

FORUM 2009 - 26-29 mai - Leipzig

**Workshop 3: Strategic Transport Infrastructure
Planing and Financing**

**The Programming and Optimal Pricing of
Infrastructure in PPPs**

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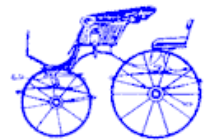
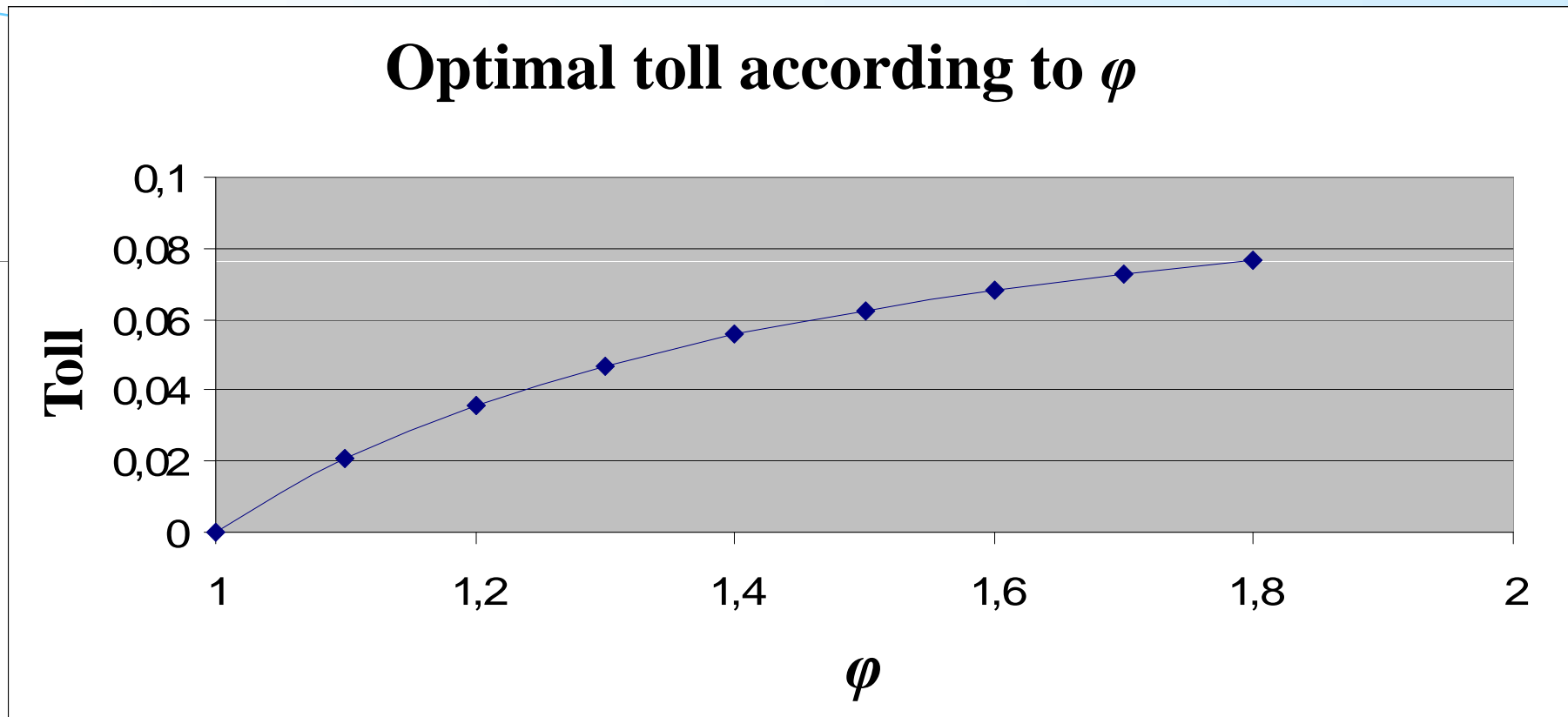


**For new infrastructures in PPPs, the IRR ranking for the whole programme provides more welfare gain than the ERR ranking !
(under the public financing constraint)**

If the financial IRR is more efficient than the socio-economic ERR for an optimisation of the whole programme, is the welfare oriented pricing more efficient than the profit oriented pricing?



