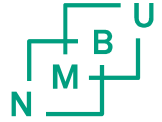


Environmental Governance – Are Markets the Solution?

By Arild Vatn

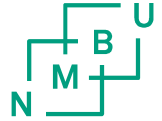
PESMIX conference, Montpellier, June 11-13, 2014

1. Introduction



- PES is part of wider trend – increased interest in **markets or 'market-based'** solutions in environmental governance (EG)
- It is motivated by several arguments
 - Markets are more **efficient** than e.g., command-and-control
 - **Expanded funding**
 - **Reduce** the level of **conflict**
- The aim of this presentation is to characterize and analyze the wider picture of **payments and markets in EG**
- I will use PES, carbon markets and biodiversity offsets as core examples

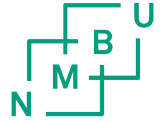
2. Governance: Institutions



- Institutions are human constructs. They structure **human interaction** – the pervasiveness of human **interdependencies**
 - **Conventions** – practical solutions to coordination problems
 - **Norms** – support common values
 - **Legal/formal rules** – take side in conflicts
- Institutions influence
 - Who gets **access** to/can use what resources
 - People's **perceptions and practices**
 - The **costs of interaction** (transaction costs)
 - The **rationality** or logic that motivate action
- My point of departure – in theoretical terms – is 'classical institutional economics'

2. Governance (cont.)

Rationality and behavior



- Institutions operate as rationality contexts – they influence what kind of motivation that is expected. We may distinguish between three types:

- ‘I’ (**individual**) **rationality** – what is best for me (maximizing individual utility))
- ‘We’ (**social**) **rationality** – what is best for us
- ‘They’ (**social**) **rationality** – what is best for the other(s)

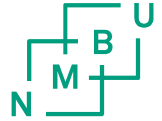
Note: The distinction between utility maximization and what is ‘right’

Note: The process of defining what is right – e.g., best for the group

- **Shift in institutional contexts** – e.g., emphasizing individual vs. group rationality – results in **shifting motivations**. Often called ‘crowding in’ and ‘crowding out’
- Existence of environmentally friendly action, indicates presence of a ‘we’ or ‘they’ – i.e., moral motivation. Introducing **payments in such situations**, may result in a shift in motivation

2. Governance (cont.)

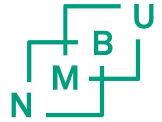
Governance structures



- Governance is collective action. It can be defined as the processes that **shape social priorities**, how **human coordination** is facilitated and how **conflicts** are **acknowledged** and possibly resolved
- **Governance structures**
 - **Actors:** economic and political; motivations and rights/responsibilities
 - **Institutions:**
 - **The resource regime:** The rules governing the economic process:
 - **access** to resources (e.g., property and use rights) and the **interaction** among economic actors (e.g., trade, command, reciprocity)
 - **The rules governing the political process** – i.e., the forming of the rules of the resource regime
 - Note the effect of institutions on **e.g., motivation and transaction costs**

2. Governance (cont.)

Policy Instruments -

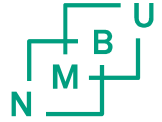


Legal rules		Information	Economic instruments	
Public provision: e.g., rules regarding resource use/protection on public land	Legal protection - Prohibitions - Mandated solutions - Protection - National parks - Nature reserves	- Technical - Normative - Education/development of skills	Pure public instruments - Taxes and fees - Subsidies - Fiscal transfers	Markets: - Contract based payments - Public auctions - Cap-and-trade systems

I think the concept of market-based instruments is confusing. It is better to talk of markets as one among several economic instruments

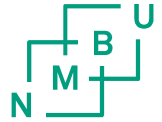
2. Governance (cont.)

Markets for ecosystem services (ES)



- Markets are characterized by the form of **interaction being trade**. Needs **minimum one seller and one buyer** – i.e., a market is a market even if it is not competitive
- Both **private and public actors** may operate in markets
- **States** play a crucial role in the **creation of markets** – e.g., rights; standards
- **ES** as a sub-category of the wider concept **nature values**

3. Markets for ecosystem services (ES)

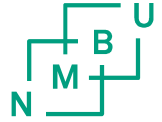


Direct market	Market with intermediaries	
	Complete (all transactions trade based)	Incomplete (combination of trade-based and non-trade based transactions)



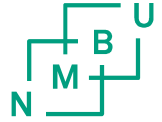
Note that intermediaries may be private businesses, NGOs, but also public agents

3. Markets for ecosystem services (ES)



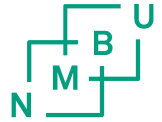
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Non-liability based		

3. Markets for ecosystem services (ES)



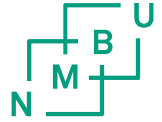
Direct market	Market with intermediaries	
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Non-liability based		
Liability based		

3. Markets for ecosystem services (ES)



		Market with intermediaries	
		Complete (all transactions trade based)	Incomplete (combination of trade-based and non-trade based transactions)
Non-liability based	Vitel case	Some market PES systems Certification schemes	Most market PES systems
Liability based	EU ETS – bilateral trades	EU ETS CDM (private buyers) Biodiversity offsets as banking	Some CDM projects (public buyers)

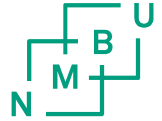
4. How big are these markets?



