

---

Framing contracts and jurisdiction ahead to match  $p$  = "Economy Funds" and  $v$  = "Economy Velocity" that can be modelled with typical approaches for fuction  $z$  = "arrival state" depending on  $x$  = "starting state", so that "work"  $W = F \cdot r = F \cdot (z - x)$ :

Table 1: Modelling Functions

Type	Model	Linearisation
Linear	$z = a + bx$	$z = a + bx$
Gemetric	$z = a \cdot x^b$	$\log z = \log a + b \cdot (\log x)$
Exponential	$z = a \cdot b^x$	$\log z = \log a + (\log b) \cdot x$
deca.		
Exponential nat.	$z = a \cdot e^{bx}$	$\ln z = \ln a + bx$
Periodical		
Polynomial		
Taylor		

---

Linear optimization to achieve target states " $z, h$ ":

1. Oneness situaiton modelling:

minimize efforts =  $z$  or maximizie return =  $z$

$$\begin{aligned}
 &\text{target:} && z = c^T \cdot x \\
 &\text{min. constraints:} && [a_{ki}] \cdot x \geq b \\
 &\text{max. constraints:} && [a_{ki}] \cdot x \leq b \\
 &\text{condition:} && x \geq 0
 \end{aligned} \tag{1}$$

2. Duality situation modelling:

minimize efforts =  $z$  and maximize return =  $h$

$$\begin{aligned}
 &\text{target min.:} && z = c^T \cdot x \\
 &\text{min. constraints:} && [a_{ki}] \cdot x \geq b \\
 &\text{condition:} && x \geq 0 \\
 &\text{and} && \\
 &\text{target max.:} && h = b^T \cdot y \\
 &\text{max. constraints:} && [a_{ki}]^T \cdot y \leq c \\
 &\text{condition:} && y \geq 0
 \end{aligned} \tag{2}$$

---

### 3. Normalization:

$$\begin{array}{ll} \text{target:} & z = c^T \cdot x \\ \text{min. constraints:} & ([a_{ki}] - x_{n+k}) \cdot x = b \\ \text{max. constraints:} & ([a_{ki}] + x_{n+k}) \cdot x = b \\ \text{condition:} & x \geq 0 \end{array} \quad (3)$$

### 4. Solution with [Simplex algorithm](#) multilinear and exponential models ...