Socio-economic Calculation

4DH PhD Seminar

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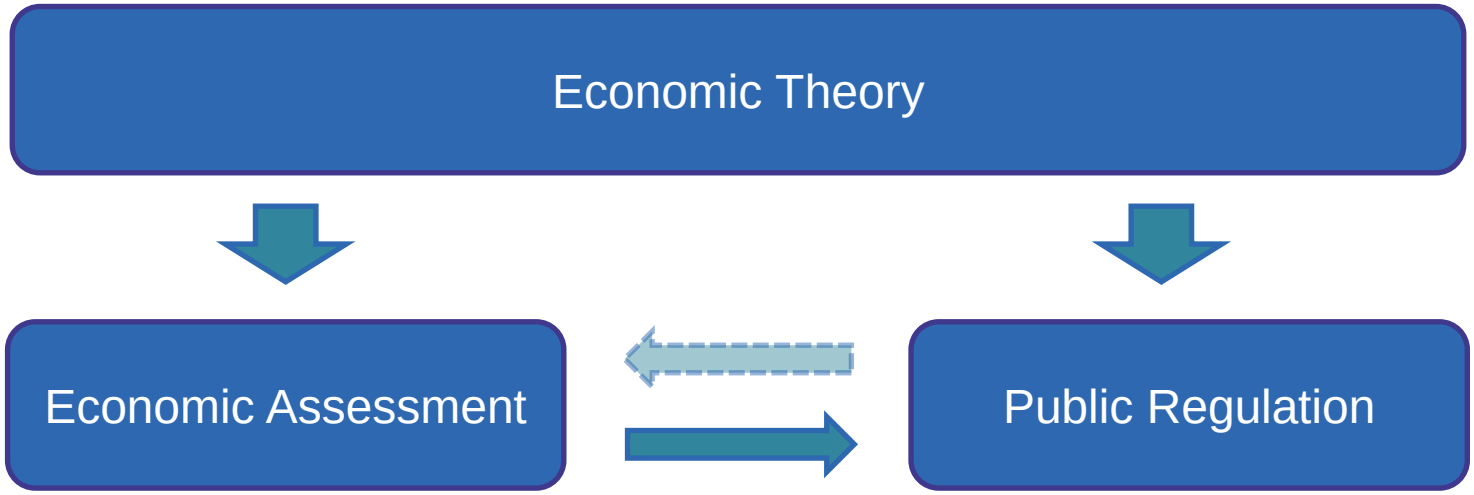
Calculation Rules as a Regulation



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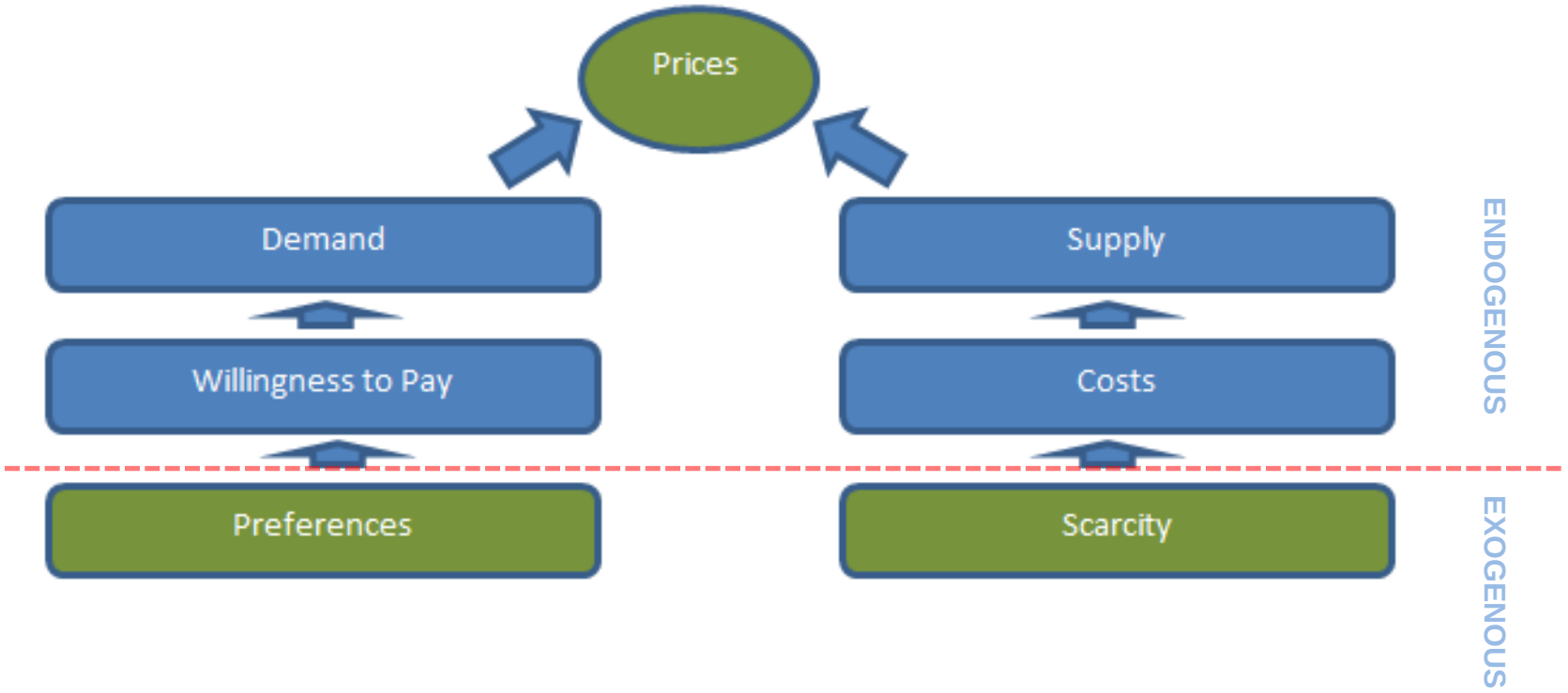
Guidelines for Economic Assessment

