

Comments on Hauswald and Marquez, 2004

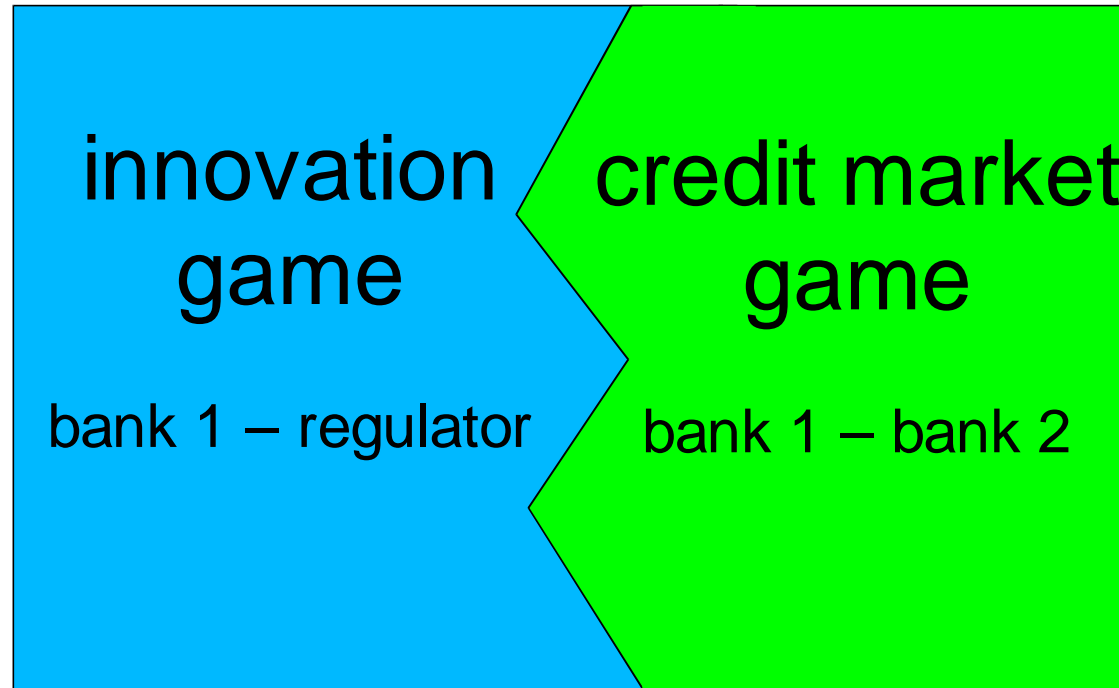
Urs Birchler
SNB

BC-CEPR-JFI workshop
Basel
May 17-18, 2004

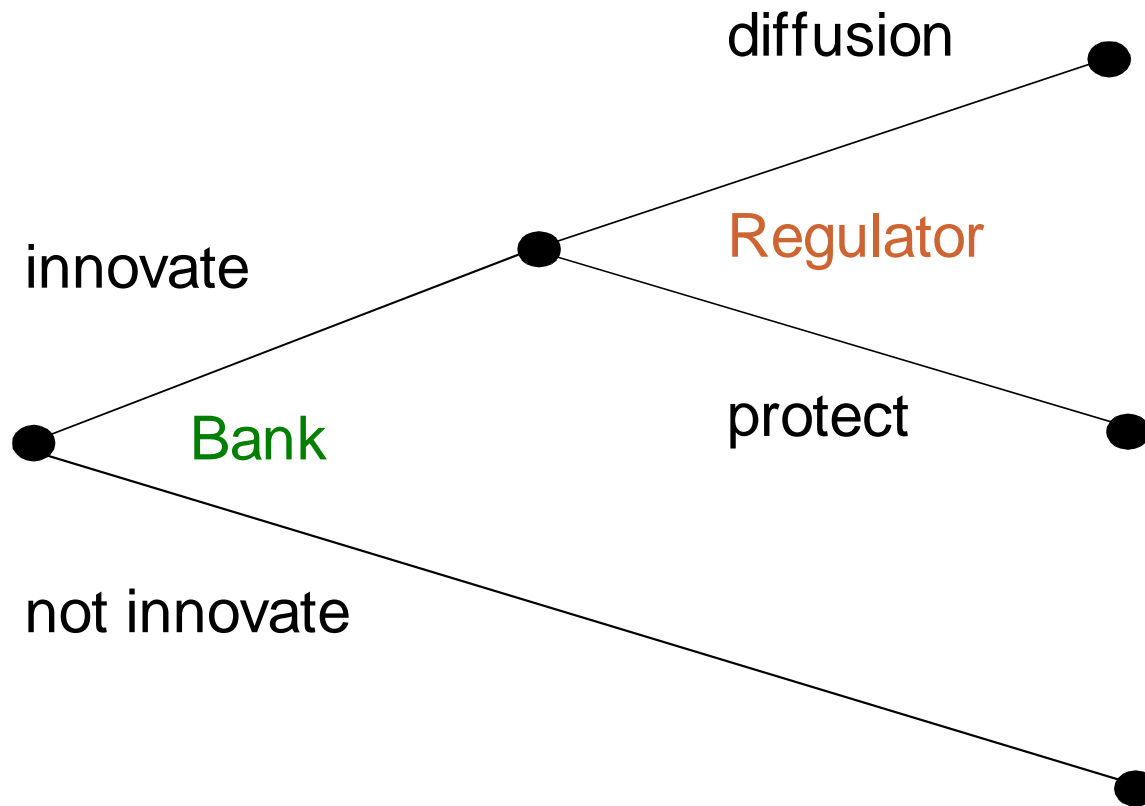
The HM paper analyzes:

- banks' incentive for innovation in credit risk management
- the (ambiguous) influence of regulators on innovation incentives