- PES: Is dominantly not characterized by trades/markets
 - Total volume in 2009: **23 bill. USD** – water, landscape, biodiversity and ‘voluntary’ land-based carbon projects. Of this about 90 % PES for public goods (Milder et al. 2010)
 - Regarding the resources for the public PES component about **99 % comes from the public purse** (based on ibid.)
 - Only a minor part of these resources are used to trade.
- Carbon markets (cap-and-trade): **176 bill. USD** in 2011 (World Bank 2012)
- Biodiversity offsets (not all is market/banking): **2-3 bill. USD** (Madsen et al. 2010)

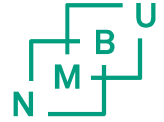
4. How big are these markets? (cont.)

What explains this picture?



- Motivation: ES are dominantly common goods (public and/or common-pool)
 - **Free rider** problem
 - In cap-and-trade systems the **cap ‘forces action’**. **Protection is in the cap**. Trading is to reduce costs following the cap
 - Markets foster self-interest
- Transaction costs (TCs)
 - Markets for **commodities** □ **rather low TCs**
 - Markets for common goods difficult to establish
 - **Public solutions** have typically **lower TCs** – can force payments; can in many instances utilize existing systems to raise funding (e.g., add a fee to the water bill)

5. Should we aim for more markets?

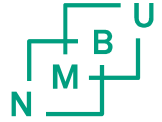


- In a discussion of this, I will emphasize three issues
 - Motivation
 - Financialization
 - Transaction costs



5. Should we aim for more markets? (cont.)

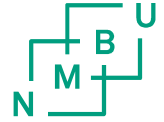
Motivational issues



- We need to distinguish between payments and markets
 - Introducing payments for common ES may result in different types of responses
 - Payment as **compensation** for lost income when e.g., establishing reserves is ‘easing’ the relationship between the land owner and the state. Often legally prescribed
 - Payments as **incentives** to protect may have different effects
 - It may work ‘as expected’
 - It may result in shifts from e.g., social (‘We’) to individual (‘I’) rationality (‘crowding out’)
 - It may lead to strategic or opportunistic action – ‘hyper egoism’
- (The last two categories are not well distinguished in the literature)

5. Should we aim for more markets? (cont.)

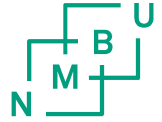
Motivational issues (cont.)



- What markets add to payments as compensation/incentives, is that the **level of protection is decided through the process of trade**. (Not cap-and-trade markets, where the level/cap is politically defined)
- Demands the ES transformed into a **commodity**
- Allocation will be based on **calculation of risk and profits** and not on **political judgment**
- Due to the ‘free rider dynamics’ one may not expect markets to expand much. There are some opportunities, though like forest bonds
- **Forest bonds** may be issued by private actors or states.
 - Proposed to be used to invest in forest enhancements
 - Is a form of debt and demands interest + full value back upon maturity
 - To the extent that protection reduces profit opportunities, the public seems ~~to have to guarantee the profits~~

5. Should we aim for more markets? (cont.)

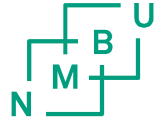
Markets and financialization



- Financialization is turning tradable commodities or debt in these into **financial objects** that can themselves be **traded** – e.g., securitization (bundling and tranching) and derivatives. The gains from trade are linked to the development in the so-called ‘underlying’, which may be a forest bond
- Market trades involve **risk** and actors want to protect them-selves as much as possible against these. Hence, **financiali-zation is a ‘must’** in the case of ‘free markets’ – but also an opportunity for speculation
- Financial operations like **leveraging** may increase the opportunities for making profits (through **arbitrage**) – but is in **itself costly + increases risks** further
- Financialization creates a **disconnect** to the ‘underlying’. It offers gains mainly for the financial sector itself

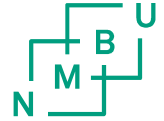
5. Should we aim for more markets? (cont.)

ES and transaction costs (TCs)



- TCs vary substantially with type of governance system and type of good
- A core challenge relates to most common ES being i) **processes**; ii) often highly **specific and complex**
 - The first point makes it **difficult to commoditize** the ES. Often one has to link the trade to a proxy – e.g., eco-tourism
 - The second implies that **each trade is particular**
- Public systems cannot circumvent these challenges, but they can reduce costs by using command and it is easier to handle specificity and complexity/handle ES integrity better

6. Conclusion



- The main message: **Public engagement is crucial** for governance of nature values/ES; even in the case of markets. The importance of protecting the integrity of public judgment
- **Markets** are **often inefficient** in ensuring ES protection and delivery
 - The free rider problem
 - Transaction costs
 - Financialization
- **Private resources** are **very important** for ES governance, but will only be engaged in rather small volumes if not directed by action of states and municipalities
- ES are typically ‘local resources’ that demands local adaptation. Therefore, markets – when being a reasonable solution – must be **locally delimited**