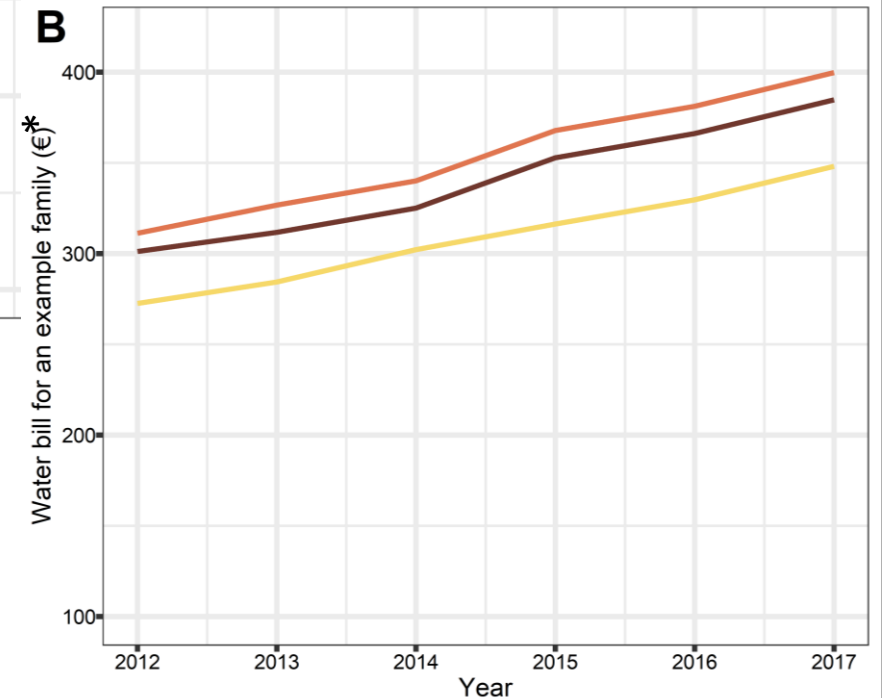
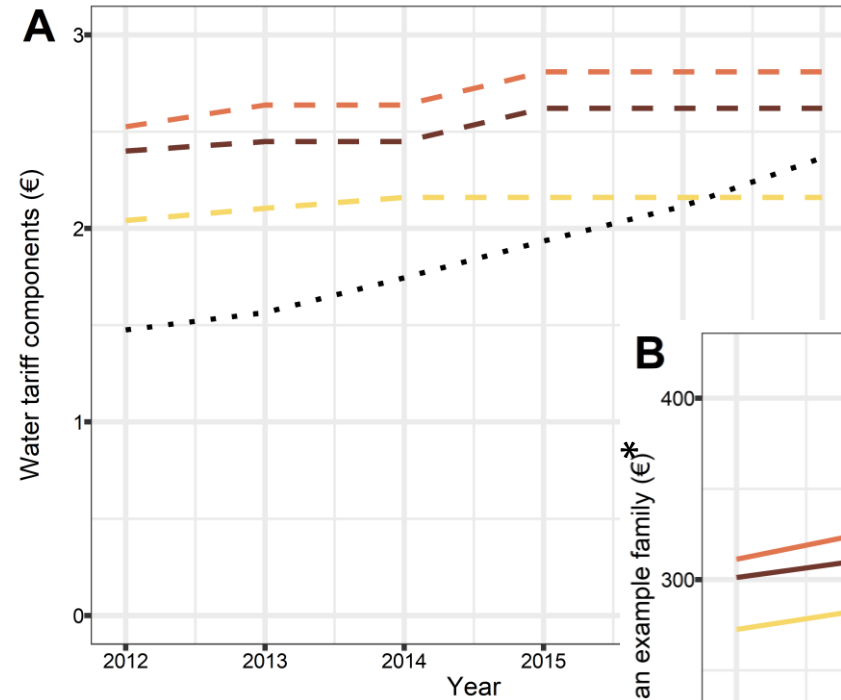


Reassessing the social equity objective of currently popular water tariffs

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Context

- EU full cost recovery (steep increase in sanitation tariff)
- Need for investment in infrastructure against climate changes
- Reduced water consumption
 - ⇒ Recent raise in water price
 - ⇒ Potential increase water poverty and inequity

