

# Does Public Ownership Provide Reliable and Affordable Electricity to Household Consumers?

Case Studies of Power Reforms in the UK, Germany, Italy and France

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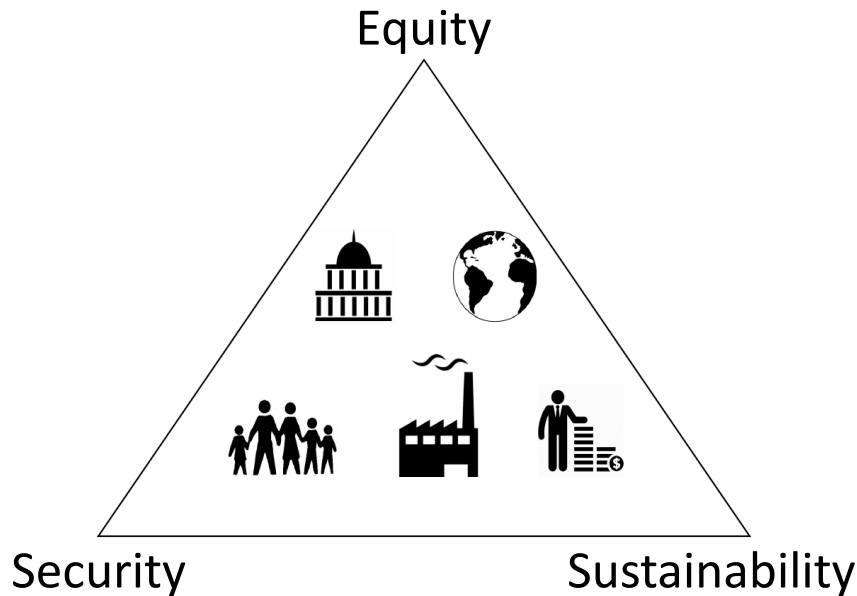
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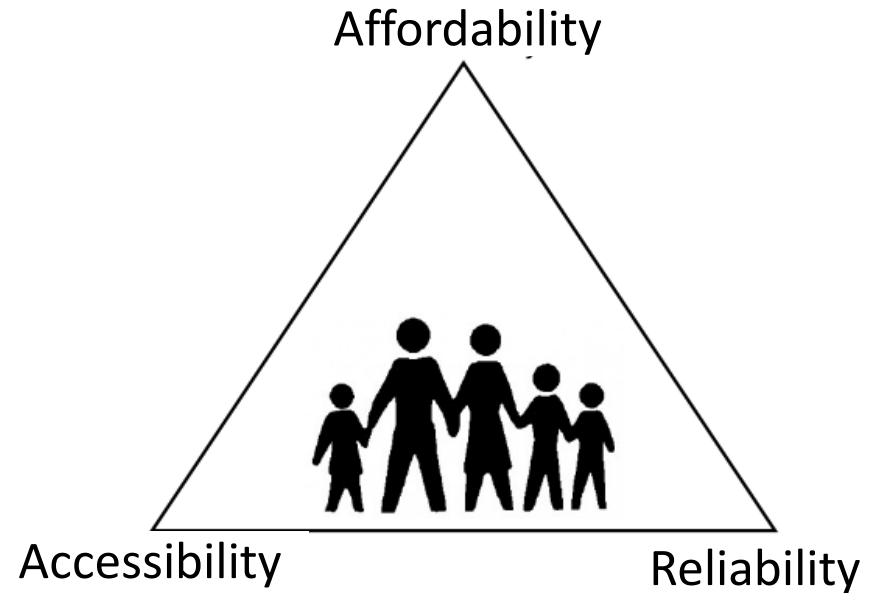
- Rationale of the research
- Literature synthesis
- Methodology and Data
- Reforms in the EU
- Case Studies: UK, DE, IT, FR
- Conclusions

# Rationale of the research

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**Energy  
Trilemma**



**Consumers'  
Objectives**

- 
- Liberalisation – framework to deal with inadequate **pricing**, lack of **capacity**, **fiscal** constraints, **efficiency** problems, **underinvestment**
  - Electricity is a sector of general interest – **safe**, **reliable**, **affordable** for social and economic development

