

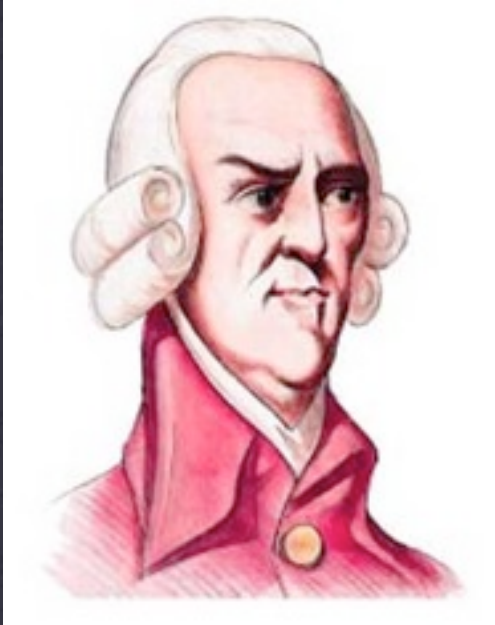
# Wider impacts of investment projects

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**Good roads, canals, and navigable rivers, by diminishing the expence of carriage, put the remote parts of the country more nearly upon a level with those in the neighbourhood of the town. They are upon that account the greatest of all improvements. They encourage the cultivation of the remote, which must always be the most extensive circle of the country. They are advantageous to the town, by breaking down the monopoly of the country in its neighbourhood. They are advantageous even to that part of the country. Though they introduce some rival commodities into the old market, they open many new markets to its produce.**

**Adam Smith, Wealth of Nations**

**Wider impact**  
**Introductory remarks**

**Standard benefit  
assessment**

«by diminishing the expence of carriage»

**Direct effect**

**Wider impact**

«put the remote parts of the country more nearly upon a level with those in the neighbourhood of the town»

**Regional development**

«breaking down the monopoly of the country in its neighbourhood»

**Competition**

«open many new markets to its produce»

**Market size**



# Wider impact: Examples

## The electric telegraph (1850)

Made long-distance communication quicker and cheaper

Made it possible to build single-track instead of double-track railways across the US -- saving of \$ 1 billion 1890-dollars (Field (1992))

Opened for insourcing of business activities and was thus a prerequisite the modern corporation (Chandler, Yates (1986))

## The London underground (1863)

Carries 1.2 billion passengers per year

Enables London to function

## The Opera tunnel in Oslo (2010)

Had no effect on travel time, travel distances or congestion

Has made it possible to reshape a major portion of the city



**Zero value?**





# Wider impact: Approaches

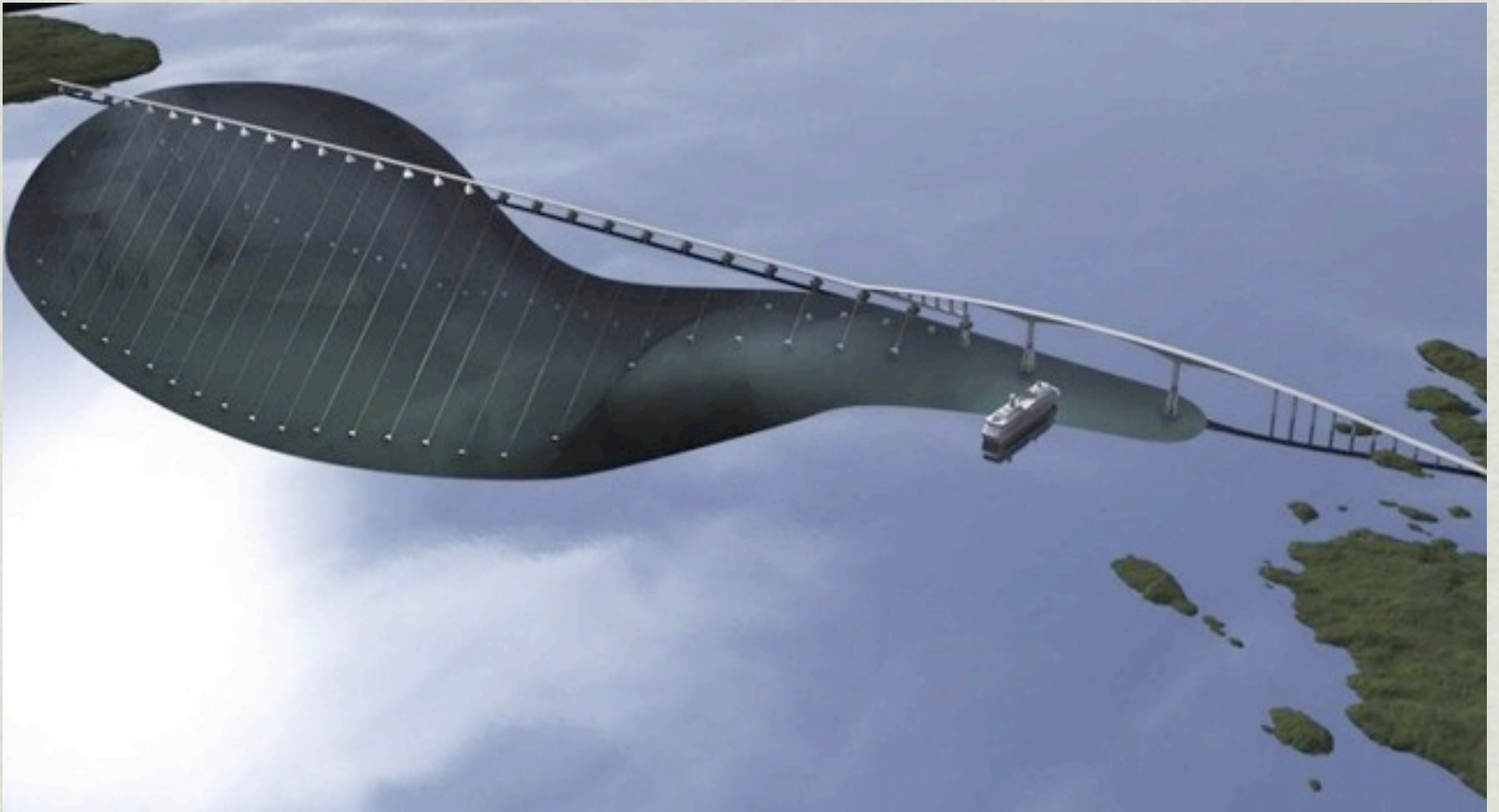
## 1. Extend traditional cost-benefit analyses to include more effects