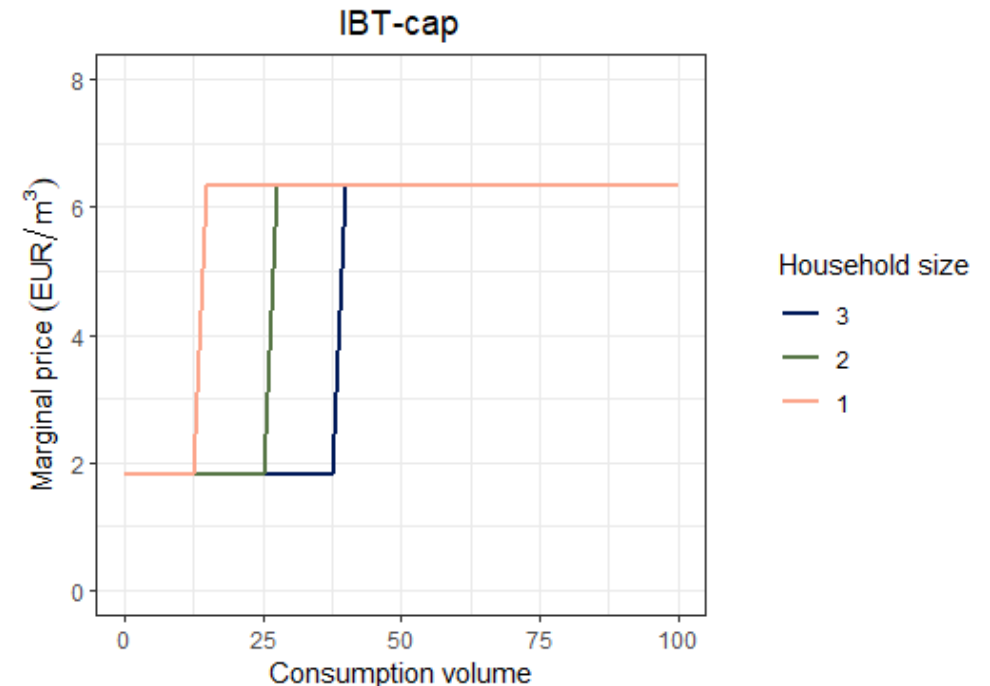
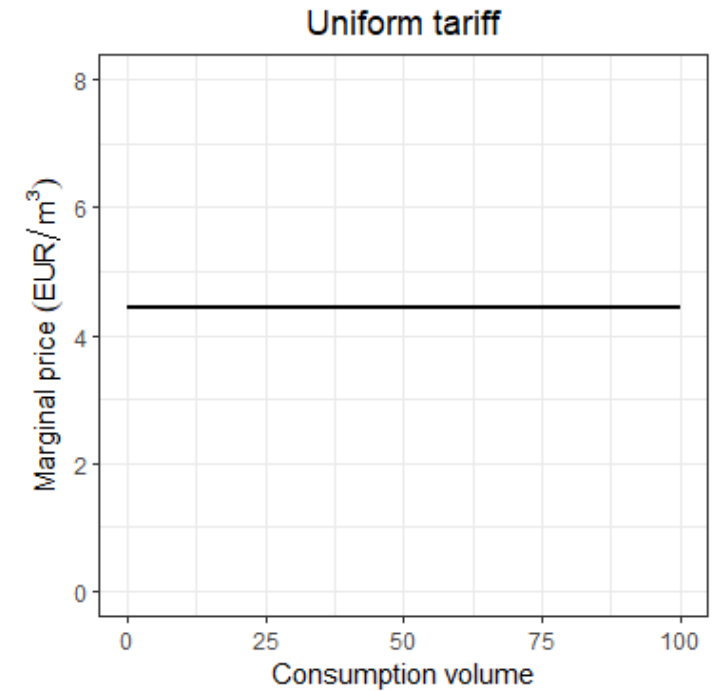
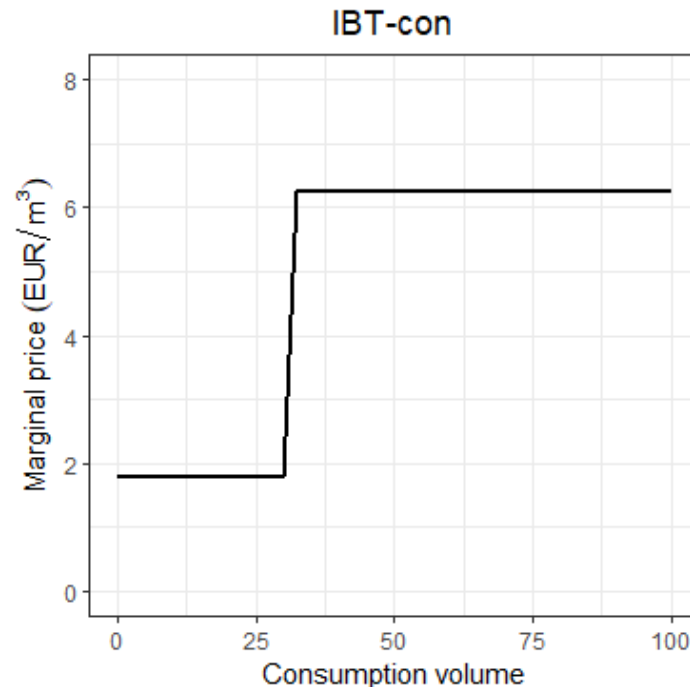