1. Optimal toll for existing infrastructure and scarcity coefficient of public funding



2. Optimal toll for a programme of new infrastructures

The objective function is in fact the ratio:

$$\textit{Welfare gain} / \textit{Sub}$$

(The same as for the optimal ranking)

Thus, the optimal pricing is :

$$P_{opt} = P_{Rmax} \left(1 - \frac{\textit{Min}(\textit{Sub})}{R_{max}} \right)$$

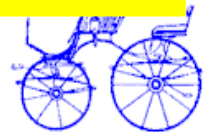
3 cases :

$$\textit{Min}(\textit{Sub}) = 0 \Rightarrow P_{opt} = P_{Rmax}$$

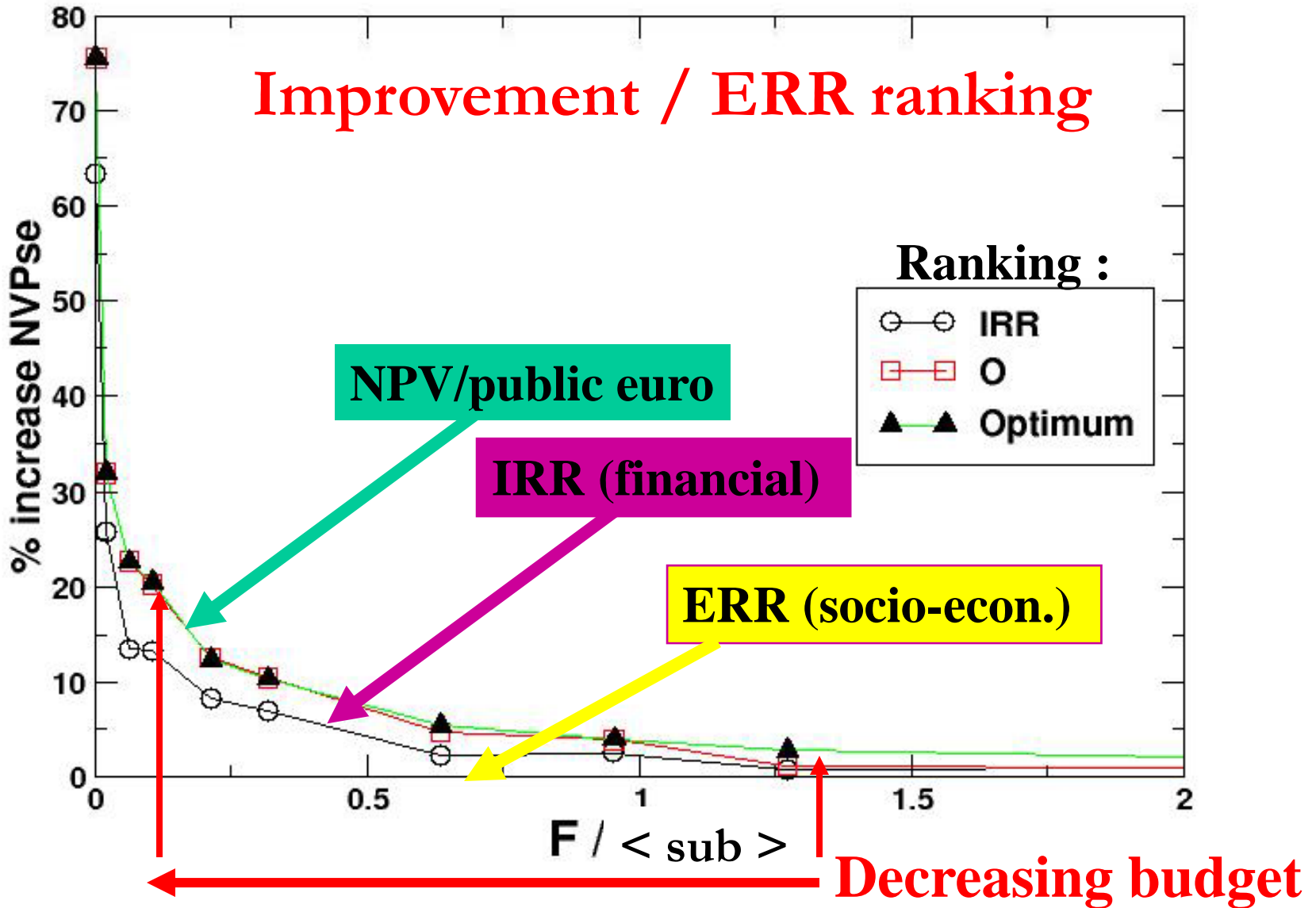
$$\textit{Min}(\textit{Sub}) > R_{max} \Rightarrow \text{Free road}$$

$$0 < \textit{Min}(\textit{Sub}) < R_{max} \Rightarrow \text{Regulated } P_{opt}$$

Conclusion: 3 families of PPP according to IRR



Does the crisis change the analysis ?



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