# Literature synthesis

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1 Unbundling

2 Competitive Markets

3 Regulation

4 Ownership

**Electricity  
Liberalisation  
Model**

(Jamash and Pollitt, 2005)

- End-user electricity prices are increasing (NUS Consulting Group, 2010) due to:
  - **Market failure** (Waddams & Price, 2004)
  - **Privatisation** (Fiorio & Florio, 2007)
  - **Inconsistency in investment over time** (Dagdeviren, 2009)
  - **Higher investment costs** (Lehto, 2011)
- Quality of services :
  - **negatively perceived** (Fiorio & Florio, 2011)
  - **could improve for end-users** (DECC, 2011)

# Methodology and Data

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## Hypothesis A

Public ownership → affordability (+)

**Affordability** – ability to pay for the electricity bill (Winkler et al., 2011; EBRD, 2003; Frankhauser & Tepic, 2005)

$$\text{Unaffordability} = \frac{P_{el} * Cons_{el}}{Income}$$

## Hypothesis B

Public ownership → reliability (+)

**Reliability** – low frequency and duration of interruptions of supply

$$SAIDI = \frac{\text{sum of all customer interruption durations}}{\text{total number of customers}}$$

$$SAIFI = \frac{\text{total number of customer interruptions}}{\text{total number of customers served}}$$

**Public ownership** – OECD ETCR

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**Data Sources:** Eurostat, World Bank, Council of European Energy Regulators

**Data Range:** 1990 – 2015 / 2006 – 2013

# Reforms in the EU

## Variations of Electricity Reform Stages and Periods in the EU

	Ownership unbundling	Open wholesale market	Retail market (choice)	Privatisation of SOEs
UK	1989*	1990 (Spot market)	1999**	1989*
Germany	2010*	2005 (exchange)	1998	(Historically private corporations)
Italy	2005	2004 (exchange)	2007**	2003*
France	No***	2001	2007	No

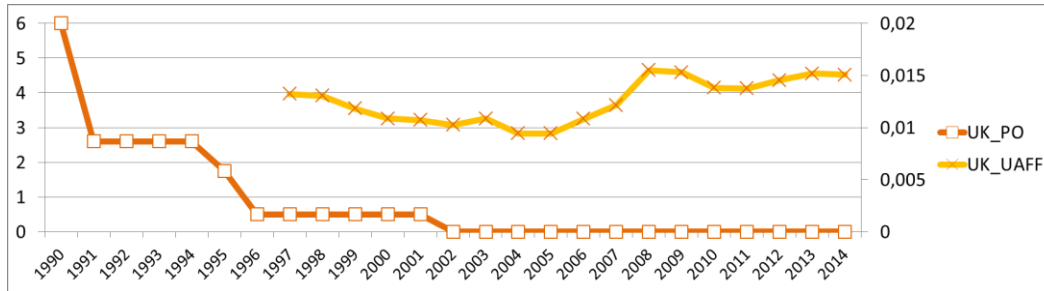
\*Starting point; \*\*Fully competitive market; \*\*\*Since 2013 – Independent Transmission Operator

## The Biggest Power Companies

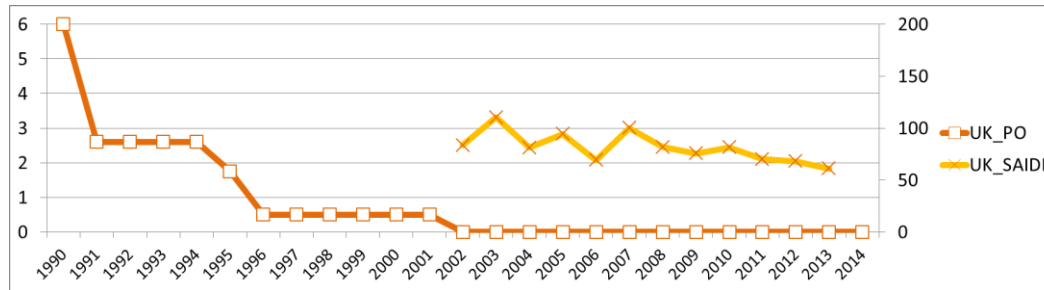
	Largest Electricity Company	Revenue	Ownership	Market Share in Home Market (%)
UK	British Gas	GBP 12.4bn (2)	Private	24% (as of June 2015)(1)
Germany	EDF	EUR 75bn (4)	Public	78.8% (as of 2014) (3)
Italy	E.on	EUR 46bn (6)	Private	32% (as of 2014) (5)
France	Enel	EUR 75.7bn (8)	Partly privatised & govt. control	29% (as of 2014)(7)

