Pricing road noise in Sweden

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ASEK (Method of analysis and economic calculation values for the transport sector)

- The principles and values are recommended to be used in cost-benefit analyses (CBA) in the Swedish transport sector.

- Based on scientific results or well-known and commonly accepted procedures and facts

The noise costs were produced by VTI (The Swedish National Road and Transport Research Institute, VTI 2014) in the VÄSMAGE-project.

- Hedonic model of property prices to estimate the cost of road noise
- Data of property sales from seven geographically distinct regions (municipalities) of Sweden (Västerås, Nacka, Borås, Vellinge, Umeå, Örebro and Falun)
- The regions are chosen to represent Sweden in an adequate manner
- Follows closely to a former study where cost of rail noise was estimated

Data sorces

- Register data of all property sales from 2002 to August 2012 (almost 10 000) : **living space, property area, quality index...**
- Road noise calculated by the Nordic Method. 24-hour equivalence level of noise
- Socio-economic data from Statistics Sweden linked with property data: **income, education, household size..**

Model

- Hedonic model where two steps are estimated
- Step 1: Price of a good estimated as a function of the characteristics of the good.
- Step 2: Demand for a given characteristic is estimated.

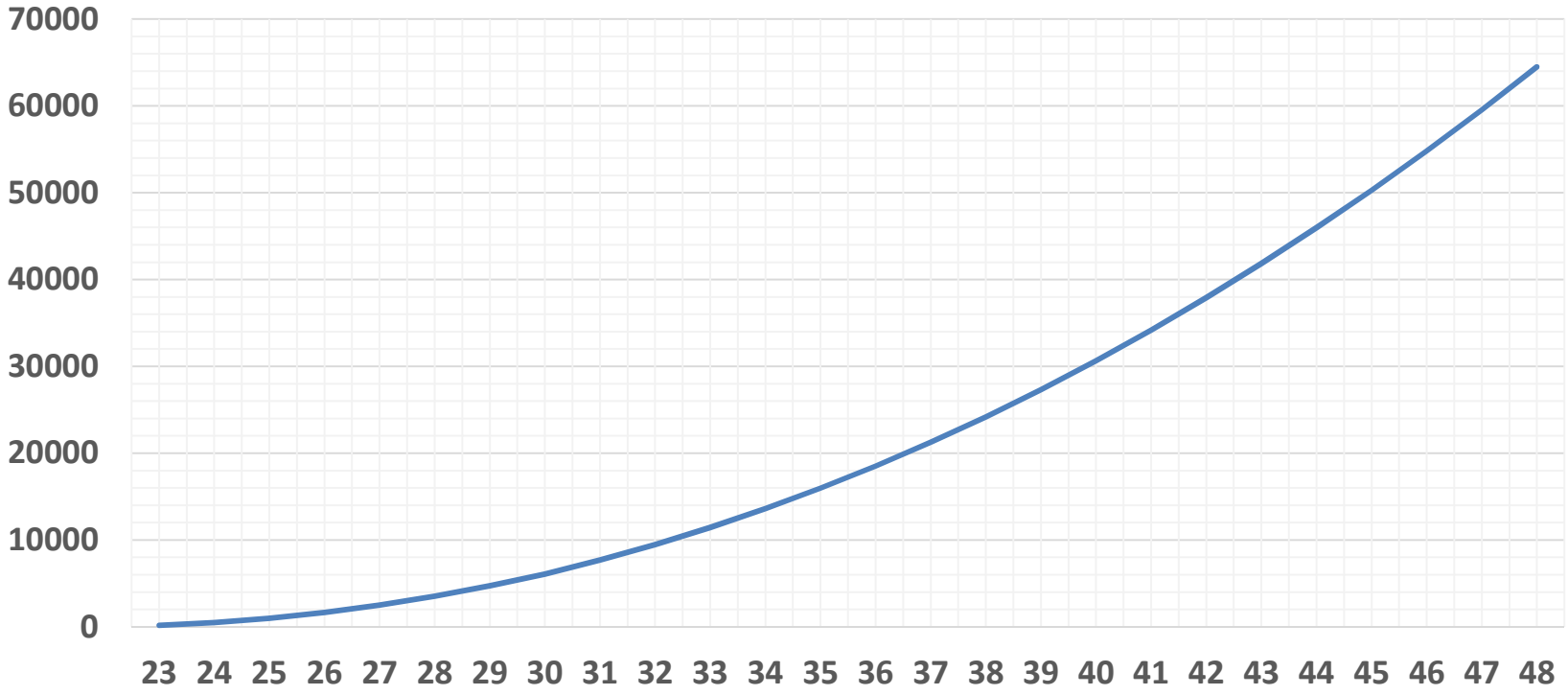
Cumulative health effects – unaware disorder

