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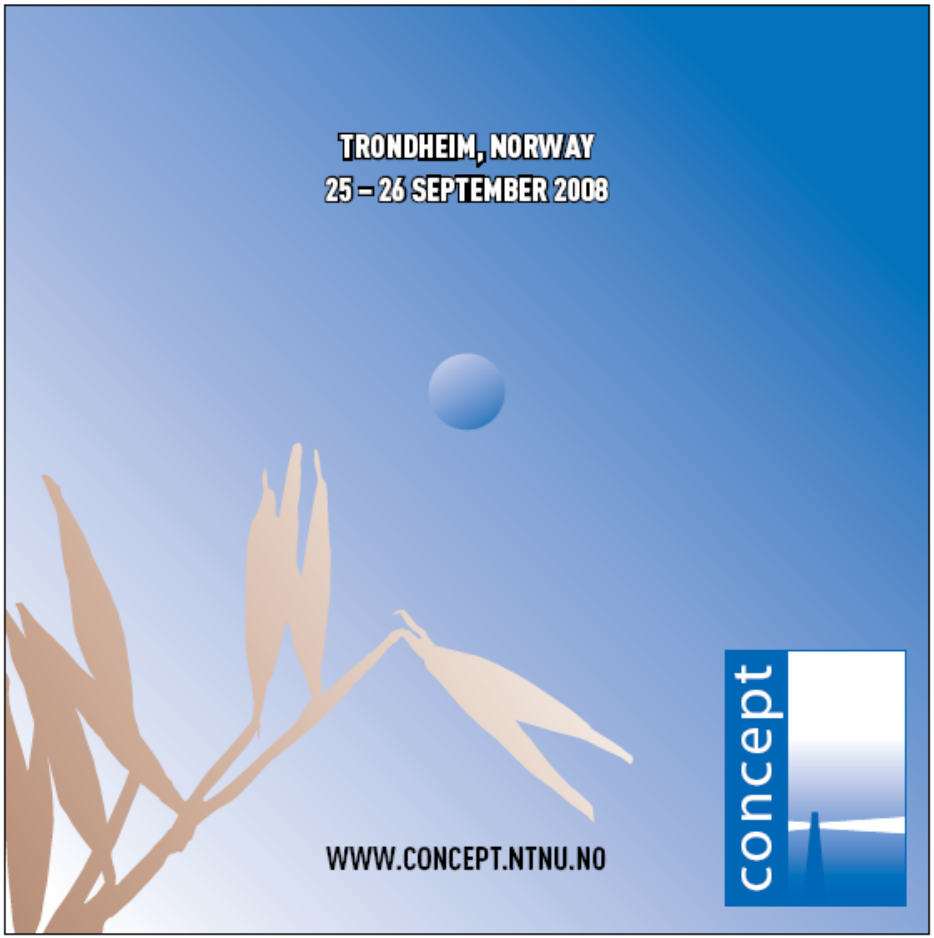
GOVERNANCE OF MAJOR INVESTMENT PROJECTS

CONCEPT SYMPOSIUM 2008



Project governance as seen in an overall economic perspective

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Outline of my talk

1. Governance from a business and from nationwide perspective
2. The role of stakeholders
3. Criteria for assessing good governance
4. Example of inefficient governance: The Hardanger bridge project
5. Explanations for inefficiencies

Governance

- **Governance** refers to the formal and informal arrangements that determine how decisions are made and carried out
  - Governance issues arise in decentralized decision environments and apply both to private and public sector activities

- **Delegation** is part of governance and is the assignment of authority, power and responsibility to someone for carrying out specific activities**.**

- **Principal-agent models** are used to analyze governance issues and are characterized by
  - The principal's objectives
  - The agents' incentives
  - Performance measures
  - Control mechanisms

- **Agency costs** arise in decentralized decision structures
  - Agency costs arise from separation of ownership and management combined with asymmetric information and differing objectives between owners and management.

- **Incentive compatibility** between owners and management is the main challenge in decentralized decision processes.