There are three central elements in the guidelines given by the Danish Ministry of Finance:

1) Discount Rate
2) Tax Distortion Loss (”Skatteforvridningstab”)
3) Net Tax Factor (”Nettoafgiftsfaktor”)

Neoclassical Value Theory



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Net Tax Factor – What is it about?

- The first step, before evaluating the rules, is to understand the theoretical argument behind the rules
- Seems to be confusion about the theoretical foundation for the Net Tax Factor, e.g;

”Det overordnede argument for at korrigere beregninger i en samfundsøkonomisk konsekvensvurdering er, at den alternative anvendelse af midlerne (køb af forbrugsgoder) havde givet et skattemæssigt provenu” (*Vejledning i fremstilling af samfundsøkonomiske konsekvensvurderinger*, Departementet for Finanser og Indenrigsanliggender, Grønland, 2014)

The NTF **is not** about lost revenue from taxes!

NTF is applied in order to estimate the real opportunity cost of the input factors -- in terms of welfare

Measuring Welfare Changes

- The change in welfare resulting from a certain project is given by The value of produced goods – the value of the unrealised alternative production
- Given neoclassical value theory, the value of any production is given by the willingness to pay for produced goods
- Willingness to pay must equal consumer prices
- Problem: We do not have the prices of those goods that were never produced
- Question: How do we determine the value of goods that were never produced (and never bought)?

Net Tax Factor and the Valuation Problem

Problem: How do we determine the value of goods that were never produced (and never bought)?

- We know the prices of input factors
- However, what we need is the prices of final goods;
- consumer prices
- Consumer prices = Factor prices + tax + profit

Net Tax Factor and the Valuation Problem 2

- Consumer prices = Factor prices + tax + profit
- *"Hvis producenterne handler optimalt, anvendes inputfaktorerne på en sådan måde, at inputfaktorernes marginale bidrag til værdiskabelsen i virksomheden netop svarer til den pris som producenten skal betale for inputfaktoren…"* (s. 24, Finansministeriet, 1999)
- *"Markedsprisen, ekskl. skatter og afgifter, der tilfalder staten, på de producerede forbrugsgoder er herved lig med prisen på inputfaktorerne ekskl. refunderbare skatter og afgifter."* (s. 24, Finansministeriet, 1999)
- That is, it is assumed that there is no profit to the producer
- True in a perfect market model
- No profit -> Consumer prices = Factor prices + tax

Estimating the Net Tax Factor

Consumer prices = Factor prices + tax

- How do we then determine the tax?
- Problem: We do not which good that *would have been* produced, and we therefore do not know which tax rate to apply.
- Solution: An average net tax for the whole economy is estimated to 1,17. This is called the Net Tax Factor

With the estimated NTF we can now calculate a theoretical 'willingness to pay' for the goods which were never produced:

Consumer price for goods = factor price x 1,17 = willingness to pay = the value of foregone goods = welfare opportunity cost of a given project's use of input factors

Net Tax Factor and Unemployment

- It is assumed that input factors always have an alternative use
- Is it appropriate to apply this on labour? Assumes that labour always has alternative employment
- That is, an assumption of full employment. Only structural unemployment exist, no involuntary unemployment
- The Net Tax Factor is thereby consistent with neoclassical economic theory, and in line with e.g. the DREAM model

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