Add effects on labour-markets, competition, productivity, etc. to time-saving effects

## 2. Change the focus in cost-benefit analyses

Roads are built to connect people (not to spend time on)





**The difference matters**



## Two alternatives for the Northern section:

A: Long bridge from Stord/Tysnes to Os

B: Shorter bridges via Fusa to Os

## Difference:

A is 15 minutes quicker than B

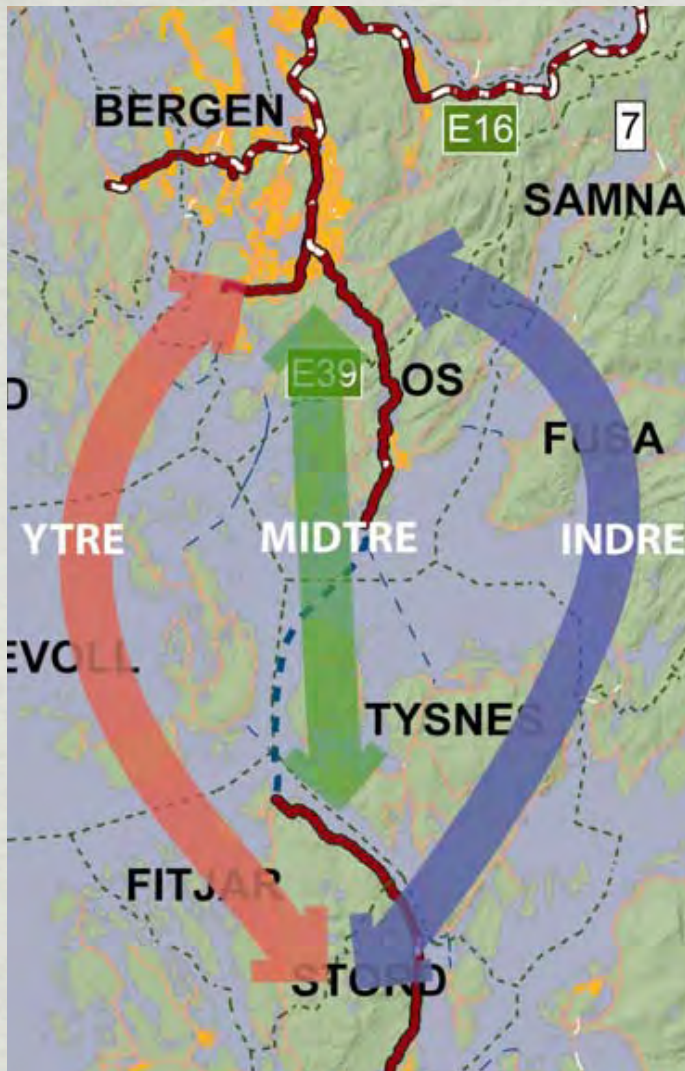
A costs 7 billion NOK more than B

## Traditional cost-benefit analysis:

Inconceivable that the value of the time saving could outweigh the cost difference

## Economic-geography focus:

15 minutes is just what is necessary to put Stord within commuting distance of Bergen





# Integrated Bergen-Stavanger

	Labour market size
Stavanger	145000
Haugesund-Stord	59000
Bergen	181000
Alternative A	
Fully integrated Stv-Bg	385000
Alternative B	
Integrated Stv-Stord	204000
Bergen	181000