Governance and the role of stakeholders

- **From a corporate perspective**
  - Stockowners having a common objective of maximizing the firm's profit or market value
  - The management is delegated to the CEO acting on stockholder' behalf
- Other stakeholders
  - Employees
  - Creditors
  - Suppliers
  - Tax authorities
  - Local and national community
- The interests of other stakeholders are taken care of by law or by government regulations

- **From an overall national perspective**
  - Everyone having a stake in society. Voters in the capacity of
    - Tax payers
    - Recipients of public services
    - Public employees
    - Environmentalists of various sort
  - Voters delegate the execution of policies to the government
    - Government is delegating execution to public agencies which in turn are delegating day to day operations to public servants
  - Stakeholders' objectives are more complex as compared to private business
    - The delegation structure is a multi-layer principal-agent problem with agency costs at each layer

Criteria for good project governance from society's perspective: Contribution to social surplus and social profitability

- **Pareto efficiency** :
  - Increasing the economic wellbeing for some people without hurting others
  - A project is profitable for society if it makes a positive net contribution to the value added (social surplus) in the economy.
- **Opportunity costs**
  - Social surplus foregone by using scarce resources to a specific purpose or project.
    - Only scarce resources will have positive opportunity costs
- **The shadow project**
  - The shadow project is the benchmark with which the project in question is compared.

- **What are the alternatives?**
  - The existing use of resources (the base alternative)
  - The best competing alternative project in terms of contribution to social surplus
- **The choice of project concept**
  - The concept choice takes place at a more preliminary stage
  - Flexible and costly project concepts vs cost-efficient and inflexible concepts

Benefit-cost analysis
An instrument for calculating a project's contribution to value added

- Benefits
  - Benefits may be measured in kind, e.g., the number of saved statistical lives per year from investment in traffic safety
  - Benefits in kind are used in cost efficiency analyses while benefit cost calculations requires both costs and benefits to be measured in monetary terms
  - Usually both benefits and costs are added regardless of how they are distributed among the population
  - Some people may actually be hurt by the project without being compensated
  - A socially profitable project must however be potentially Pareto efficient (The Hicks-Kaldor criterion)
- Everything cannot be measured in monetary terms
  - There is a general inclination to focus on items that are measurable in terms of money
- Costs
  - Differences between market based costs and opportunity costs
  - Not all scarce resources are priced in the market place

Provision of public goods is a governmental responsibility

- A pure public good is characterized by
  - The usage costs are independent of the number of users
  - It is costly to exclude users from using the good
  - Investment in transportation infrastructure , e.g. a bridge, may satisfy the first requirement but not the second one.
  - The option of using the infrastructure is a pure public good.
- The willingness to pay for pure public goods cannot be collected in the market and must therefore be assessed by other means
  - Assessing willingness to pay for public goods has become a rapidly growing industry in particular pertaining to environmental values.
  - A common assessment technique is called contingent valuation (CV) and is based on interviewing potential stakeholders
  - Economists are divided on the usefulness of CV
  - A problem is that public goods do not enter people's budget constraint.
  - Another problem with CV is that of framing.
    - Respondents' willingness to pay depends on how the problem is presented
  - The basic question is however whether some number is better than no number at all.
  - To demonstrate the problem of framing I shall now present my example

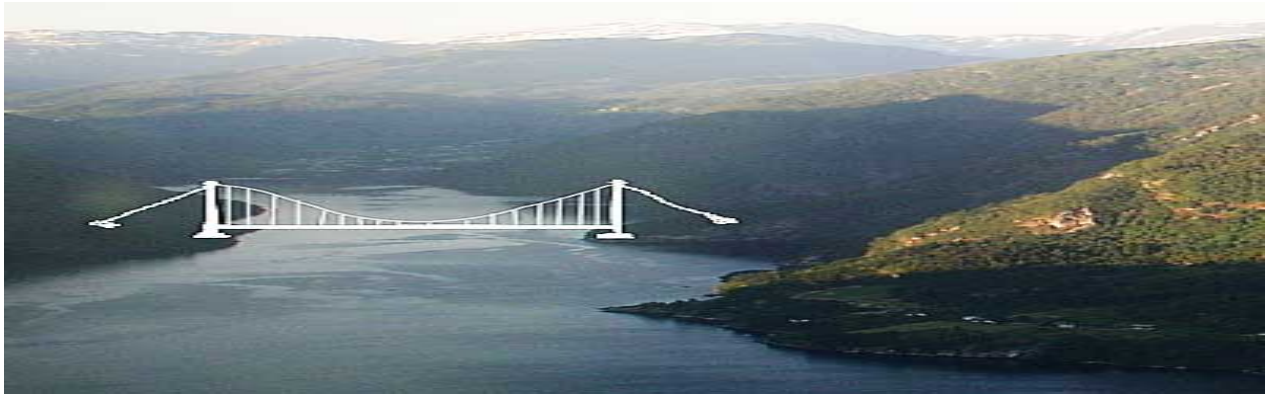
Example :
Bridge across The Hardanger Fjord

