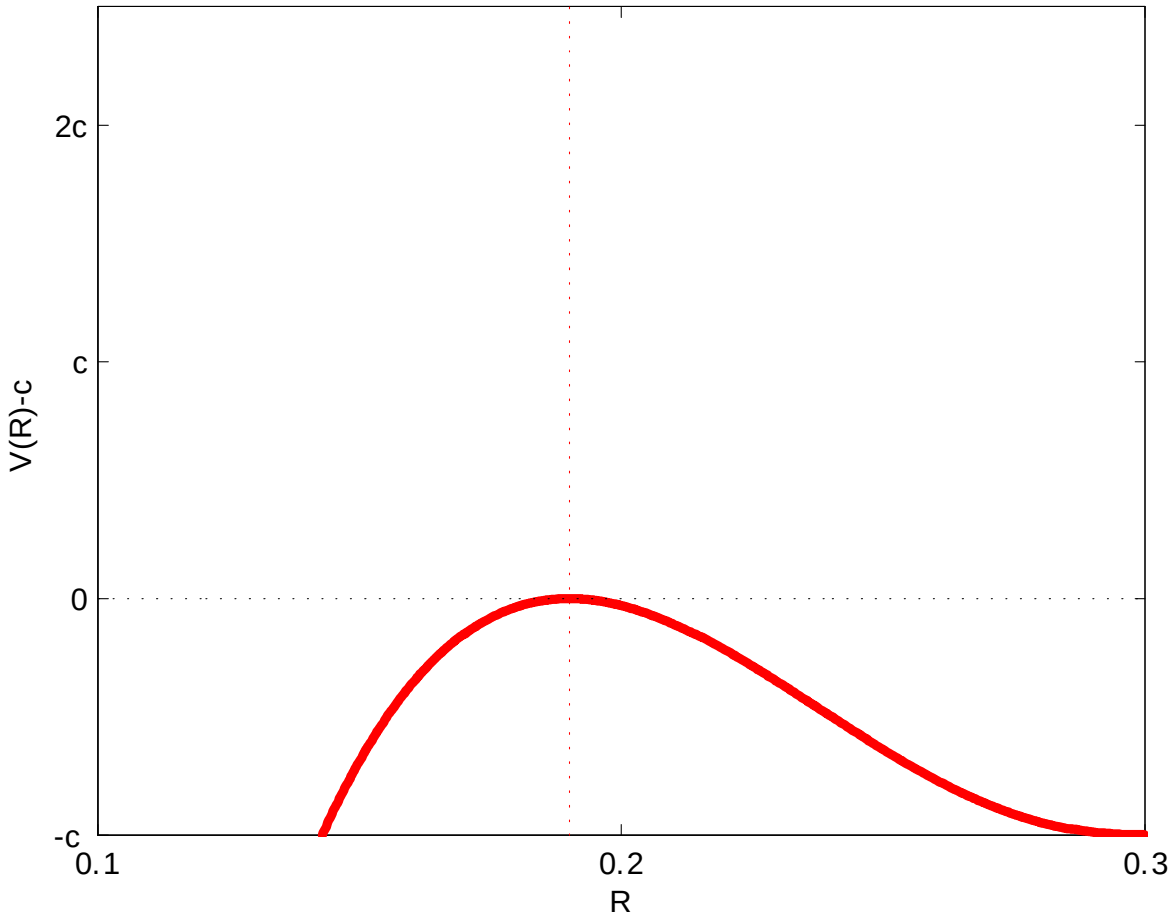

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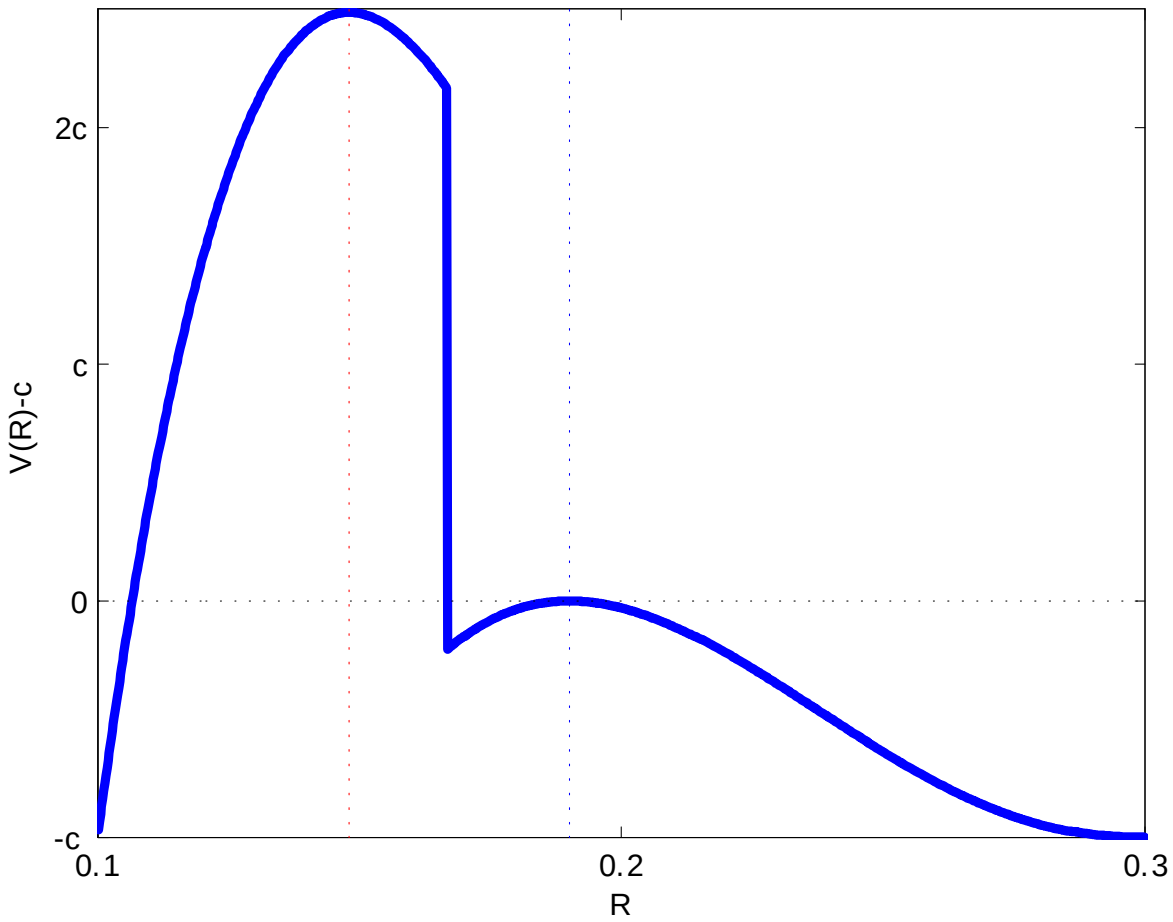