Utilities — SWDE — CILE — inBW
Tariff components ··· CVA — · CVD

* An example family here is a family who consumes at the average level of Wallonia i.e. 70 m³ annually

Current popular tariffs

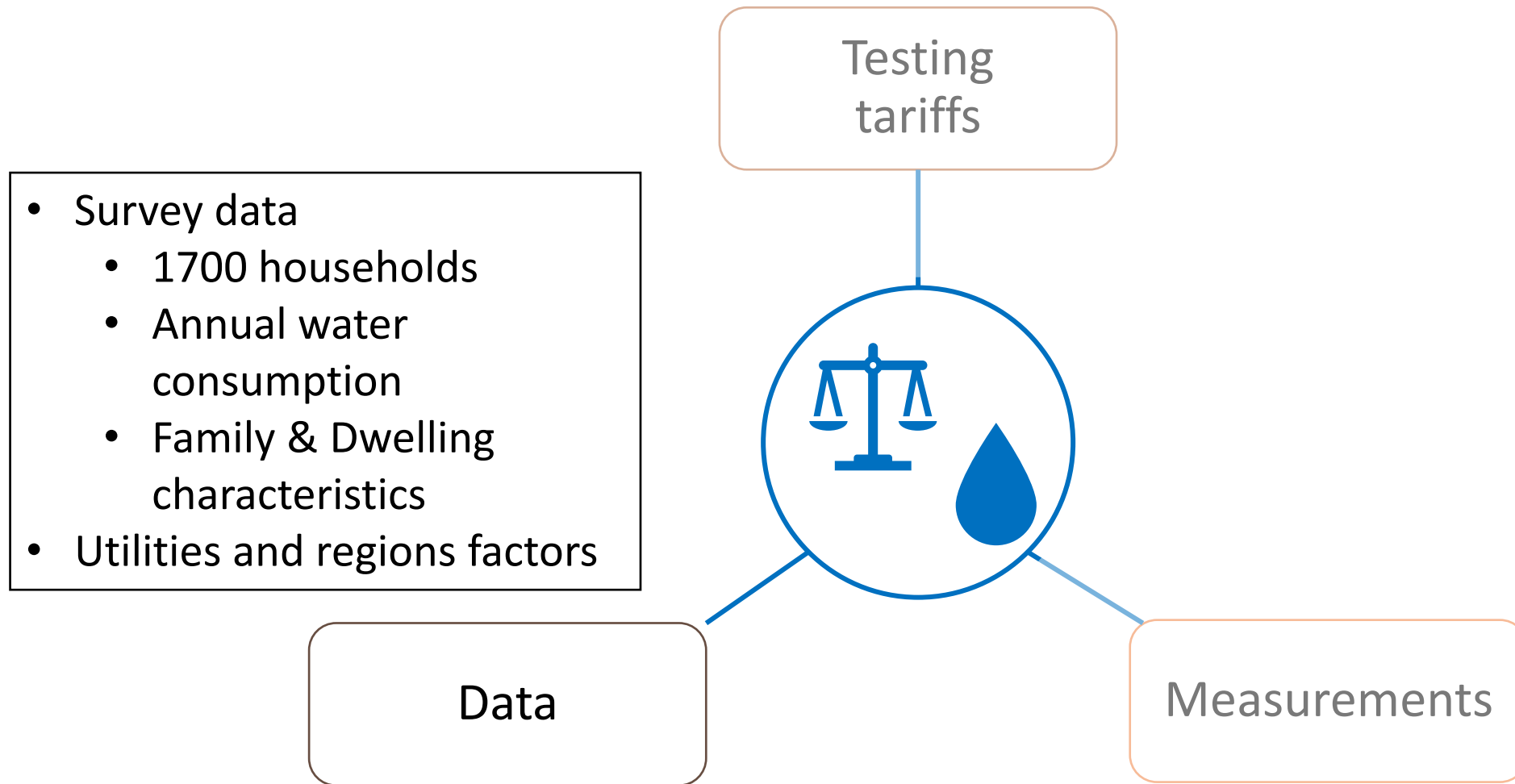
- Increasing block tariff at connection level (IBT-con)
- Increasing block tariff adjusted for household size (IBT-cap)
- Uniform price (UP)
- Fixed subscription fees