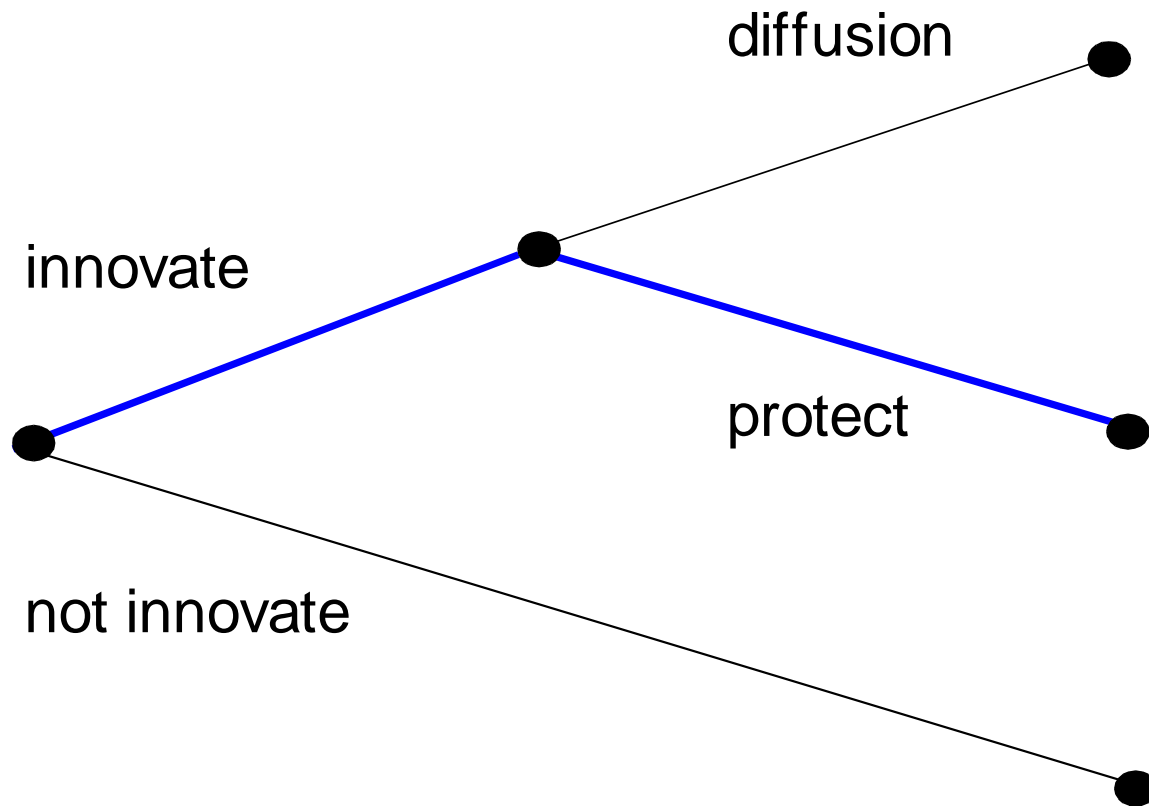
Two basic components



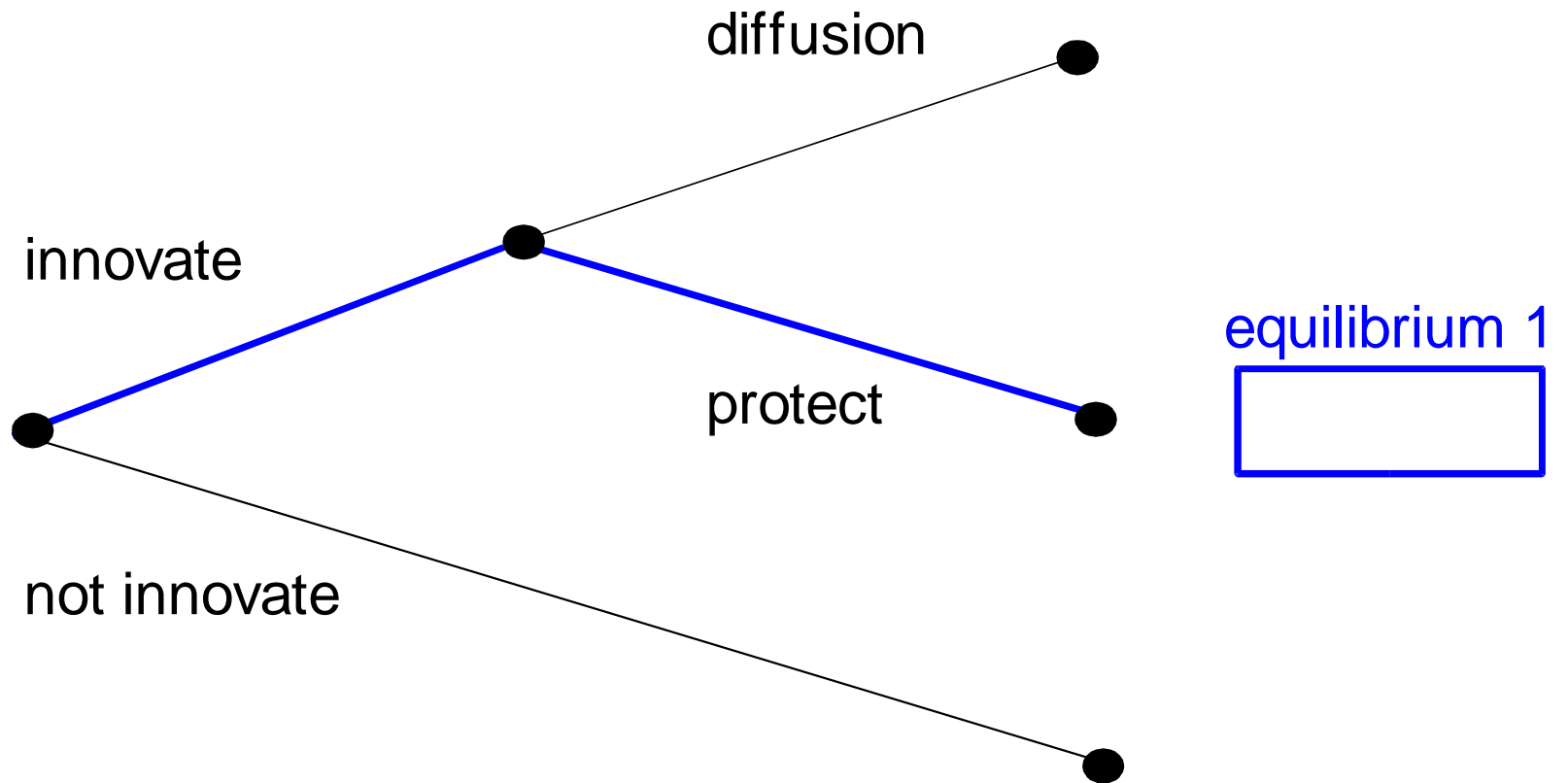
The innovation game



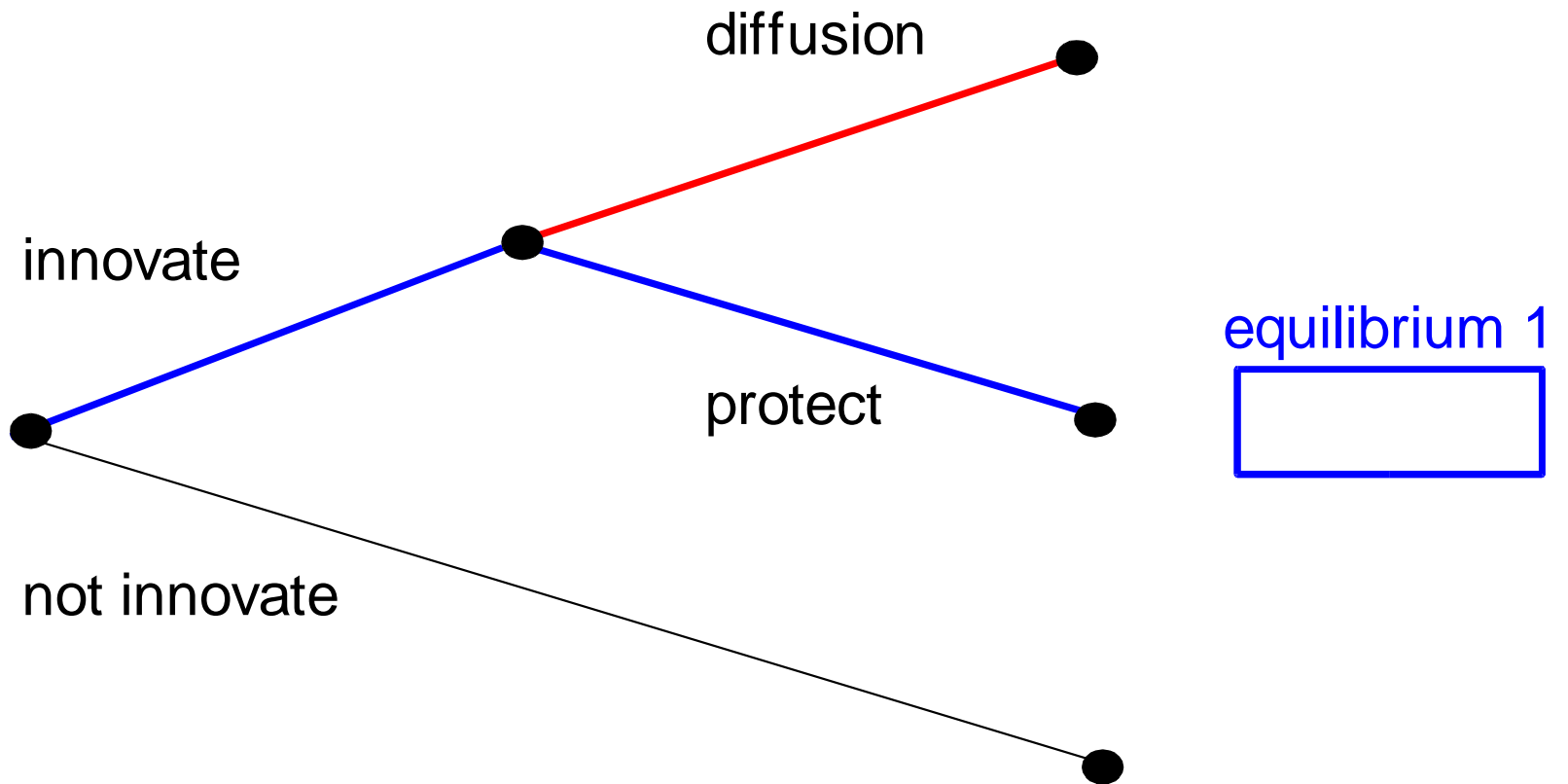