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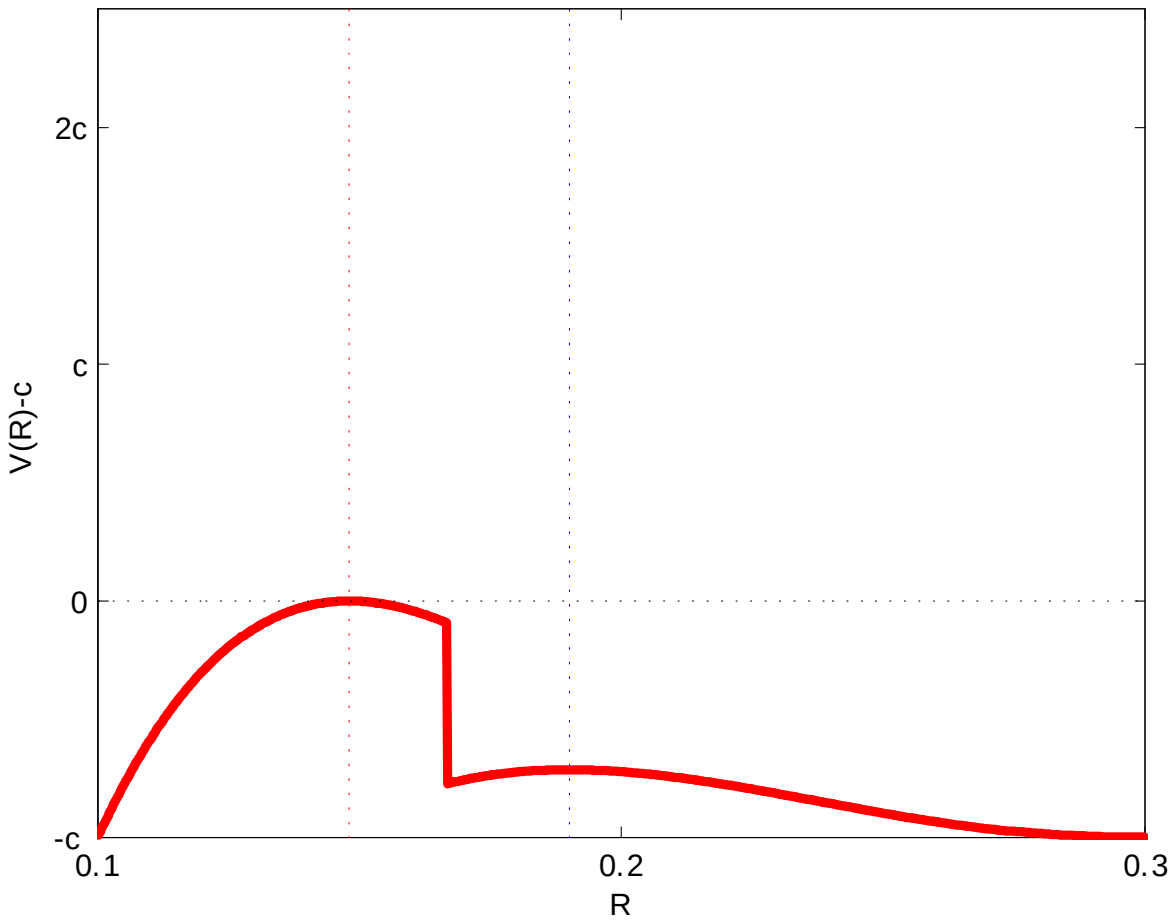

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Conventional Policy

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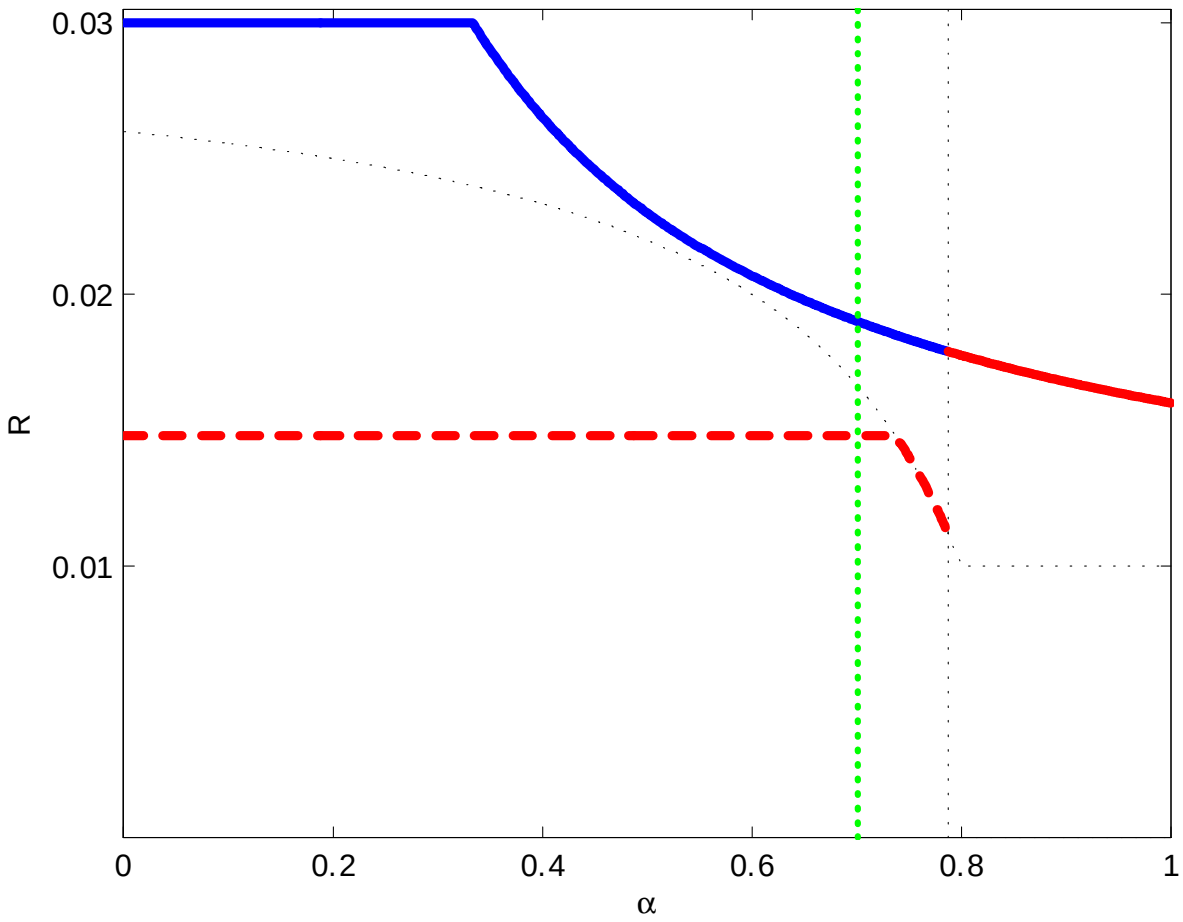