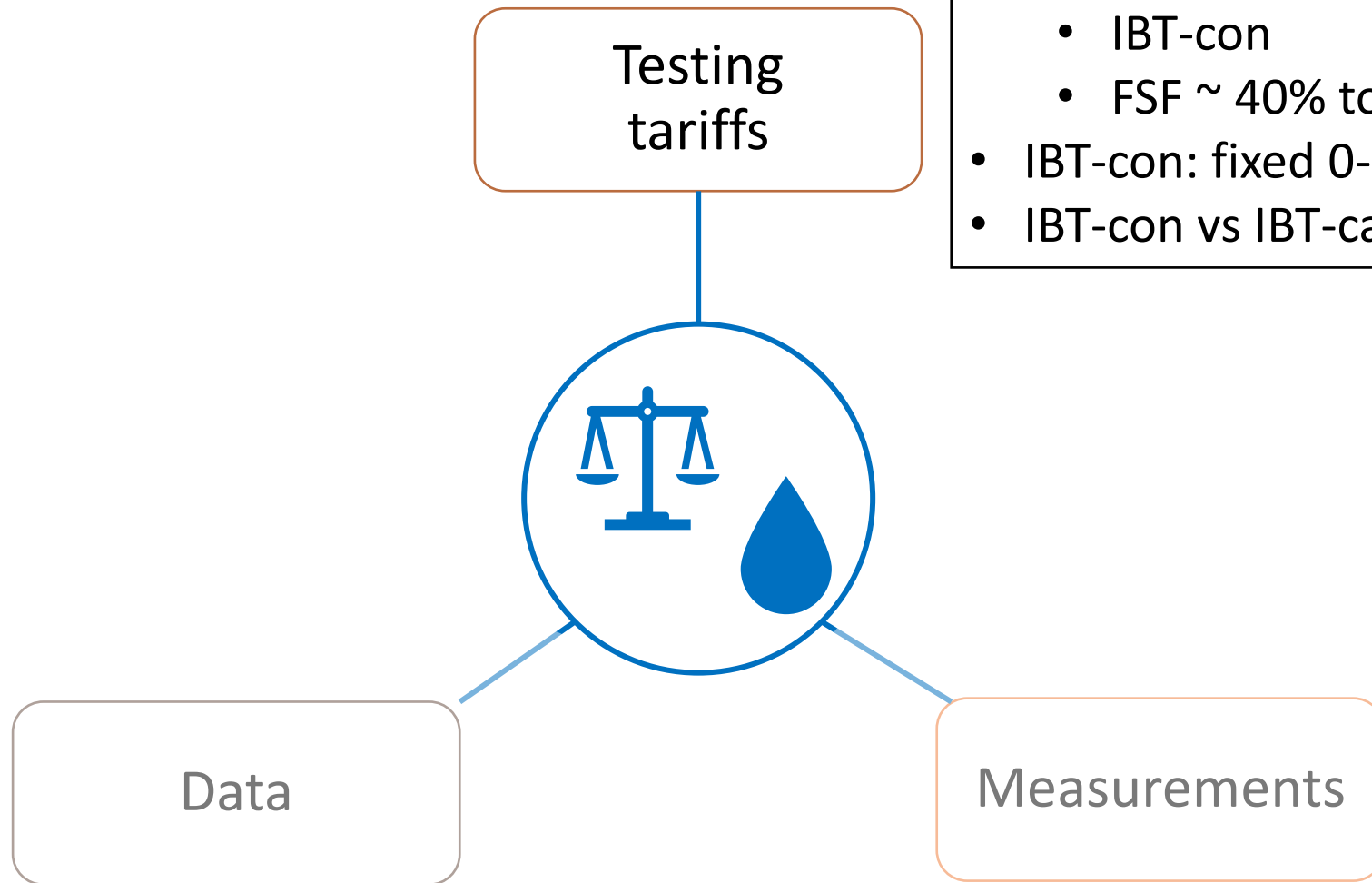
Research questions

1. Social equity in current tariff?
2. Social equity of different hypothesized tariff scenarios?

Data and Methods