The innovation game



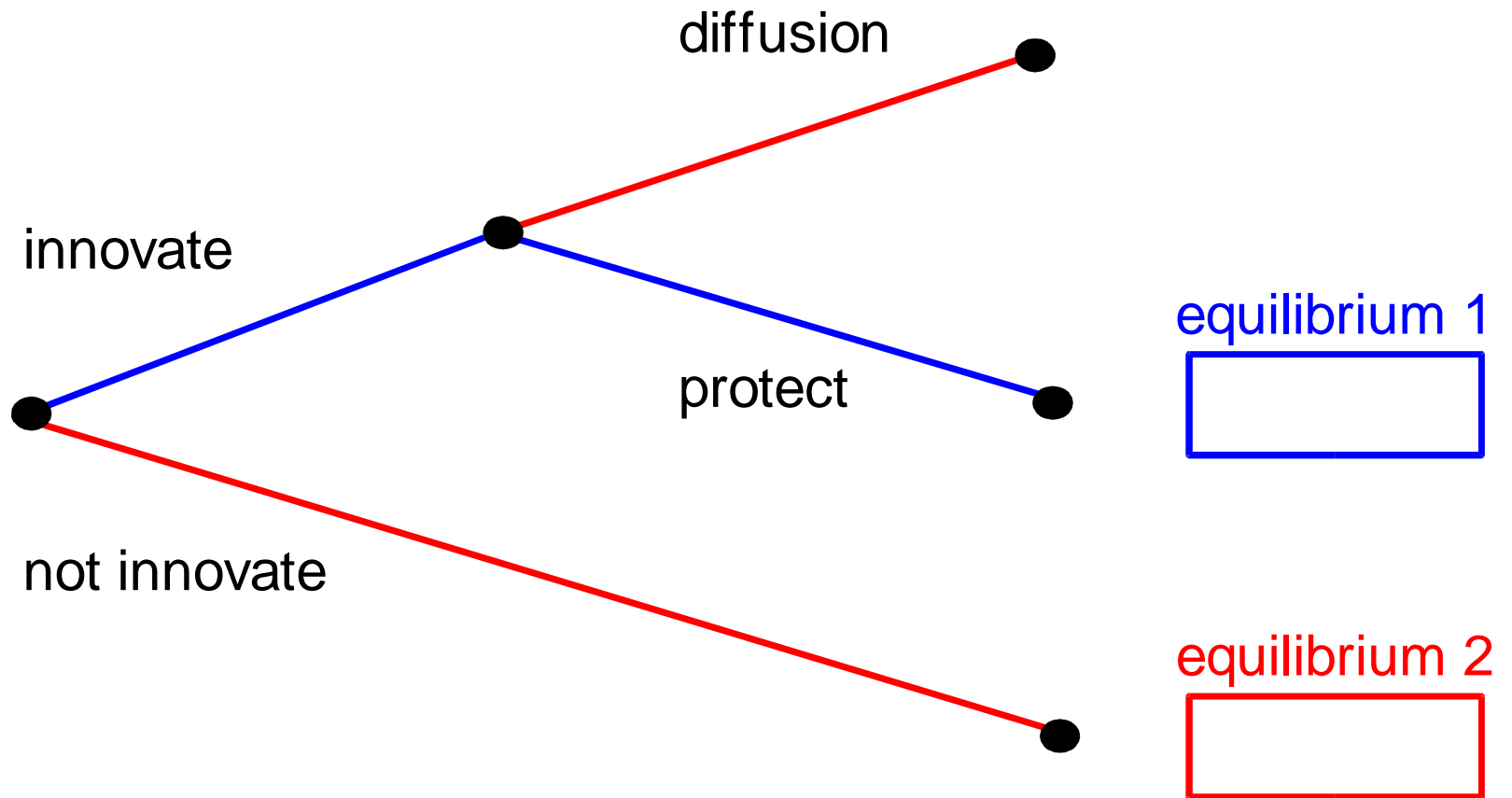
The innovation game



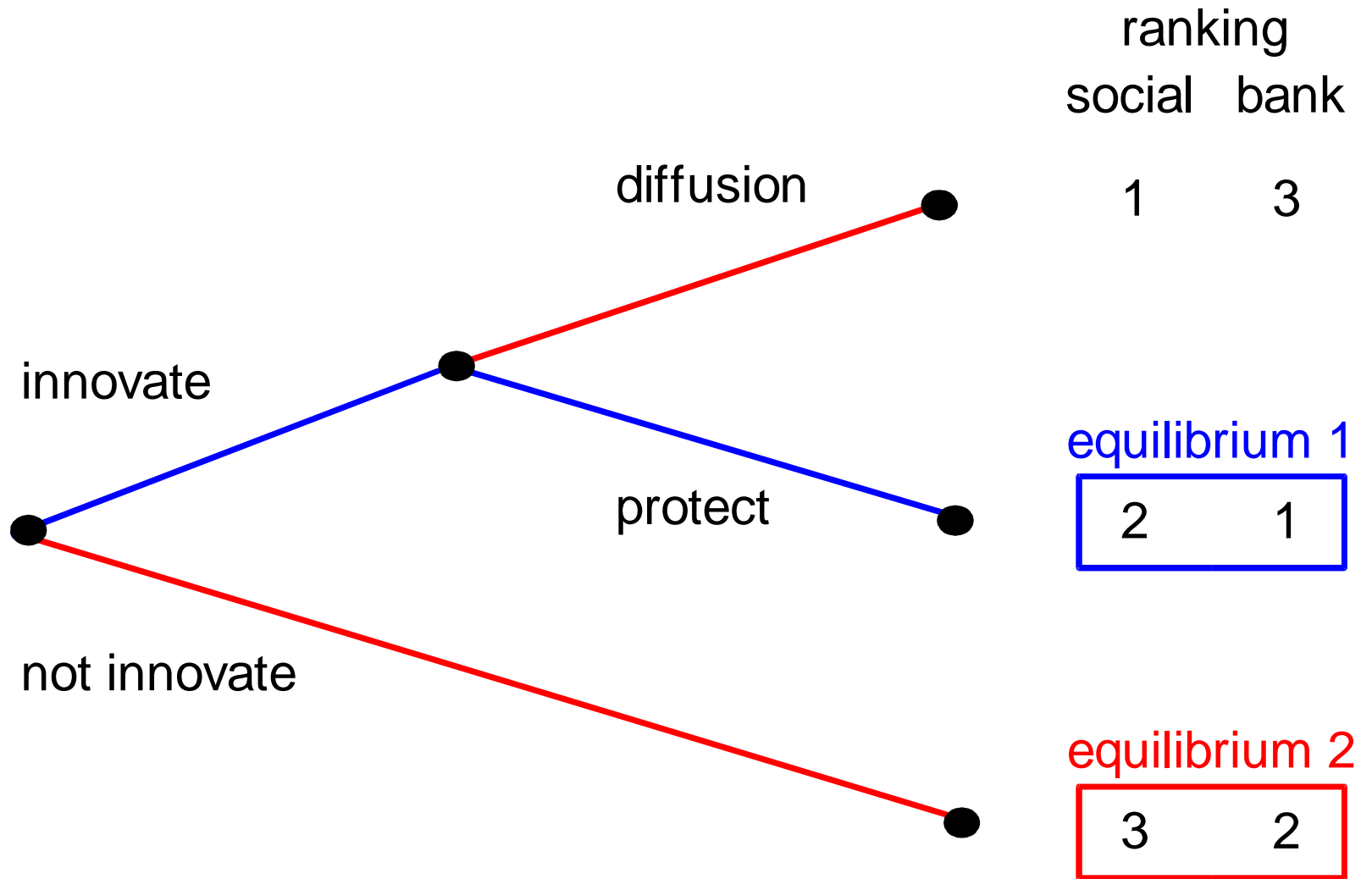
The innovation game