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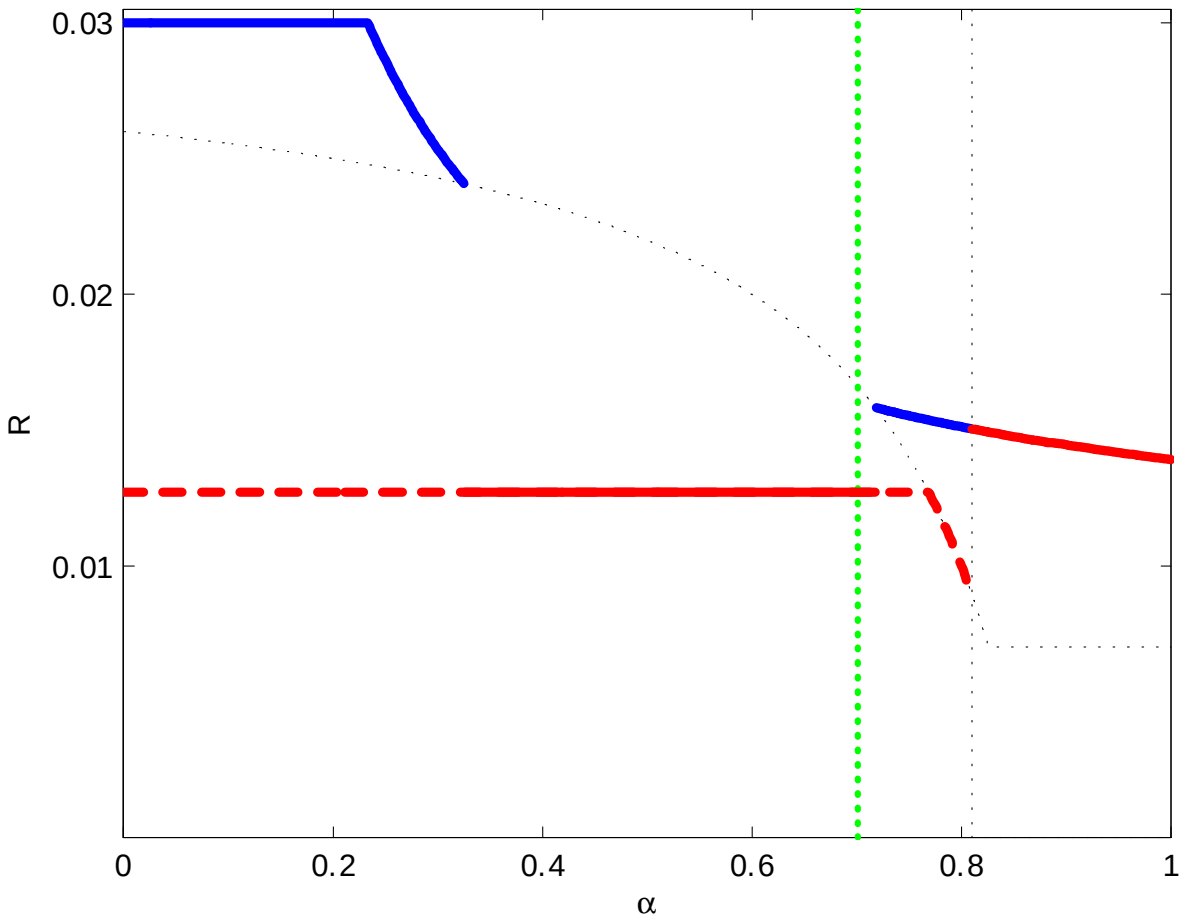

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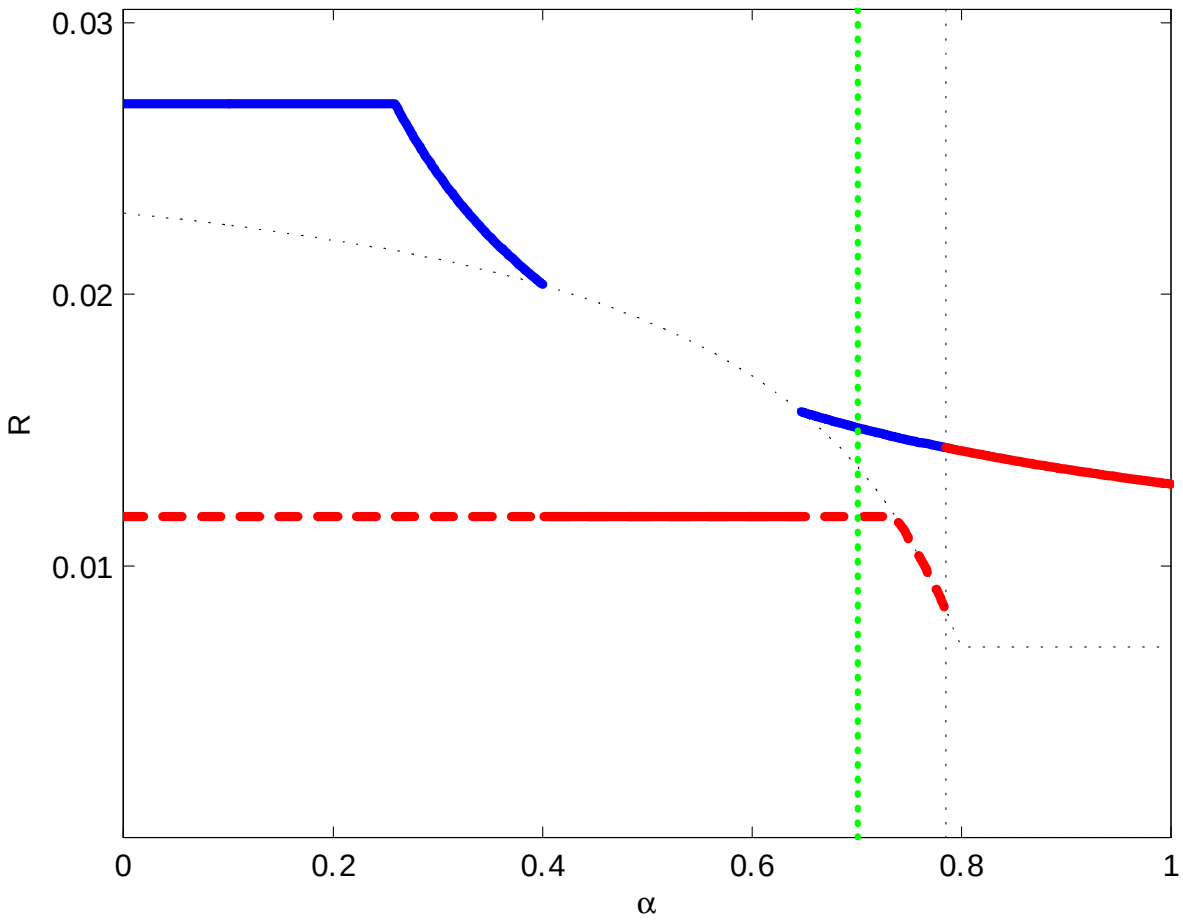