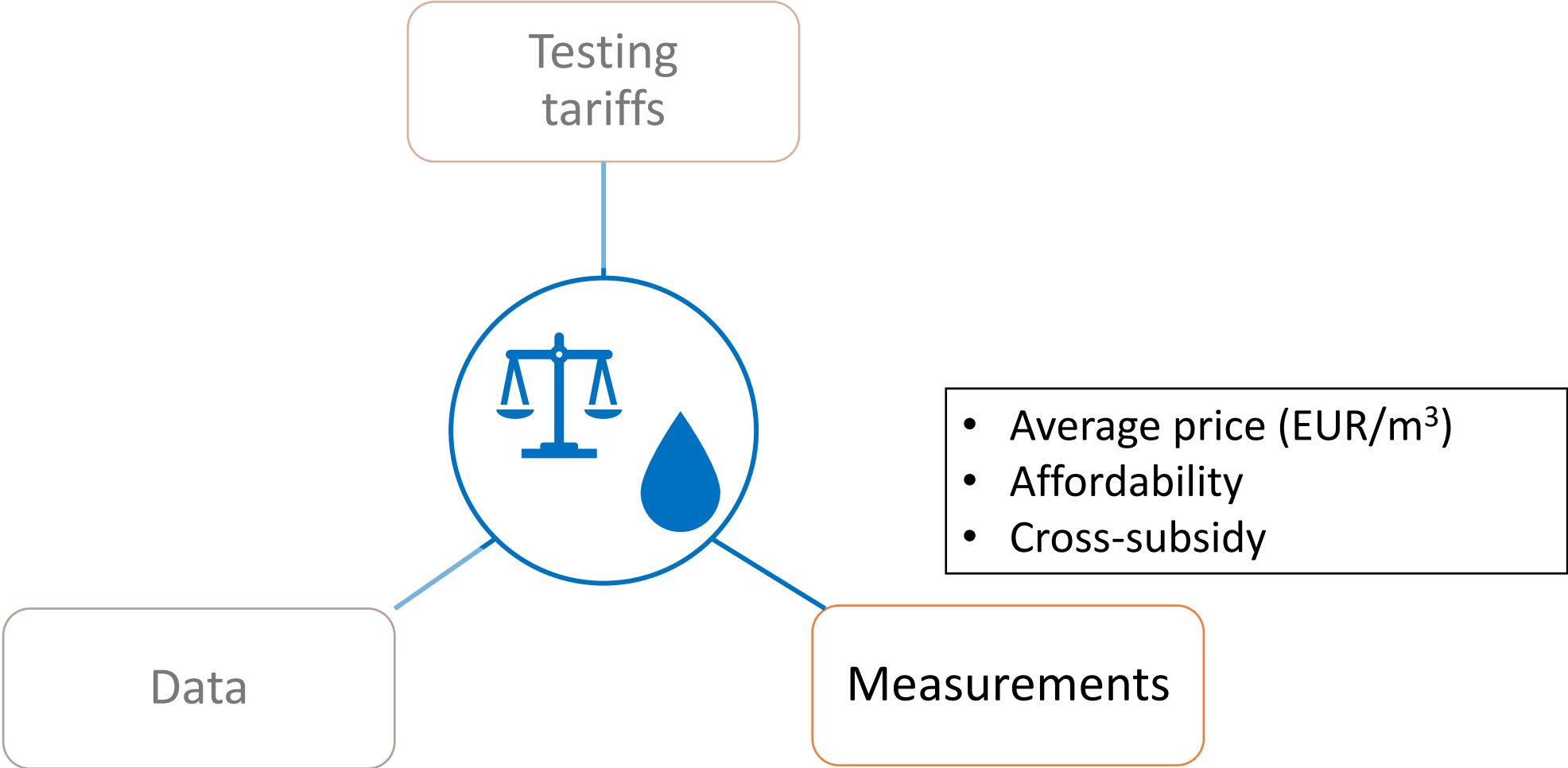


Data and Methods



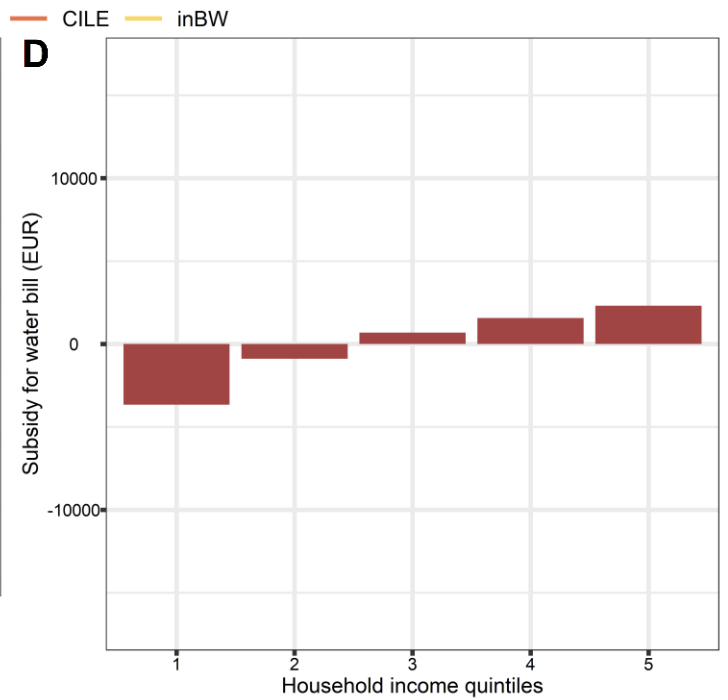
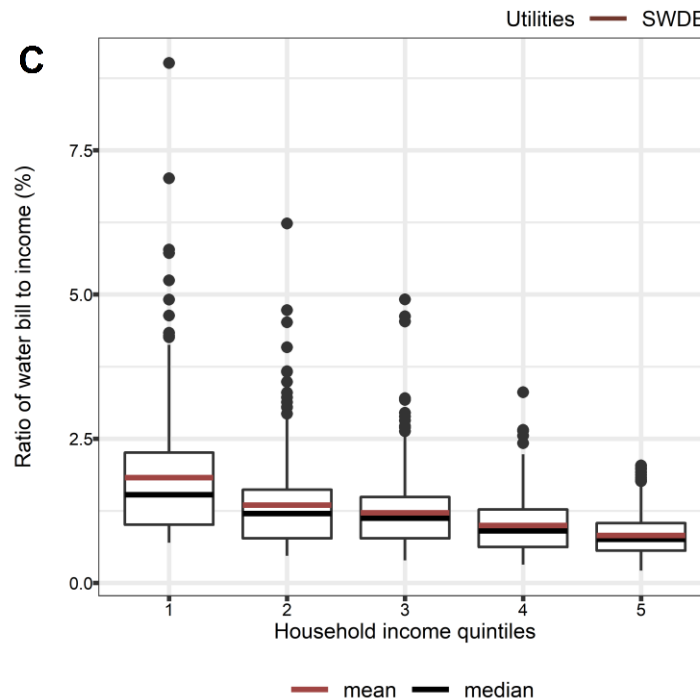