The Hardanger fjord and the surrounding unspoiled natural scenery is one of the main tourist attractions on the west cost of Norway.
One of the national highways between Bergen and Oslo R7 entails crossing the Hardanger fjord. Until now this has taken place by a ferry service. The project is however to replace this ferry service with a permanent bridge.

Source: Hardanger in a nutshell

Example of framing

The Hardanger bridge as presented in a brochure by Statens vegvesen (The government road construction agency)

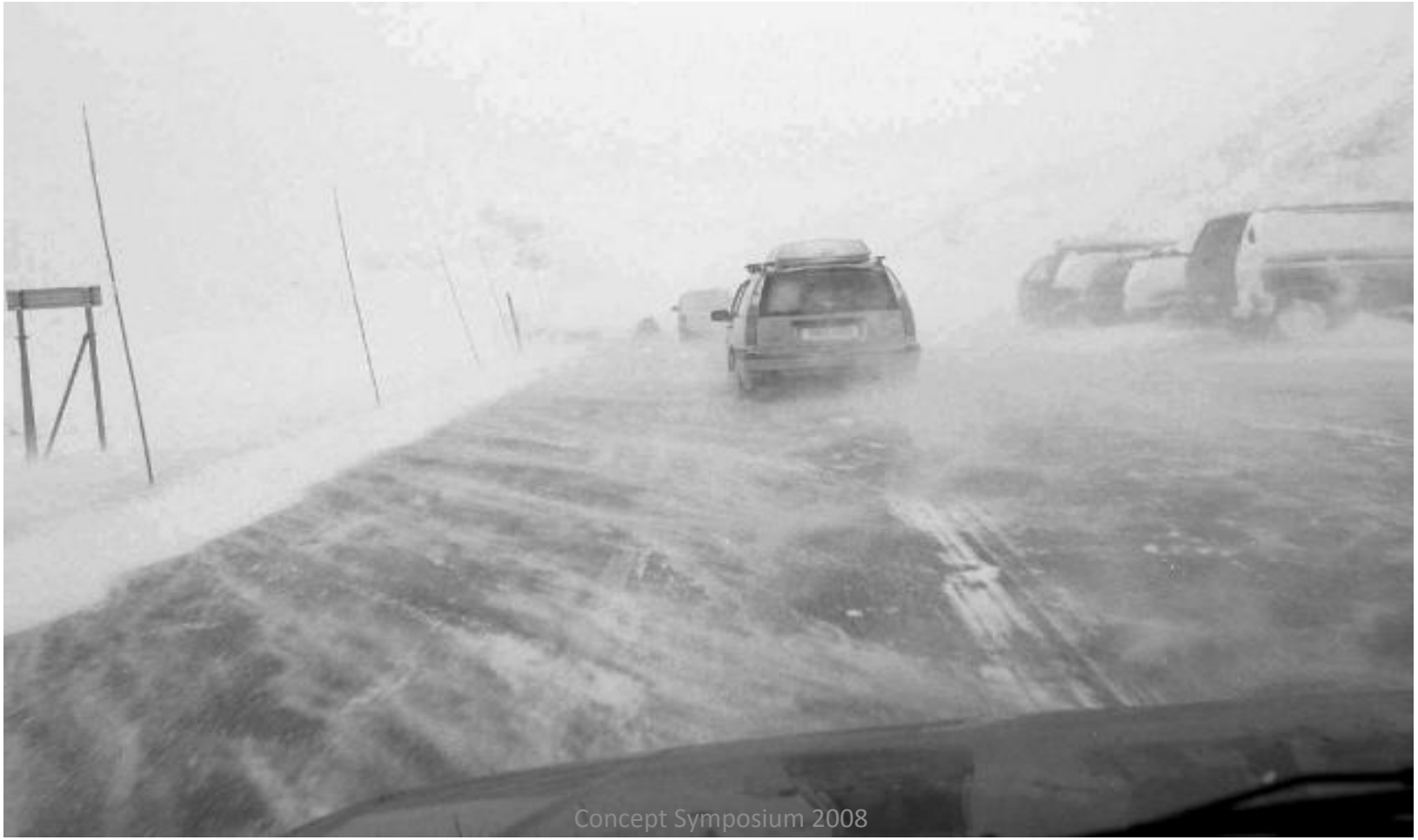


The Hardanger bridge as presented in an opposition pamphlet from an environmentalist organization

A brief decription of the background for the project

- The bridge will about 1400 meter long which is more than Golden Gate Bridge in San Francisco and will be 55 meter above sea level
- Total costs are estimated at about MNOK 2000, i.e., about 250 mill Euro.
- The Norwegian Parliament first voted against the project in 1996 partly because it was deemed unprofitable and partly because environmental interests were strongly against it
- Local interests in favour of the project didn't give up and were rallying for support arguing that the project would be important for linking together the Hardanger region
- The bridge proposal was resubmitted to the Norwegian Parliament in 2006 and the project was now adopted by a large majority
- There is, however, still a stark opposition against the project among the population
- The Norwegian society for the conservation of nature has pointed out that
  - It would represent a grave encroachment upon the unspoiled nature
  - 70% of the traffic are tourists which will be affected by the bridge
  - It will have detrimental effects on the local stock of wild reindeer in the mountain area
  - R 7 is crossing a mountain plateau that is heavily exposed to rough weather in the winter season. In case of blizzards R7 is either closed or the traffic has to be conducted by trucks with snow clearing equipment. With increased traffic these problems will be aggravated.