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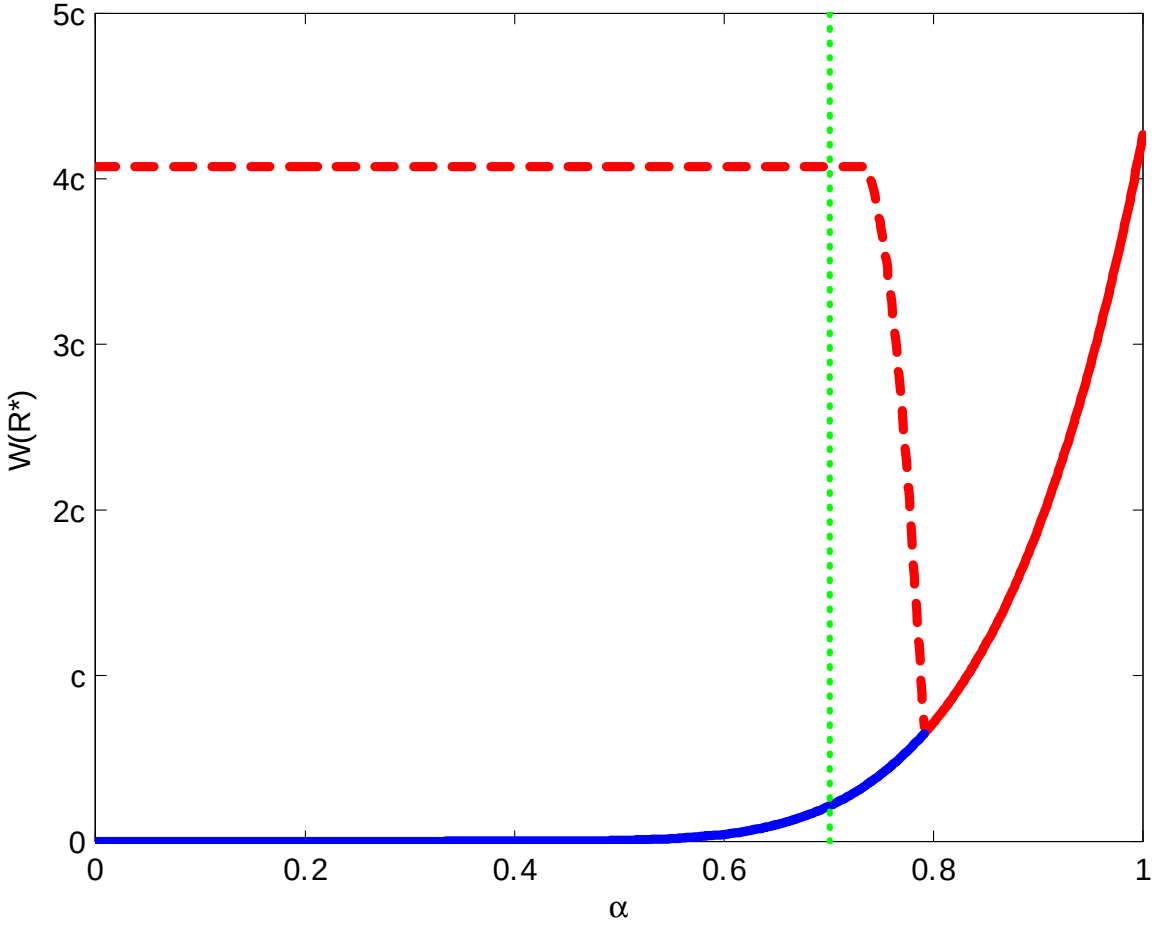
Unconventional Policy

Why should the authority be willing to take the risk of experimentation?

Social Welfare



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- In an intertemporal perspective the objective of the CB is to maximize the social welfare

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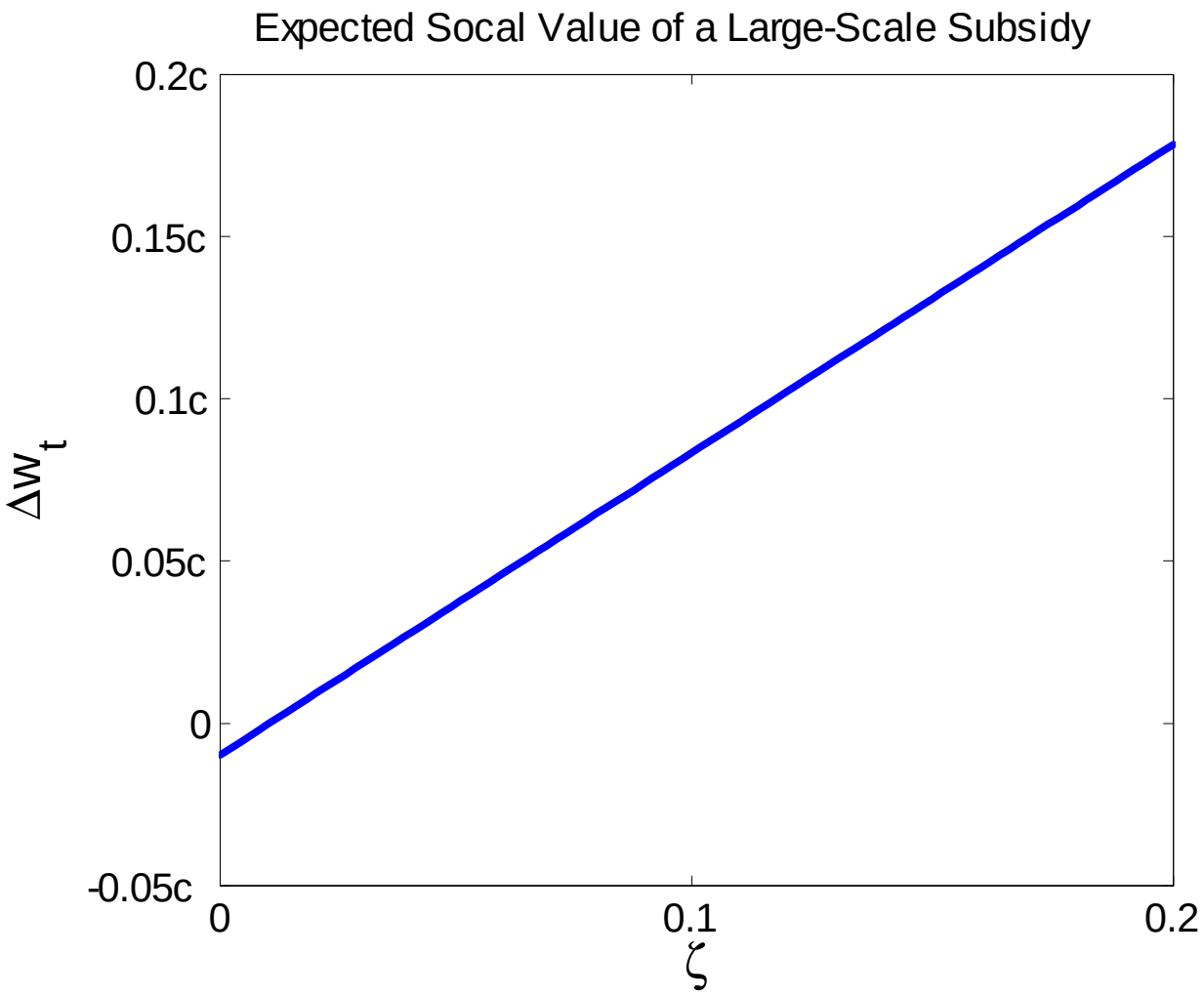
- Large-scale experiment if $\mathrm{E}^{\beta}\left[\Delta \mathrm{w}_t\right] > 0$ otherwise with a controlled experiment $\Delta \mathrm{w}_t = 0$.

