

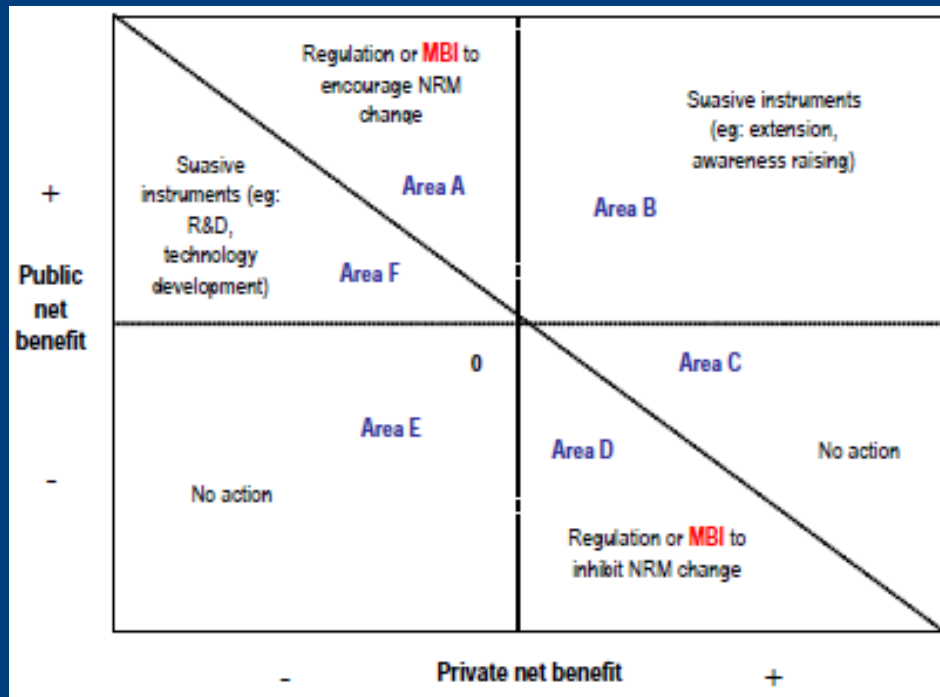


Industry &  
Investment

## Changing land management practices through the use of market-based instruments

# Economic theory and MBIs

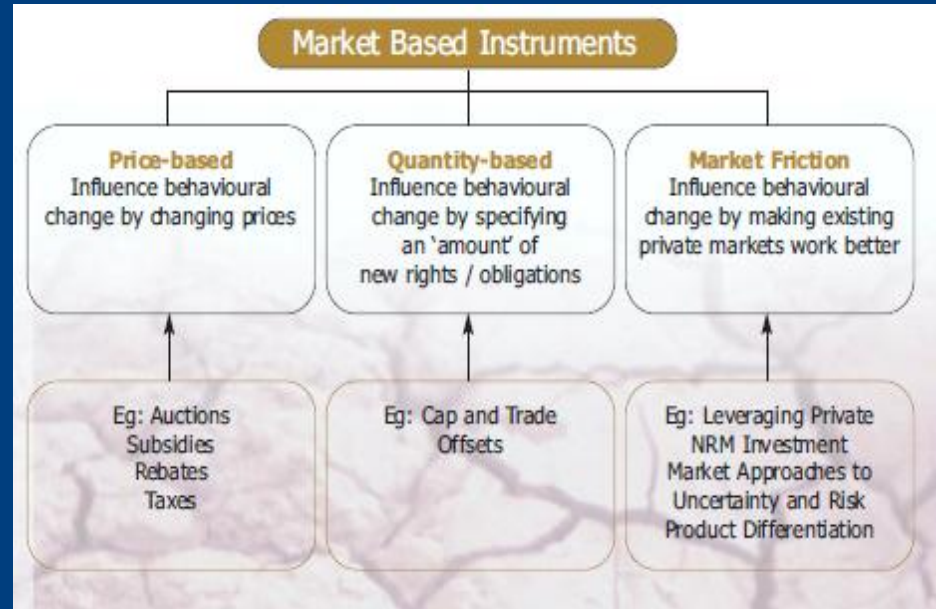
- Market failure
  - Markets are the prime means by which resources are allocated
  - But market failure is common in environmental areas
    - public goods and externalities
- Where MBI's fit in the policy mix