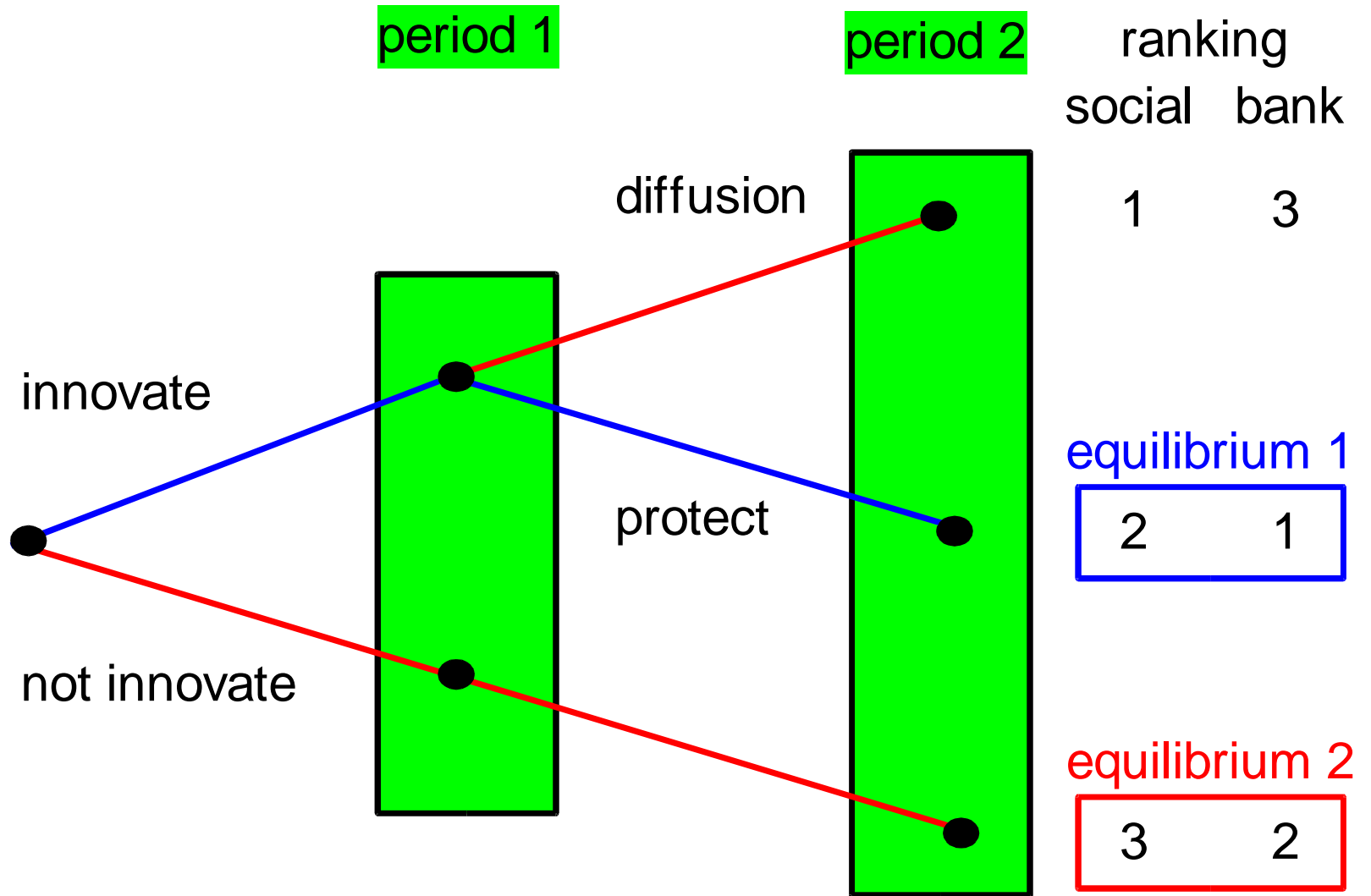
The innovation game



The innovation game



The credit market game

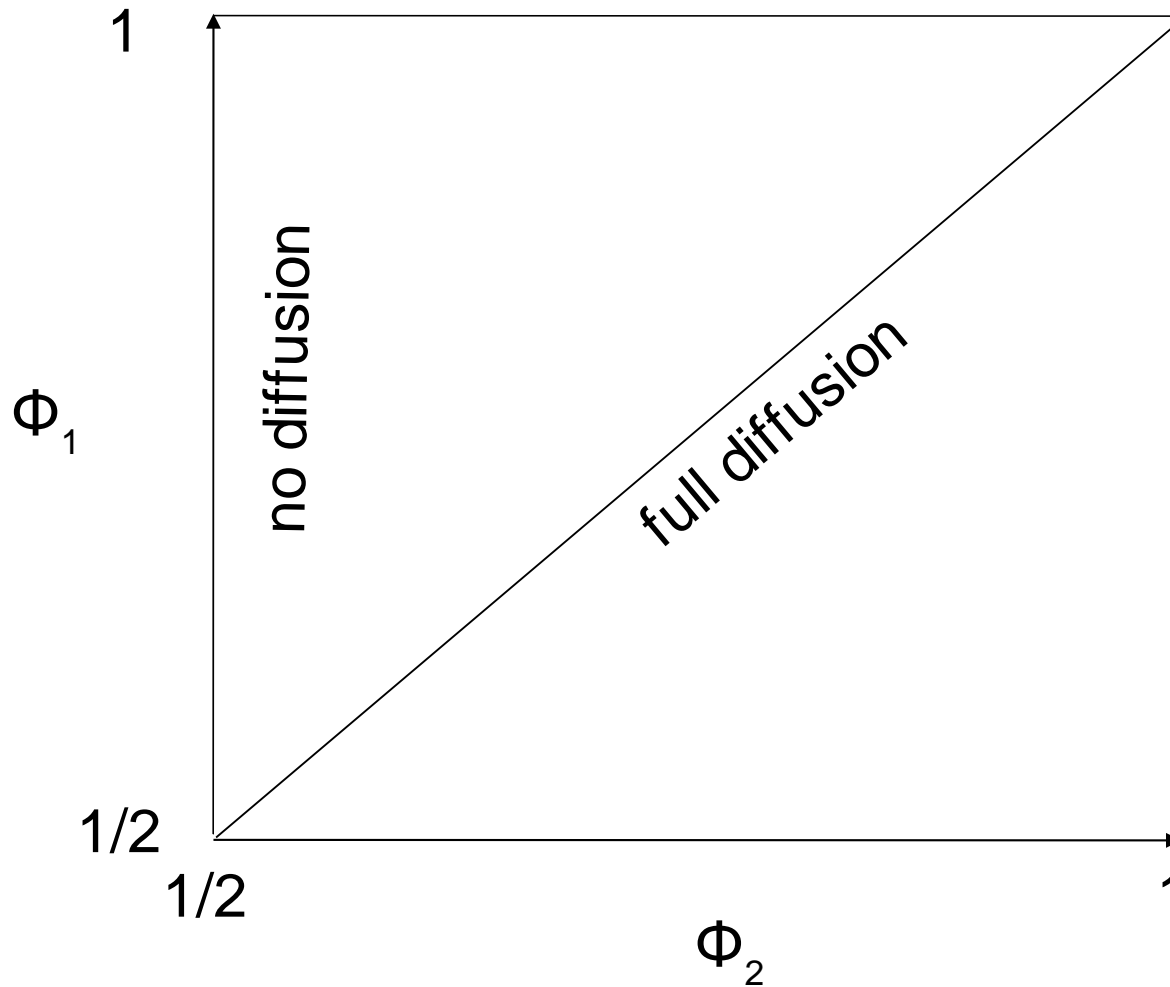


The credit market game