Impact pathway approach

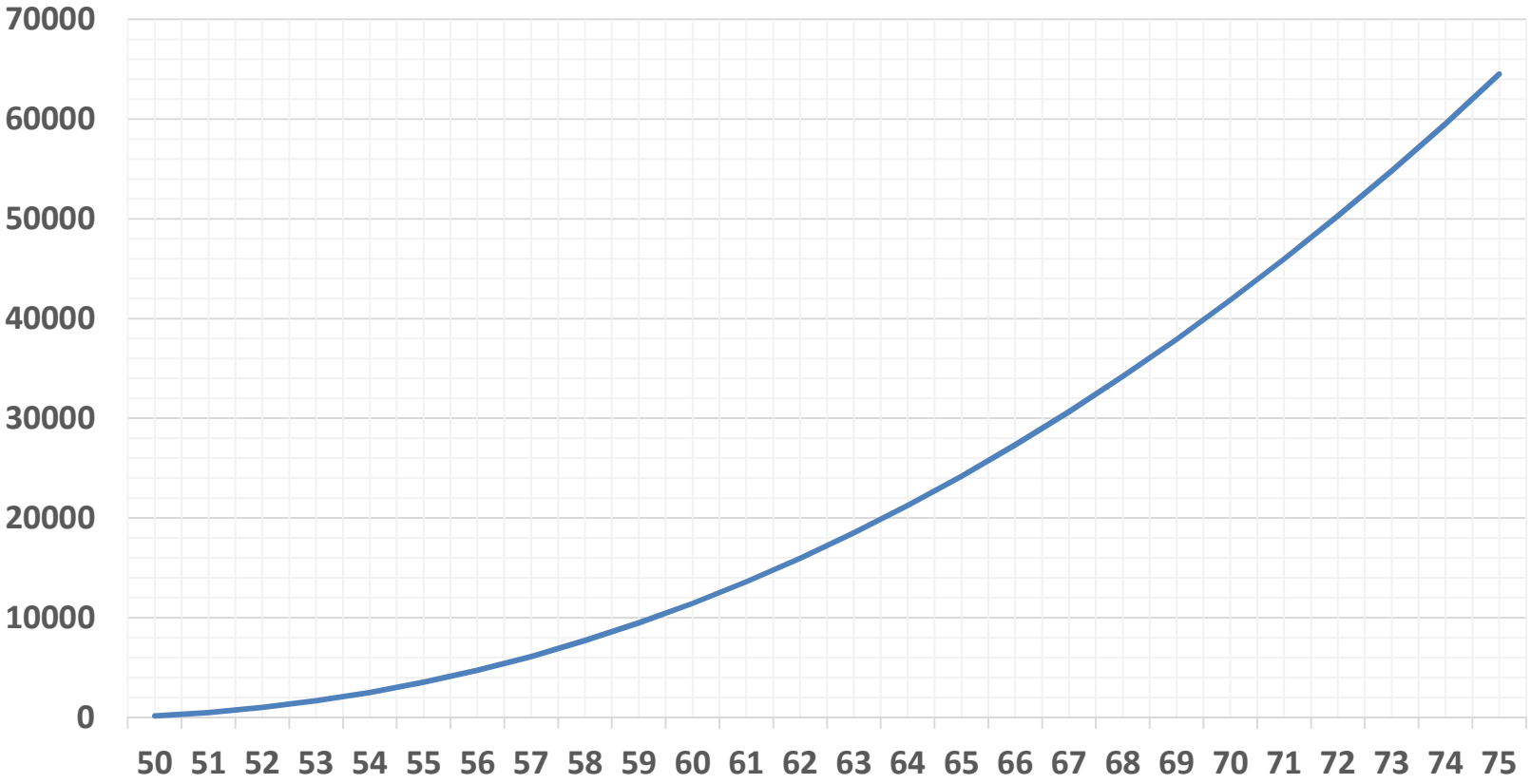
- Premature death
- Heart diseases - risk of myocardial infarction etc.
- Production losses – when hospitalized
- Medical expenses

Sources: the World Health Organization (2011 and 2012) and the ExternE-project (Bickel and Friedrich, 2005)

Indoor costs (SEK, dBA), *27 dB average facade noise reduction* - *assumption that the cost of the outdoor noise is 50% of the total cost*



Outdoor costs (SEK, dBA) - assumption that the cost of the outdoor noise is 50% of the total cost



Thank You!