Using the market to experiment



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- Two possible causes:
  - firms are fundamentally weak $\longrightarrow$ no role for any liquidity policy
  - banks are trapped in SCE $\longrightarrow$ credit policies can play a major role

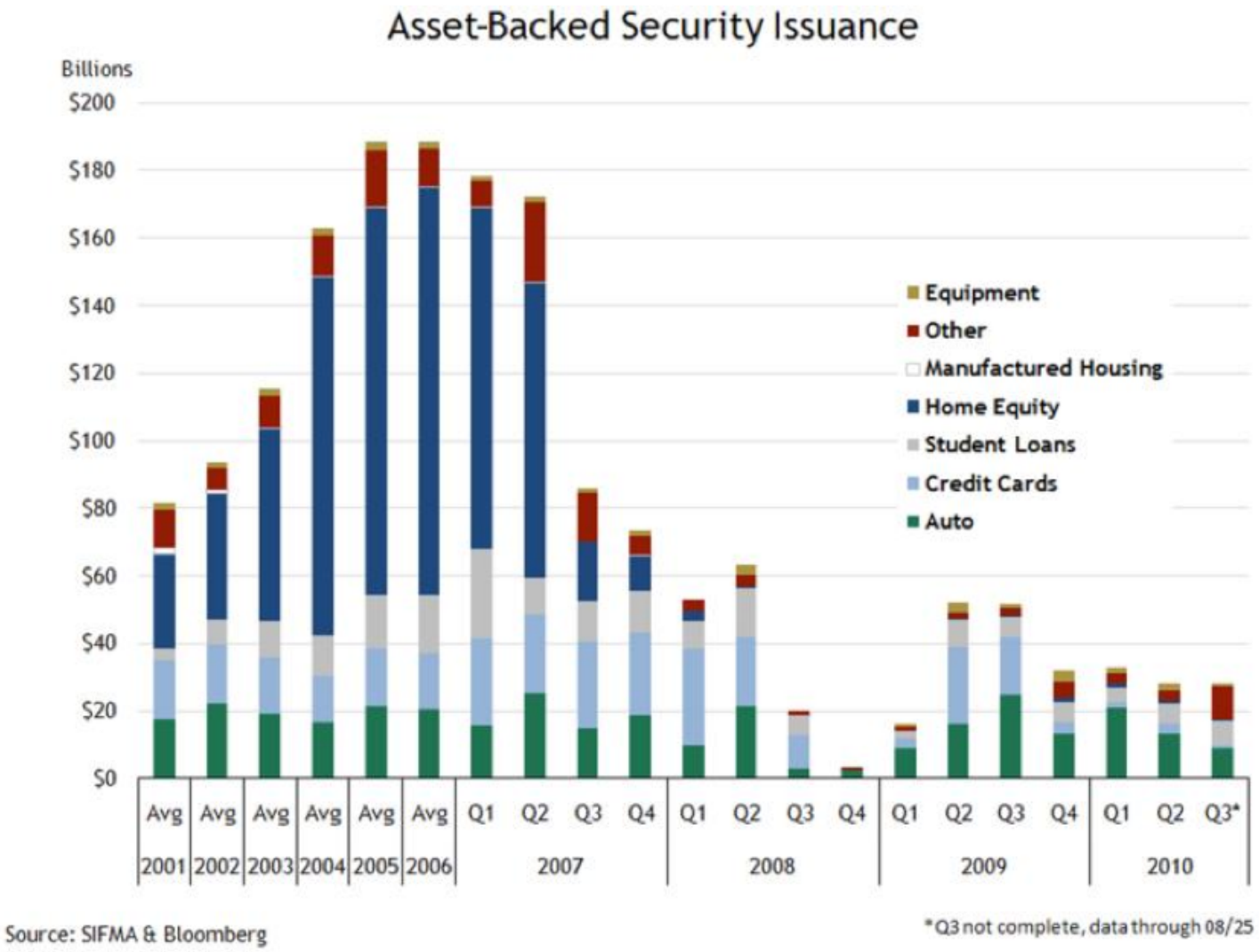
Our results and the European credit crisis

- Liquidity in the interbank market does not transmit to the private sector
  - especially true in Italy and Spain
- Two possible causes:
  - firms are fundamentally weak $\longrightarrow$ no role for any liquidity policy
  - banks are trapped in SCE $\longrightarrow$ credit policies can play a major role
    - the experiment is worth even if the result is negative!

Thanks for your attention

TALF

ABS Market Freezes



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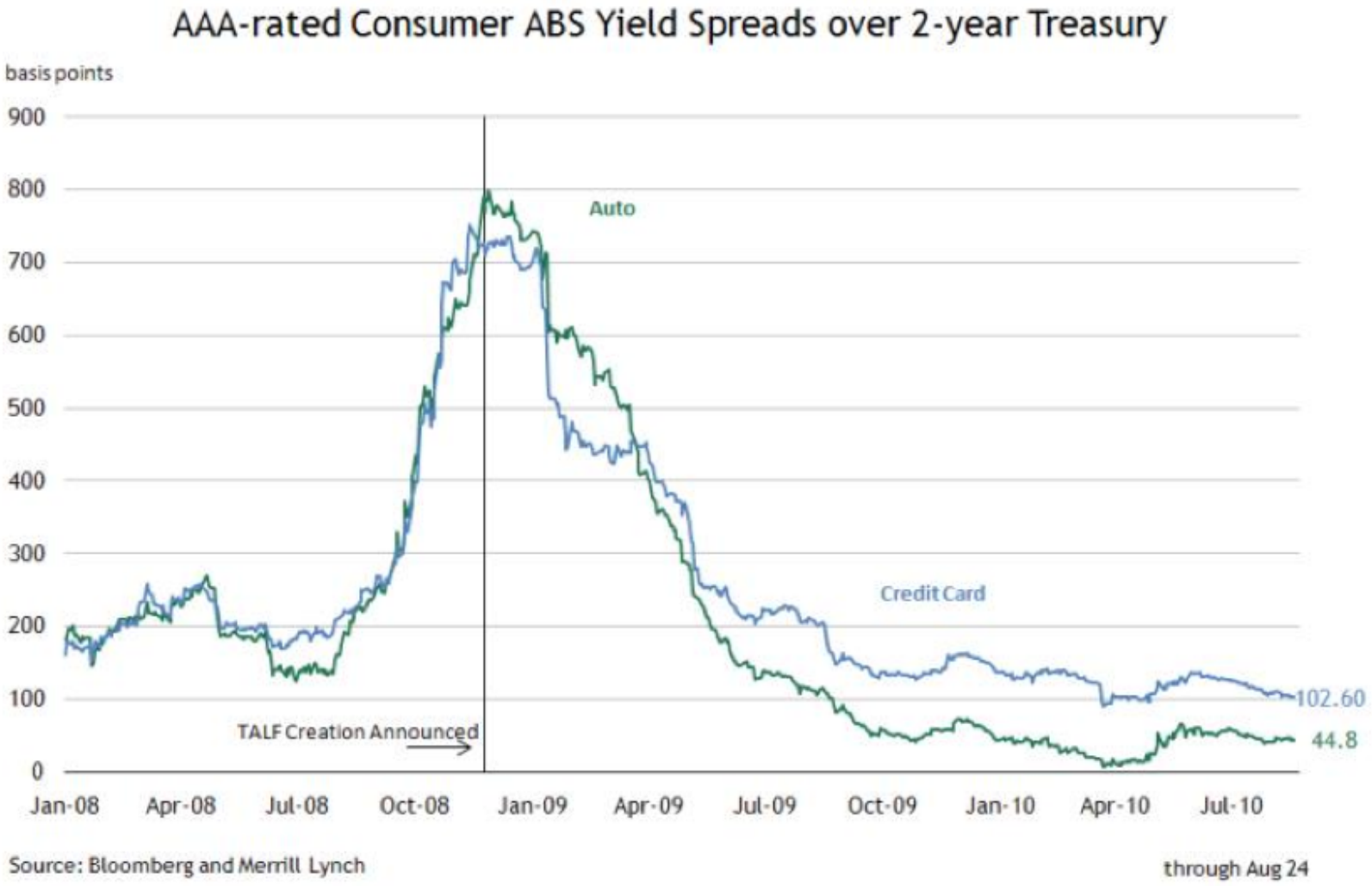