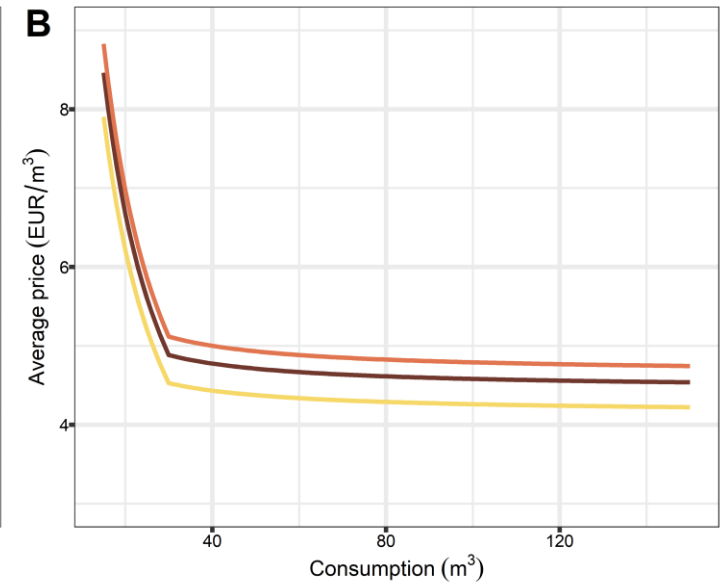
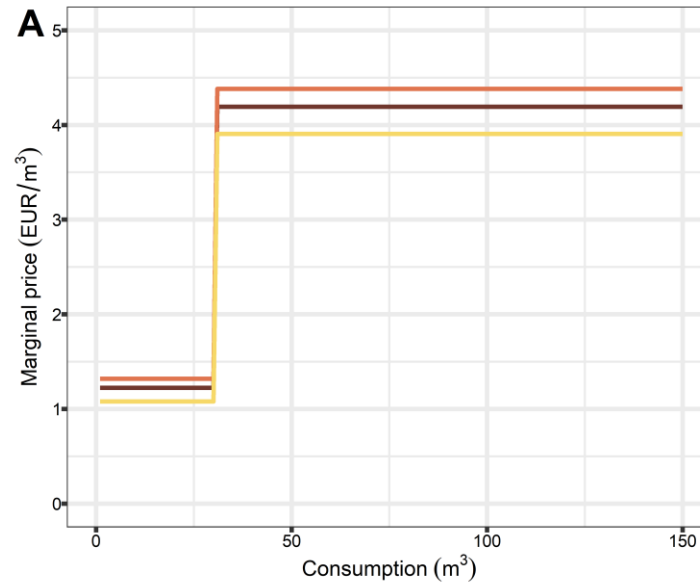
- Current tariffs
 - IBT-con
 - FSF ~ 40% total bill
- IBT-con: fixed 0-200 EUR
- IBT-con vs IBT-cap vs UP