Source: Pannell's investment framework – adapted by BDA and CSIRO (2007)

# Economic theory and MBIs

- Approaches to environmental problems
  - Regulatory
  - Suasive
  - MBIs



Source: National MBI Pilot Program

- Conditions where MBI's are likely to offer advantages
  - Heterogeneity in market participants
    - Differences in opportunity costs → gains from trade
  - Flexibility in responses to market signals
  - Scope for innovation

# Lessons from Australia's MBI pilots/research

## ■ National MBI Pilot Program

### – Key findings

- MBI's can deliver large cost savings
- good bio-physical modelling required
- monitoring and enforcement of landholders' actions important
- testing and adaptation of MBI design before implementation

## ■ Review of MBI's for soil carbon

### – Many impediments to soil carbon markets

- costs of measuring and verifying soil carbon sequestration
- linking changes in practices with changes in soil carbon
- managing issues of permanence, additionally and leakage
- restrictions on landholders flexibility

# Lessons from Australia's MBI pilots/research

- Further work
  - Experimental economics:
    - Test the significance of impediments to soil carbon markets
    - Assess potential solutions to handling sequestration uncertainty proposed by ACIL
    - Evaluate the efficiency of targeting soil carbon actions versus outcomes
  - MBI pilot in the Lachlan catchment

# Carbon, water and biodiversity markets

- Increasing recognition that environmental outcomes are correlated
  - Revegetation may jointly sequester carbon, improve water quality and biodiversity and reduce salinity
  - Revegetation can also decrease streamflow, and reduce biodiversity (depending upon species planted)
- Carbon markets have the potential to have either complementary or adverse effects on other resources
- Unlike water and biodiversity, the economic value of removing one unit of carbon from the atmosphere is not location specific

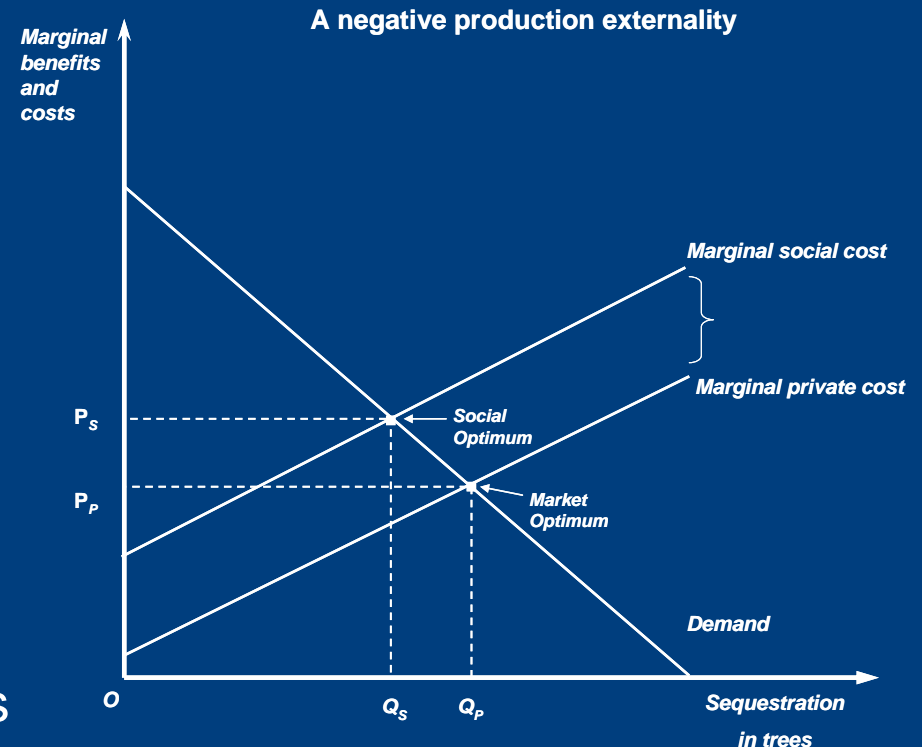


Chart - there is a divergence b/w the market and societal optimum because adverse effects on streamflow are not recognised in market transactions.