TALF as explained by the NYFed

www.newyorkfed.org/education/101talf.html

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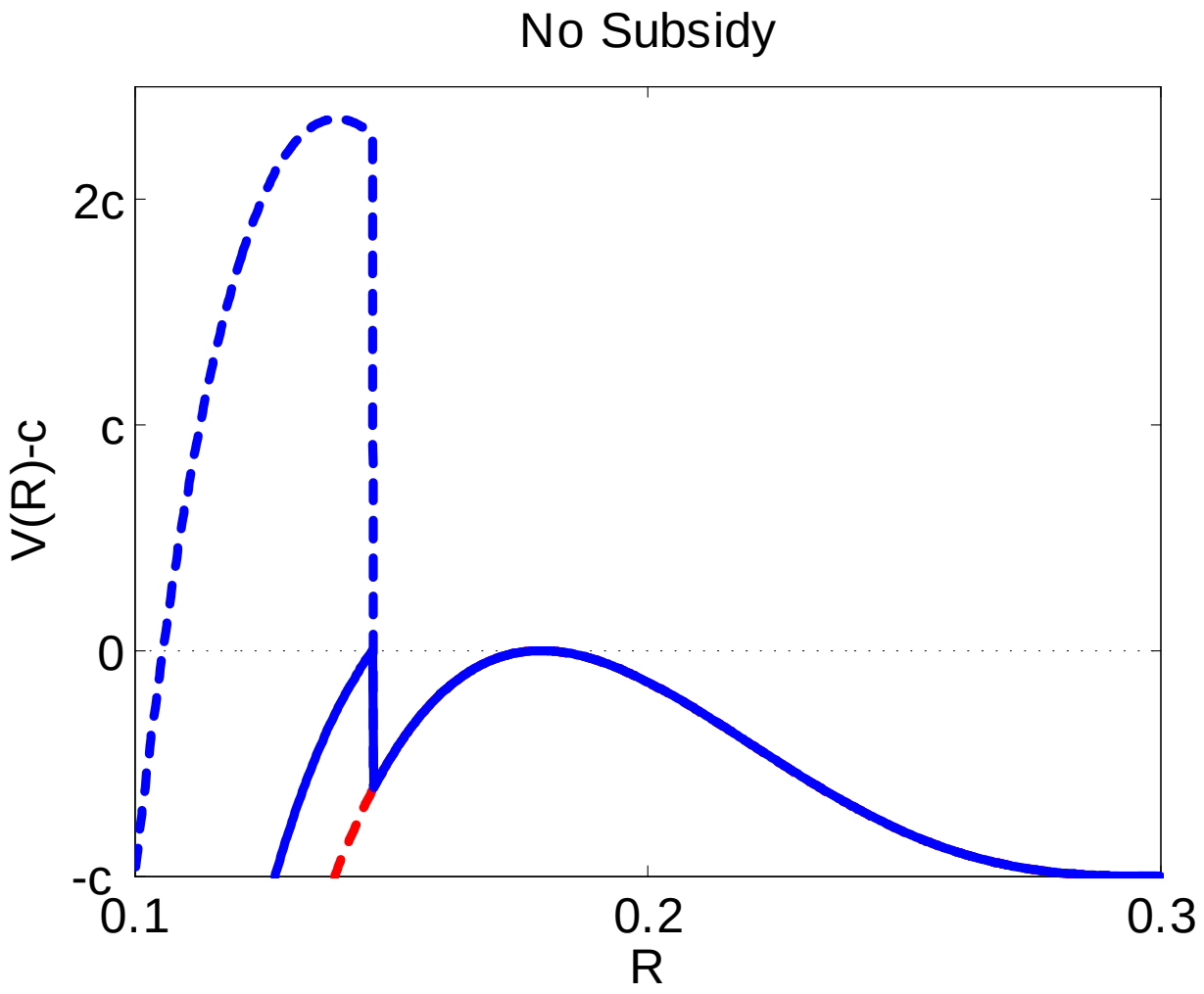
  - "Also, as of May 2011, TALF loans have earned $1.2 billion in interest income for the US taxpayer"

Impact of a subsidy

Implementation of the policy: why an universal subsidy?