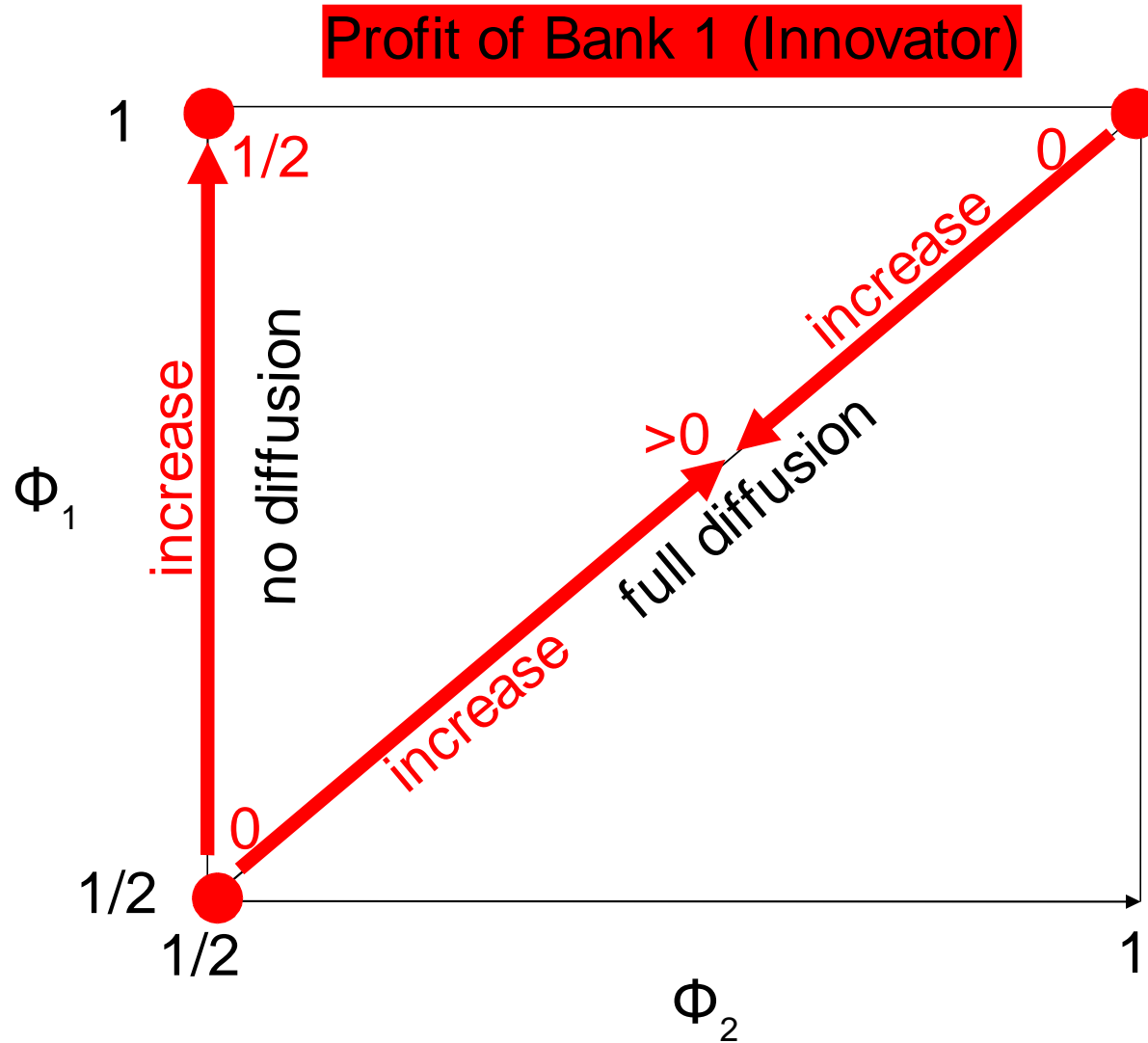
- banks offer credit contracts
 - bank 1: contingent on debtor quality signal
 - bank 2: non-contingent
- semi-common value auction (Klemperer)
 - information differential
 - winner's curse for bank 2
 - profits of bank 1 increase in $\Phi_1 - \Phi_2$
 - profits of bank 2 increase in Φ_2