- In the rest of my talk I will try to explain why public projects like Hardangerbrua obtains political approval despite the fact that they are considered unprofitable and have weak nationwide popular support

The R7 runs across a mountain plateau with rough weather in the winter time
Here is a row of cars being conducted through the mountain in a blizzard



Characteristics of public projects: The role of stakeholders

- Voters are the principal stakeholders since they in their role as tax payers bear the cost
- Voters play different roles on the public arena
  - Tax payers
  - Recipients of public services
  - Public employees
  - Environmentalists, etc
- Their opinions on what should be optimized are often divided.
- Asymmetric interests.
  - Taxpayers' interests are fractionized whereas the interests of those supporting the project (bridge alternative) are concentrated creating asymmetric power (the 1/n effect)
  - This is increasing the possibility for special interests and pressure groups to exercise decisive influence on political decisions and is diluting the incentives for accountability and control
- I think that has been the case for the Hardanger bridge project
  - Several benefit cost studies have found the project unprofitable from an overall economic perspective
  - Public interests have been brushed aside by local pressure groups having captured the political arena on this issue.

The role of political preferences

- There seems to be a political preference for building new and highly visible monuments instead of maintaining existing ones
  - New bridges and tunnels rather than repairing existing infrastructure
- Logrolling
  - the exchange of support or favors for mutual political gain by means of voting for each other's bills
  - Rather common practice in the transport sector
- Example: The Hardanger bridge
  - The political party Venstre being initially against,voted for the Hardanger bridge that was favoured by the party Høyre, while the latter in return supported a tramcar transport system in Bergen, which they were originally against while it was supported by Venstre
- Logrolling may explain why good projects are crowded out by inferior ones through the political process