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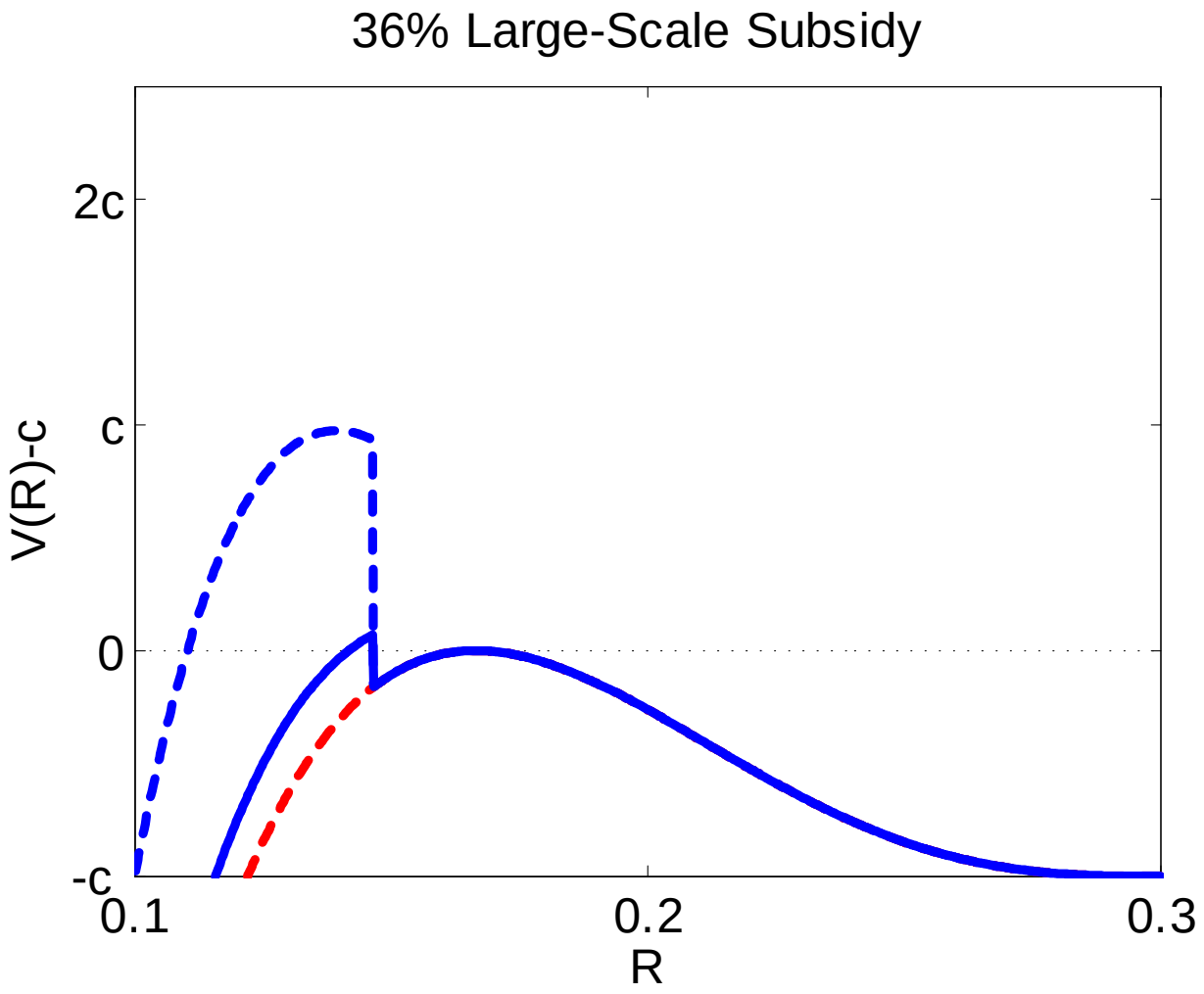

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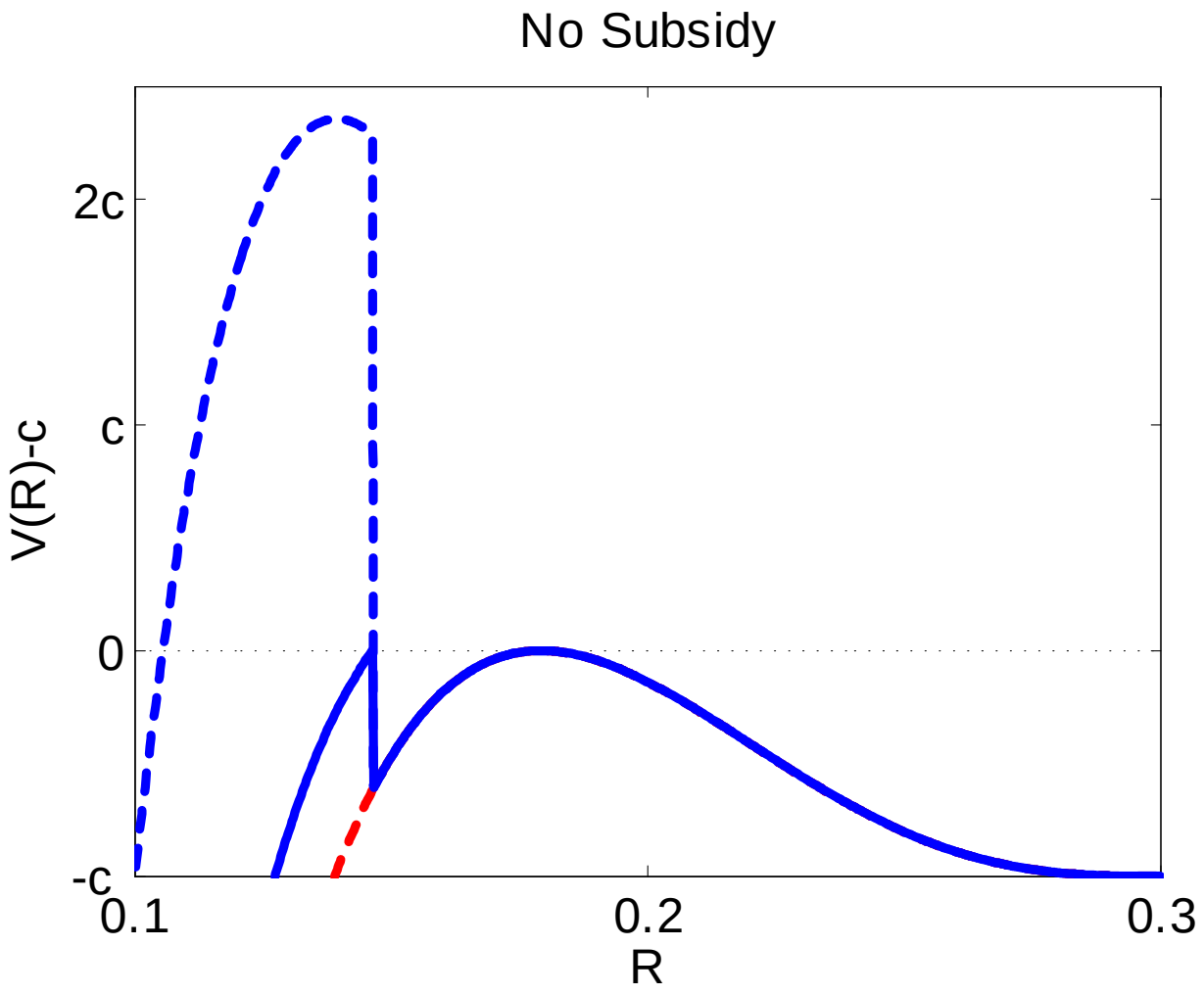