The credit market game

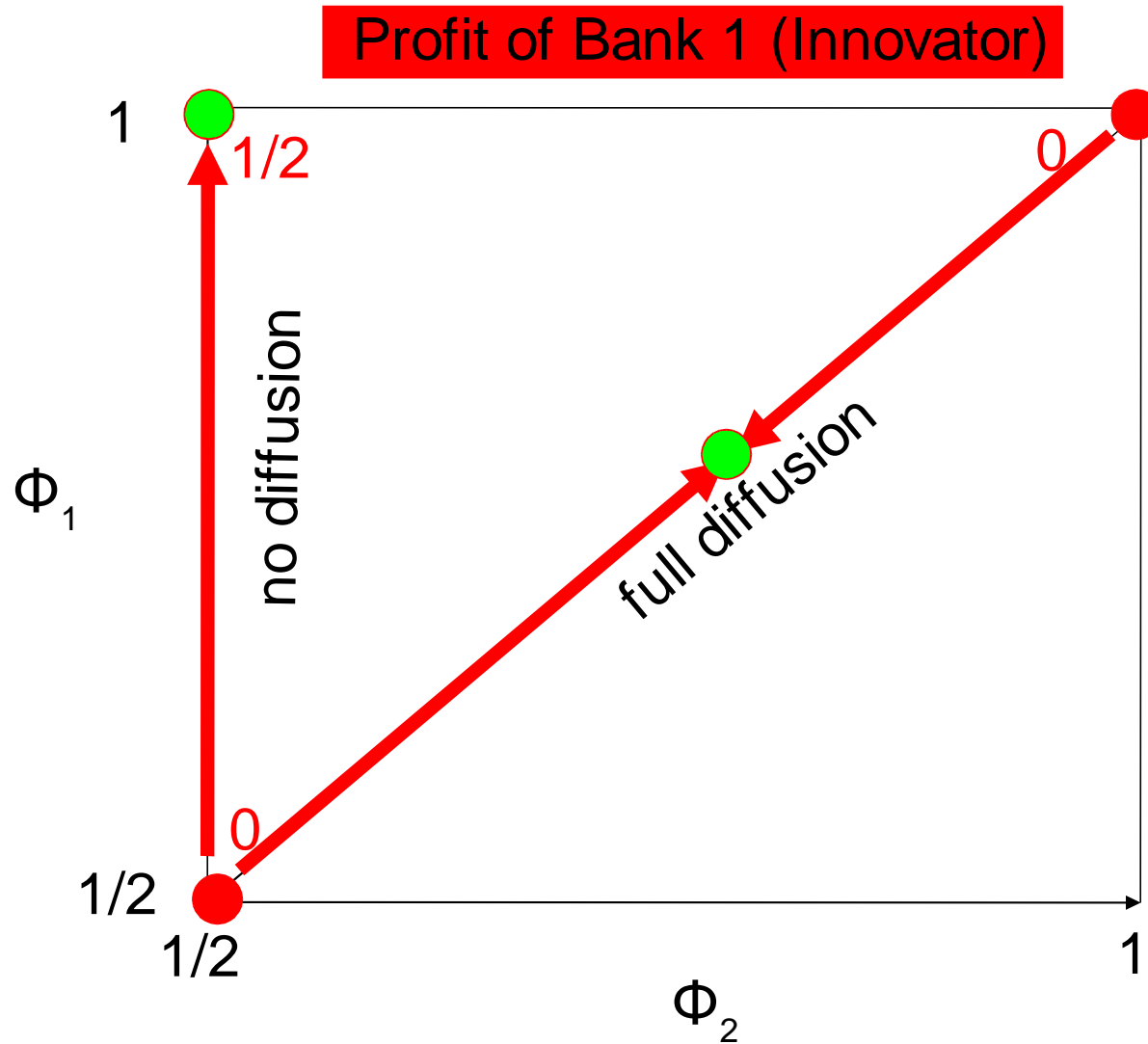
Profit of Bank 1 (Innovator)