Strategic budgeting and cost overruns

- Information gathering and assessment of project costs and benefits are often done locally, whereas the ranking and choice of projects takes place centrally by the relevant government agency.
  - In particular this pertains to projects in the transport sector
- At the local level this creates incentives for underestimating costs and overestimating benefits
  - Flyvebjerg (2007) finds based in a study of 258 projects world wide in transportation infrastructure that 9 out of 10 have cost overruns.
- What are the main drivers behind this?
  - Projects are irreversible.
    - The project must be completed in order to provide any user value
  - In practise, the project once it has been started up, must be finished whatever its costs
  - The problem is aggravated by the lack of accountability regarding the local authorities providing the underlying cost assessments.
  - Cost overruns rarely have consequences for those being responsible except for a few conspicuous cases

Project choice on a piecewise vs overall economic basis:

- Pareto efficiency requires that projects are ranked and realized according to their true contribution to the economy's value added.
- In the discussion on the Hardanger bridge project it has been pointed out that the governmental road construction agency has been lacking an overall plan for developing the transportation network in the region and for the main link between east and west
  - In an overall plan this bridge project would not have been given priority.
  - The absence of overall plans leads to sub-optimization
- Projects are defined too narrowly.
  - As to the bridge project, adjacent roads are exposed to stone and snow slides. The increased traffic would make investments reducing the risk of such disasters more profitable in terms of cost per saved statistical lives per year.
  - R7 runs through an mountain area which is the habitat for a rare stock of reindeer. The increased traffic would necessitate investment in shelters protecting the reindeer from traffic noise and disturbances
  - The last two items should therefore be considered as an integral part of the project

Efficient project governance and the governmental budgeting practice

- The government budget is made up on an annual basis and expenditures on transportation are normally scattered on a large number of projects; partly on maintaining existing infrastructure and partly on new projects
  - Hence, investments take place gradually and stretched out in time in stead of giving priority to completing projects, one by one
  - The government road construction agency, Mesta, has estimated that cost efficiency can be increased by 20% by concentrating on completing ongoing projects
  - The costs are borne by road users in terms of travel time and risk of road accidents
- Public spending as a macro economic stabilizer
  - Users of public infrastructure are bearing the cost of maintaining macro economic stability
    - Investments in telecommunication infrastructure were held back in the early 1980-ies in order to prevent a rise in domestic interests rates

Some stylized facts about public enterprises

- Absence of capital market monitoring leads to less external control compared to private companies
  - Public agencies are not subject to take overs and the management is less concerned of losing their jobs. They may however be exposed to the risk of being privatized
- Soft budget constraints
  - Weakens the incentives for internal control
  - Less disciplined by the possibility of bankruptcy since the enterprise may be bailed out by the government in case of financial distress.
- Lobbying
  - Government is subjected to the pressure of interests groups
- Lack of precise objectives
  - The multiplicity, fuzziness and changing character of public objectives exasperates incentive and control problems
- Weights among public objectives may also change between successive administrations which may impair dynamic consistency of public policy.
- What are the main lessons?
  - Agency cost in the public sector should be taken into account when drawing the border line between private and public sector areas of responsibility in the economy

Markets or government?
Is Public-private partnerships (PPPs) the answer?

- PPPs involve private sector supply of infrastructure assets and services that have traditionally been provided by the government.
  - Adequate risk transfers from the government to the private sector is a key requirement for success
  - The quality of services has to be contractible
    - Necessary for payments to service providers to be linked to performance so that the need for costly contract renegotiating is minimized
  - There must be either competition or incentive-based regulation in the private sector
    - There is often large sunk cost with providing infrastructure which is a obstacle to competition
  - The trade off facing a government considering PPP is quality vs efficiency
    - Governmental agencies may have the capacity to achieve a desired quality standard but may have difficulties doing so while also containing costs
  - PPPs can be used to bypass spending controls and move public investment off the budget and debt off the government balance sheet
    - In reality the government would still bear most of the costs involved and would face potentially large fiscal costs
  - An appropriate institutional framework characterized by political commitment, good governance and a clear supporting legislation is needed for PPPs to have the desired effects on overall project governance