SEQUENTIAL INVESTMENT IN EMERGING TECHNOLOGIES UNDER RISK-AVERSION AND POLICY UNCERTAINTY

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EU GUIDANCE FOR SUBSIDIES

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- Financial support for renewables should be limited and aim to make renewables competitive
- Support schemes should be flexible and respond to falling production costs
- Unannounced or retroactive changes to support schemes should be avoided

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- How does policy uncertainty impact an investment decision?

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- How does technological uncertainty interact with policy uncertainty?

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- How does policy uncertainty impact an investment decision?
- How does technological uncertainty interact with policy uncertainty?
- When should a firm adopt new versions of a technology under price, policy, and technological uncertainty?


POLICY UNCERTAINTY

POLICY UNCERTAINTY: NORWAY

- Data centers were considered a source of high skilled jobs
- Quote

POLICY UNCERTAINTY: SPAIN

- Promises of 10% annual return on Solar projects
- Several cuts resulting in 40% subsidy reduction according to one firm

POLICY UNCERTAINTY: EASTERN EUROPE

- Eastern Europe has had a fast-growing PV market
- Several of these countries to reach their 2020 EU targets for RE ahead of time
- End users and energy companies have footed the bill
- Czech policymakers have restricted feed-in tariffs and started levying a windfall tax

TECHNOLOGICAL UNCERTAINTY INTRODUCTION

- Fast pace of innovation
- Difficult to sustain competitive advantage

VESTA

- Failing wind turbine business in 2012
- Restructuring and cooperation
- Entered into off-shore wind turbines
- Regained position as world leader

OBJECTIVES REVISITED

- Based on the examples from Spain and Eastern Europe (Norway?), political stability seems to be important
- Technological uncertainty presents opportunities

RELATED WORK: POLICY UNCERTAINTY

- Boomsma & Linnerud (2015)
  - Policy Uncertainty might
- Adkins & Paxson (2015)
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- Yet they do not consider technological uncertainty

ASSSUMPTIONS

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POLICY UNCERTAINTY

- The time between each policy intervention is exponentially distributed
- $\lambda_i \geq 0$ denotes the intensity of the Poisson process

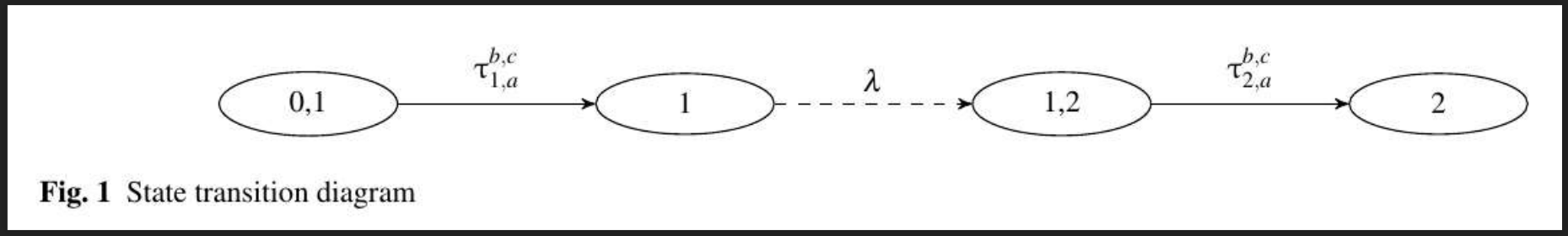

Fig. 1 State transition diagram


THANK YOU!

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