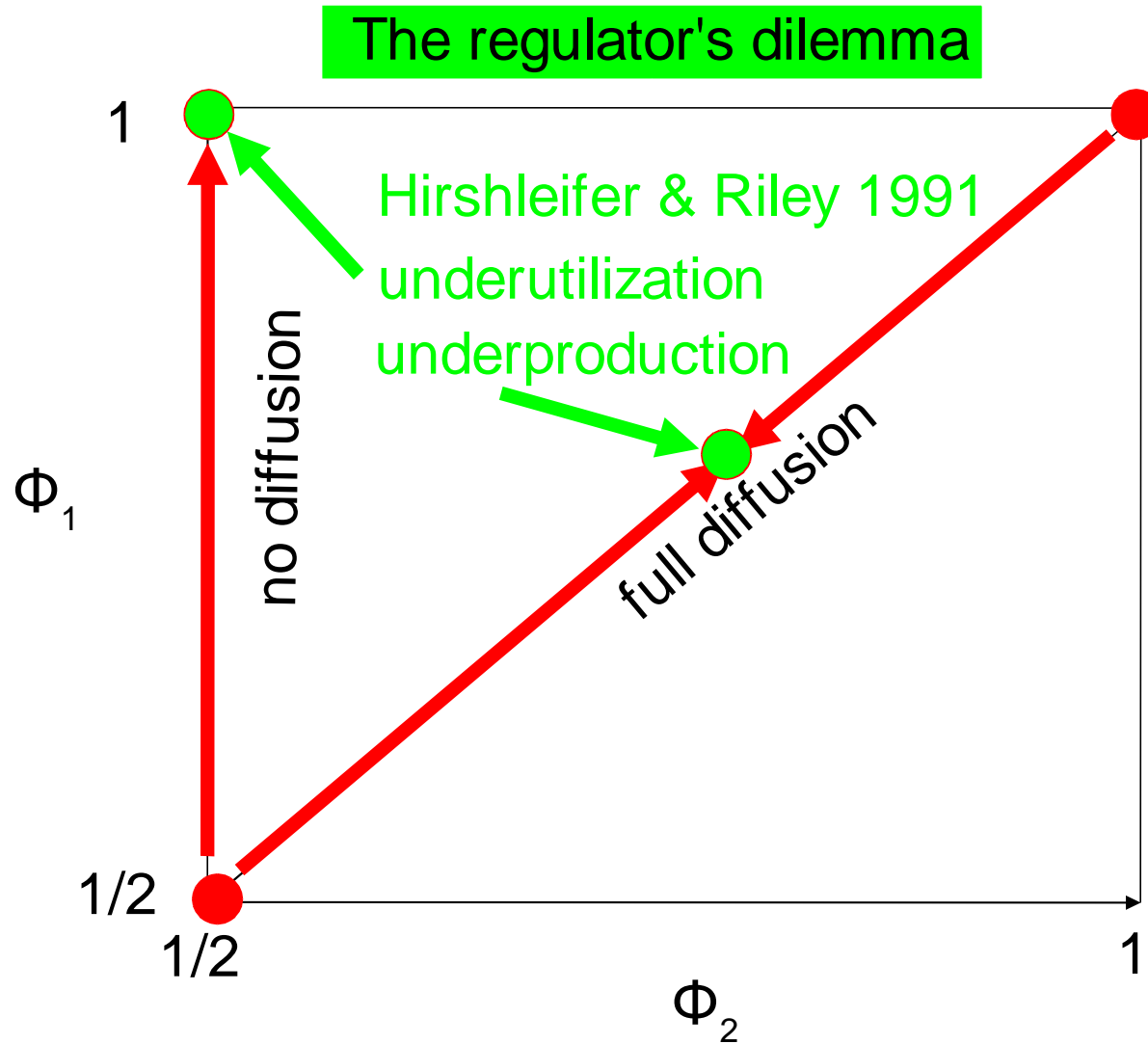
The credit market game



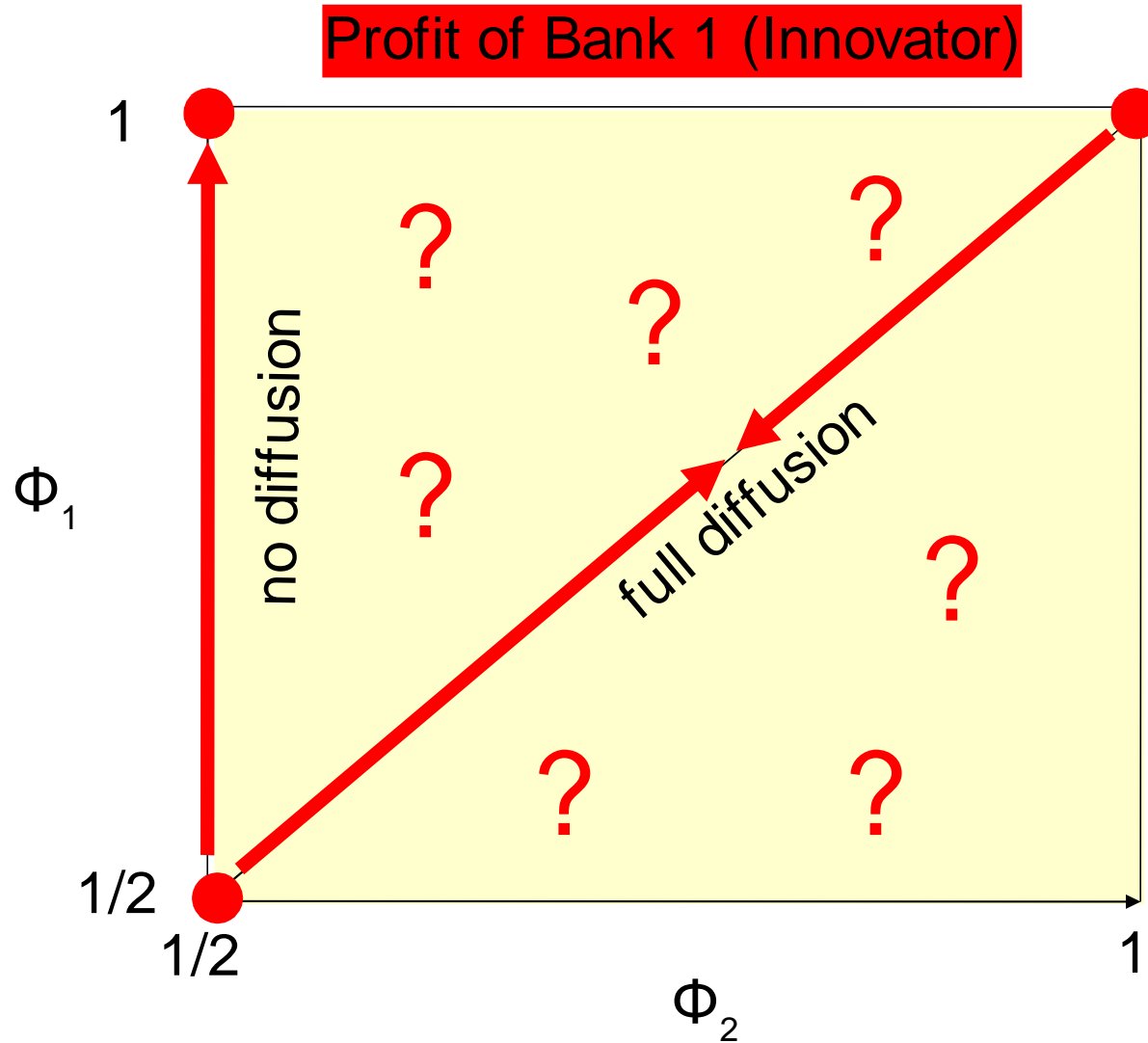
The credit market game



The credit market game



Proposal 1: show profits for all (Φ_1, Φ_2)



Proposal 2: generalize diffusion

- paper: Φ_2 is either 0 or Φ_1 (prob= λ)
- better: $\Phi_2 = \Phi_2(\Phi_1)$ (von Thadden, 2001)
or: $\Phi_2 = \Phi_2(\Phi_1, \lambda)$

allows partial (not only stochastic) diffusion

"it would ... be desirable to introduce various degrees of effectiveness of the patent system"
(Tirole 1988, 400)

Proposal 3: drop innovation cost

- paper: Φ has direct cost $c = (\Phi^2 - 0.5)$
- better: $c(\Phi) = 0$
- model is driven by indirect cost of innovation (diffusion plus competition)
- direct cost distract from the essentials

Proposal 4: be more explicit about limitations of a simultaneous game

- game is *simultaneous* in two dimensions
 - all creditors must get simultaneous (private) offers.
 - both banks decide simultaneously
- reality is *sequential*
 - sequential offers: learning effects (Tirole, 1988, 215)
(mixed strategy Bertrand equilibria fragile)

Proposal 5: let bank 2 innovate

- HM: R&D race would not change results!
- however:
 - their focus: public good nature of innovation
(imperfect right *in* fish caught)
 - alternative: commons effect
(right *to* fish) (Hirshleifer&Riley, 1991, 260)
 - diffusion may lead to too little innovation, but:
patent protection may lead to *too much* innovation
(business stealing effect; patent races)
 - does HM claim really hold if both banks can innovate??
 - test question:
how much would bank 2 pay for right to innovate?

Proposal 6: specify innovation

- academic risk management research: public
 - CAPM, VaR, etc.
- private research partially public:
 - e.g., RiskMetrics (J.P. Morgan) was made quasi-public in 1994
- internal implementation know-how: private but non-portable
- data used for PD, LGD estimation
 - private knowledge of banks; no diffusion
 - averages: some diffusion, but:
little information for *individual* creditor rating

Practical comments

- need for "overlapping innovations" model
- diffusion of *systems* not a concern for banks
- diffusion of *standards* is a concern
 - but: complaint that standards *reduce* competition!
 - examples: IRB-approach, money laundering
- how to stimulate innovation?
 - BC: lower capital requirements for IRB banks
 - HM: less supervision for innovators
 - alternative: government sponsored public innovation

Conclusion

- interesting paper with nice model
- HM may not address a problem in „BC top 10“
- but:
HM highlight importance of interaction of regulatory policy and innovation incentives