Data and Methods



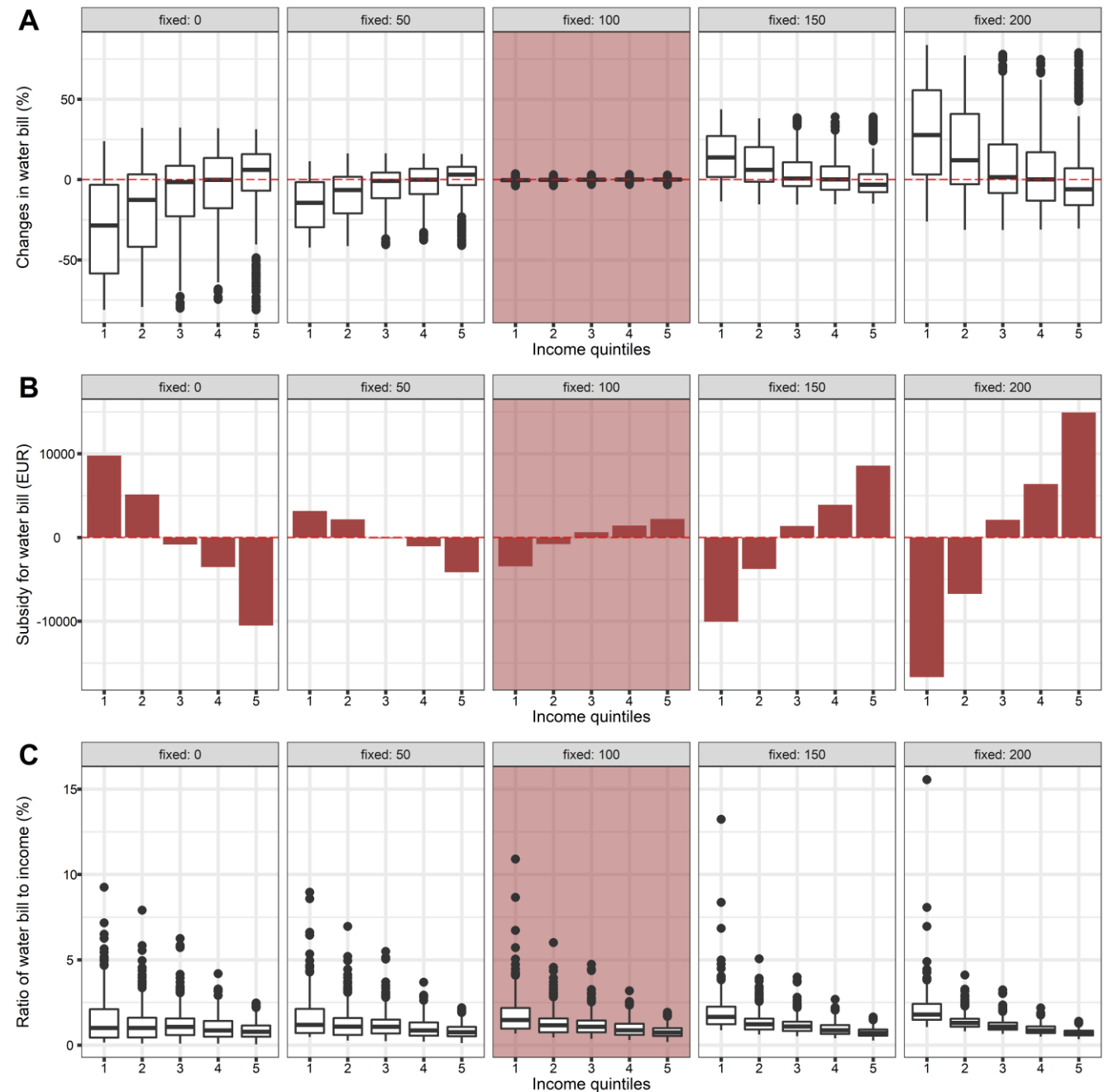
Social equity of current tariffs

- Higher marginal price for high consumption
- Due to high share of fixed fee => **big consumers pay smaller average price**
- 12.7 % of families in first income quintiles pay > 3% (average for all groups: 3.6%)
- Cross-subsidy happens but with: **poor households paying subsidies for better-off households!**



Fixed fee effects (IBT-con)