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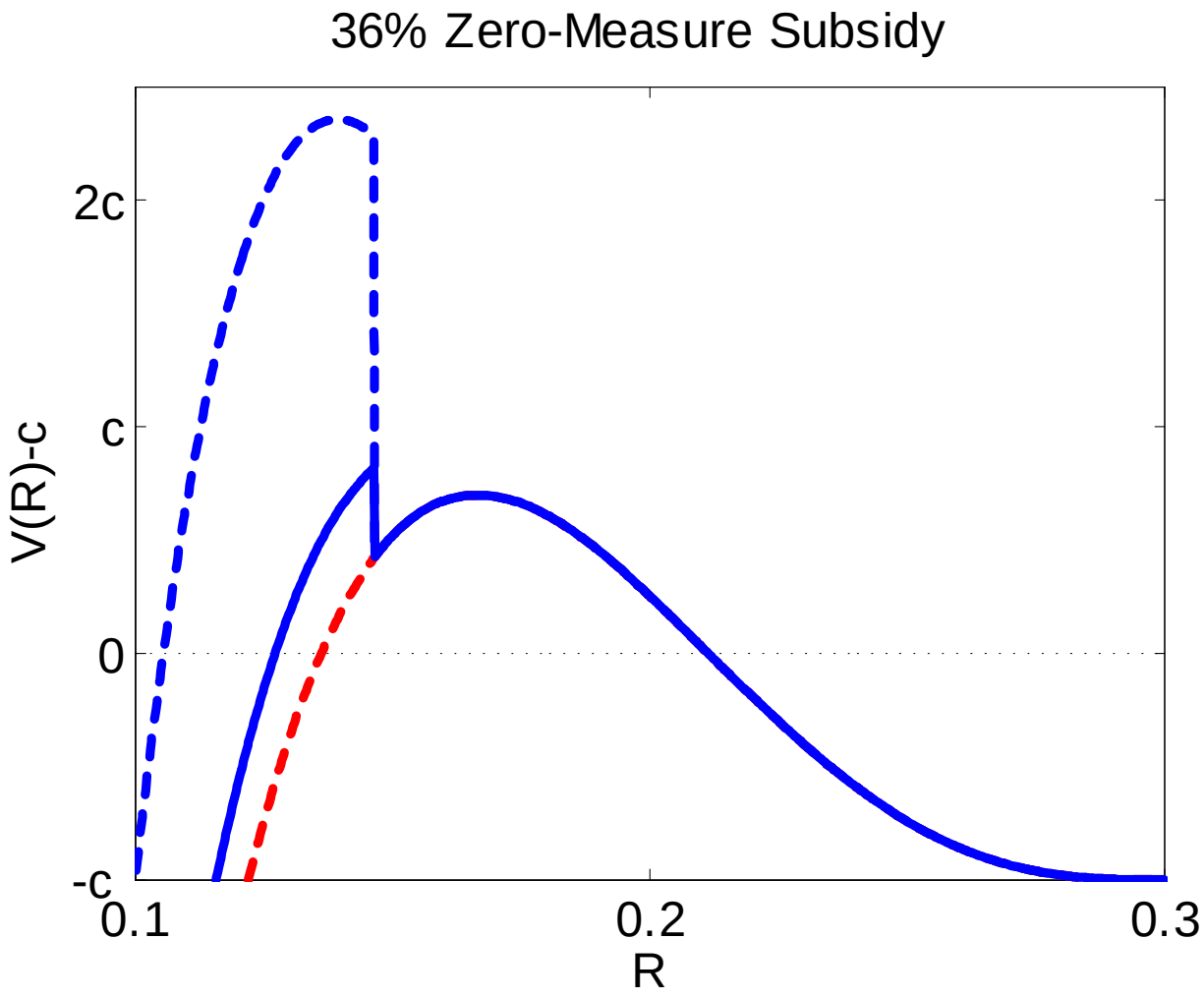

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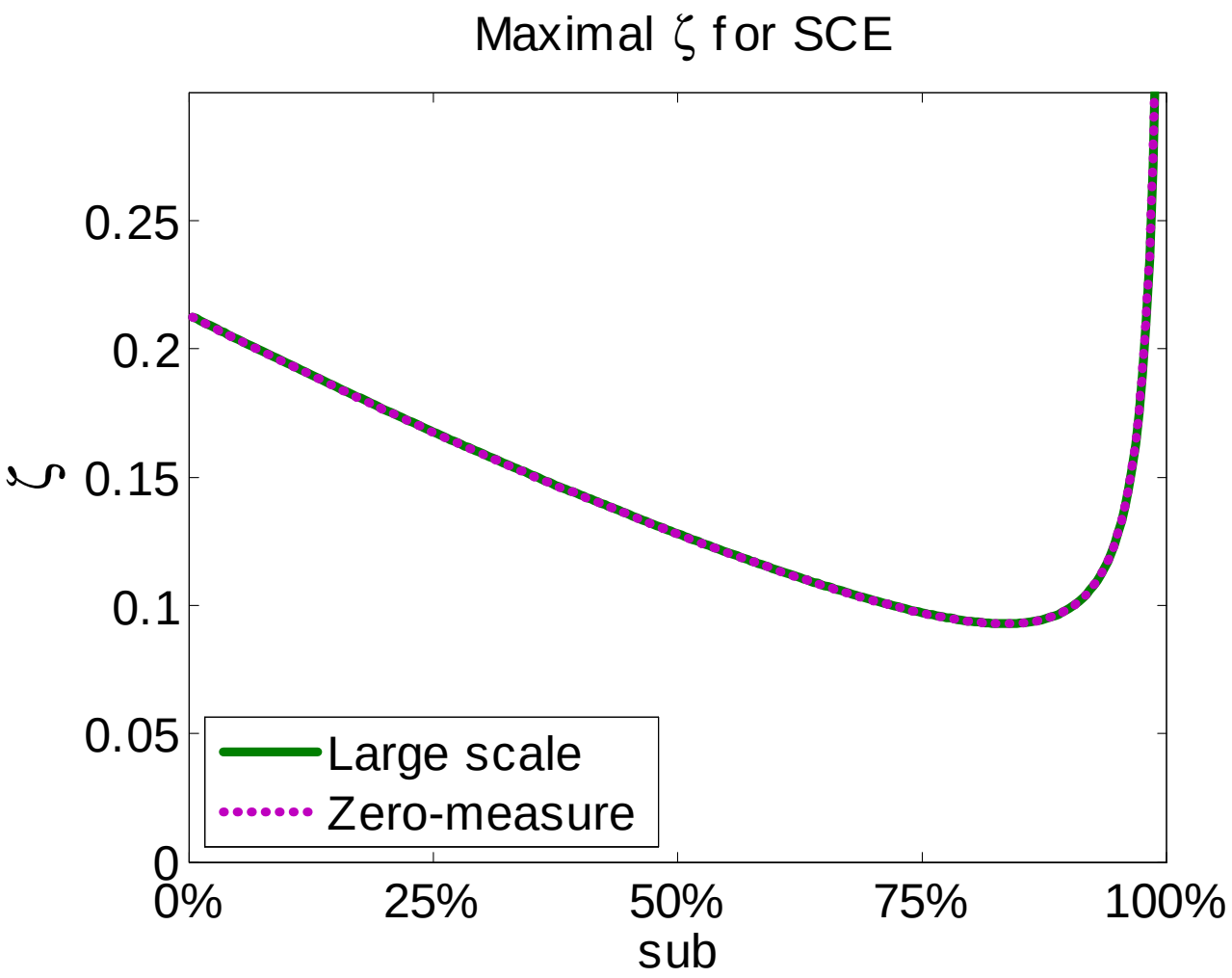

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