**A roughly doubles the labour market size compared to B**

**What must be the elasticity of productivity w r p market size to give an annual gain warranting an extra investment of 7 billion NOK?**

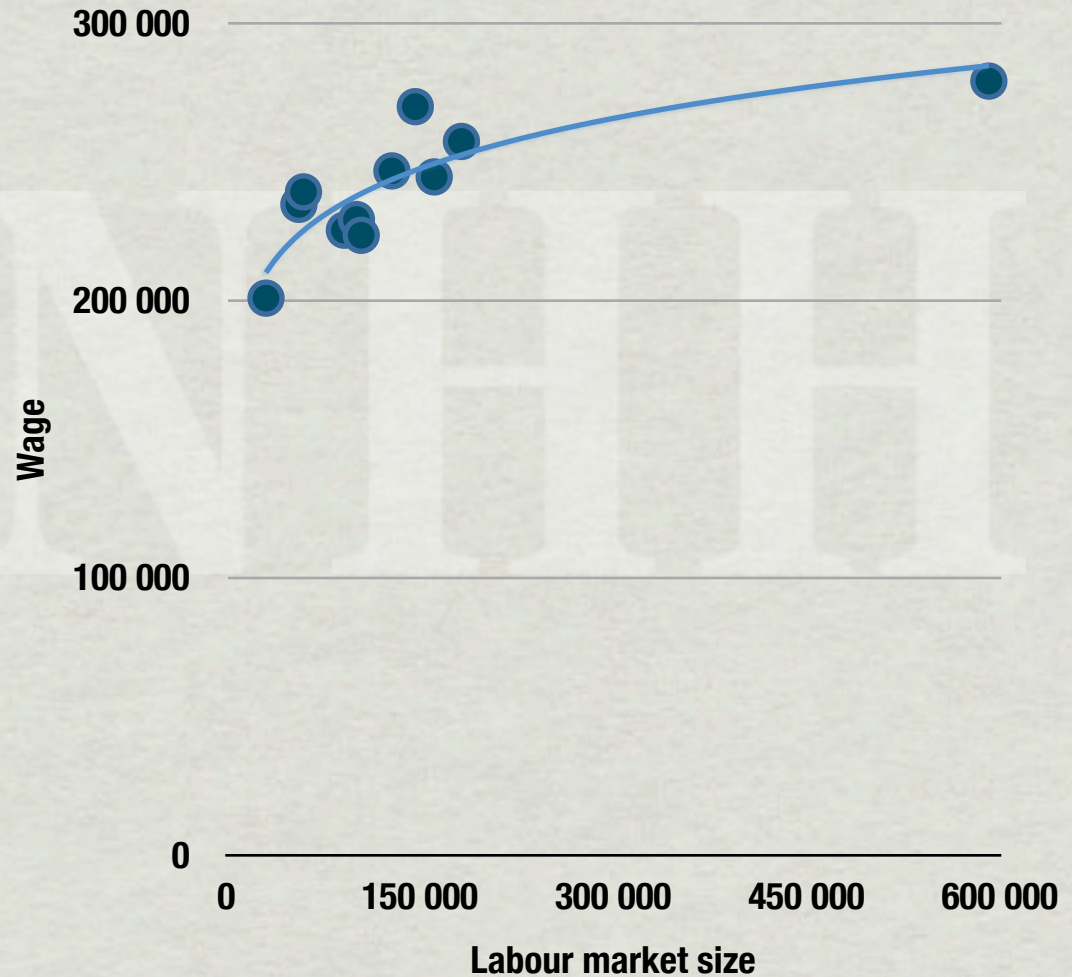
**Annual gain (5%, 40 years) must be roughly 400 mill NOK**

**The initial labour cost bill in the region is roughly 200 bill NOK**

**Necessary productivity increase is therefore 0.2 per cent**

**which means that the elasticity must be 0.003 or higher**

**Our estimate, based on Norwegian  
regional labour markets, is an  
elasticity of 0.10**





# Methods: Traditional approach

**Strong on theory**

**Value of time saved = marginal opportunity cost = work share x wage + leisure share x wage net of tax**

**Weak on empirics**

**How do we know that this is the actual valuation of time saved?**

# Methods: Wider impact

**Must be strong on theory**

**Because wider impact is not by itself a benefit (or a cost)**

**To warrant inclusion, wider impact must be effects not reflected fully in prices**

**To quantify these, the nature of the market failure must be understood**

**Must be stronger than traditional approach on empirics**

**Because the world is full of market failures**

**Empirical work is needed to identify the quantitatively important ones**

**Because when they are important, the effects are typically very large**

**Rectangles, not triangles**

**Political-economy arguments in addition:**

**Must not make wider impact a tool for special interest**

**Must convince public-choice inspired economists and policy makers**