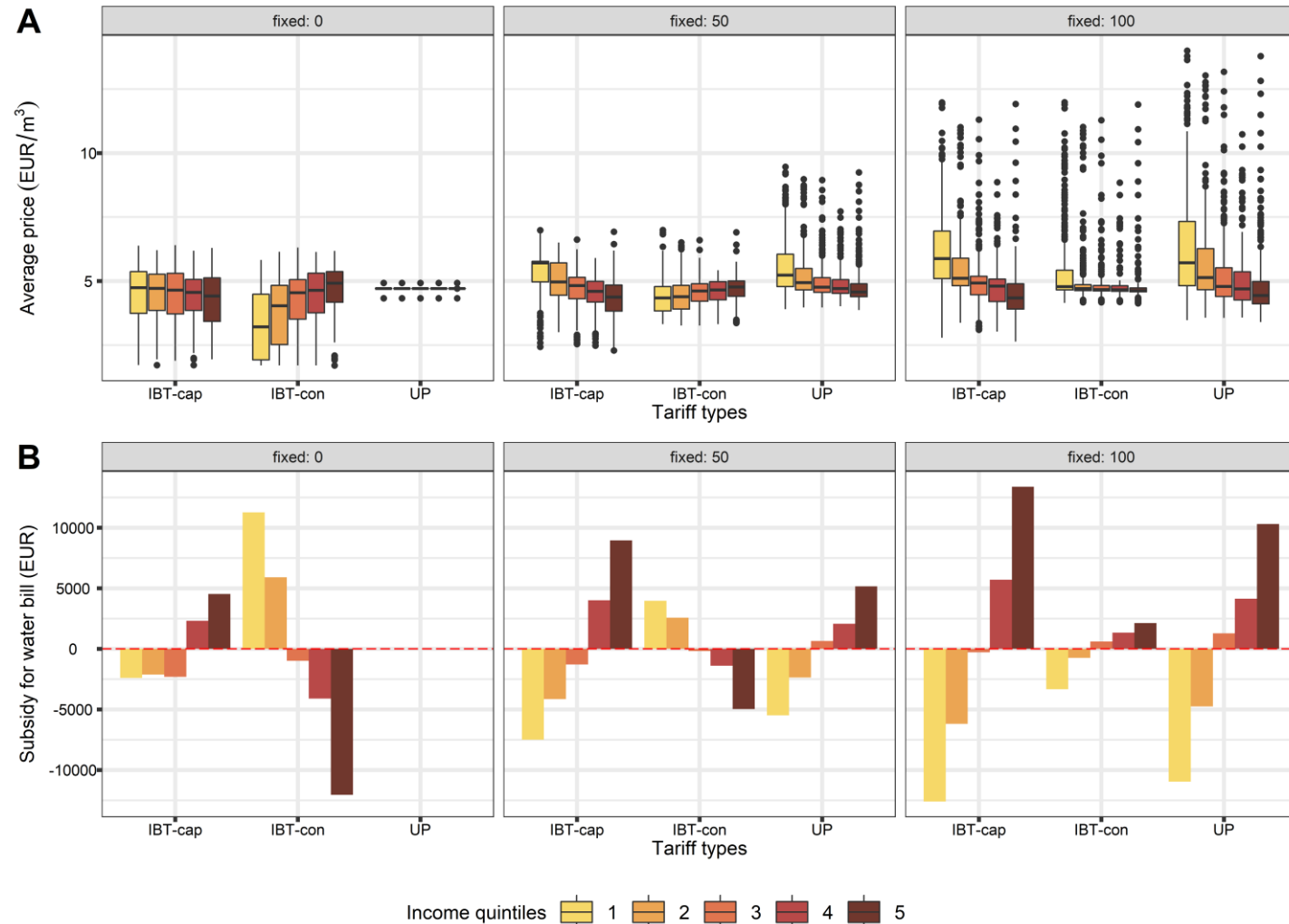
- When reduce fixed fee
 - Drastic drop in bill for more than 75% of households in the 1st quintile
 - Slightly increase for households in 5th quintiles
- ⇒ **fixed fee burden poor households**
- Fixed = €50 or €0:
 - cross-subsidy **change direction**
 - Average water affordability index similar for all 5 income groups



IBT-con, IBT-cap, UP

- With a fixed fee > 0 both IBT-cap and UP are regressive
- IBT-con with small or no fixed fee are progressive

=> Price regressive or progressive depend on both volumetric tariff type & amount of fixed fee



Conclusion

- High fixed fee has a high impact on poor families
- IBT-con with reasonable fixed fee ($\leq \pm 50$ EURs) show progressive effects in Wallonia case
- Results applicable only (present situation in Wallonia)
 - Positive correlation between income and household size
 - Positive correlation between income and water consumption
- IBT-con with lower fixed fee: $\sim 13\%$ of families in 1st income quintile paying $> 3\%$ of income for water => **financial aid through Fond social de l'eau still necessary**



Thank you!

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