# Case Study - UK

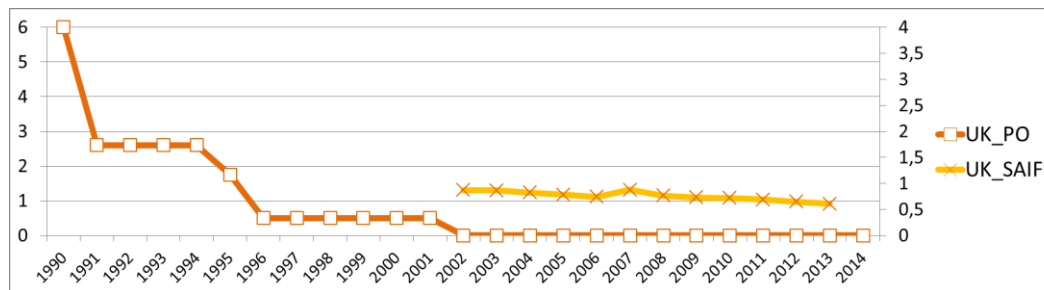
## Public Ownership and Unaffordability



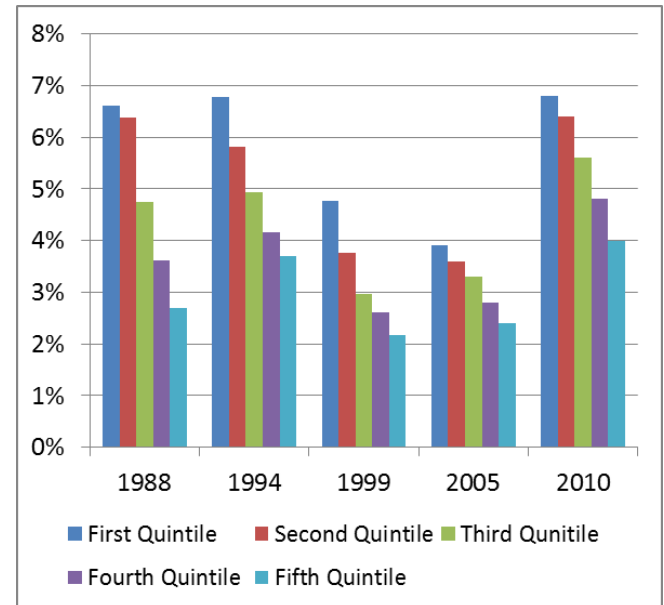
## Public Ownership and SAIDI



## Public Ownership and SAIFI

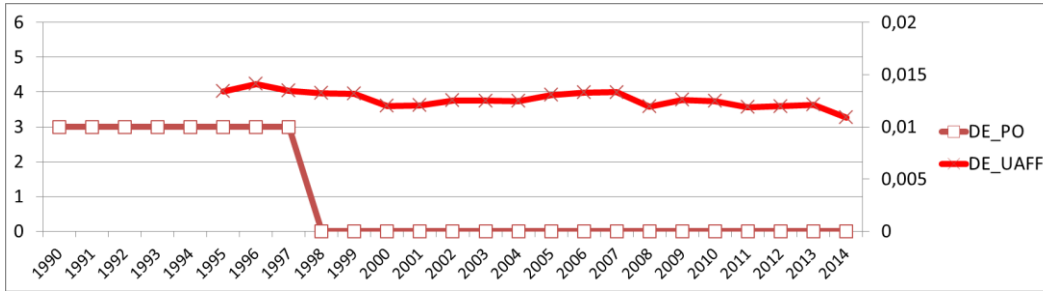


## % of income spent on Electricity

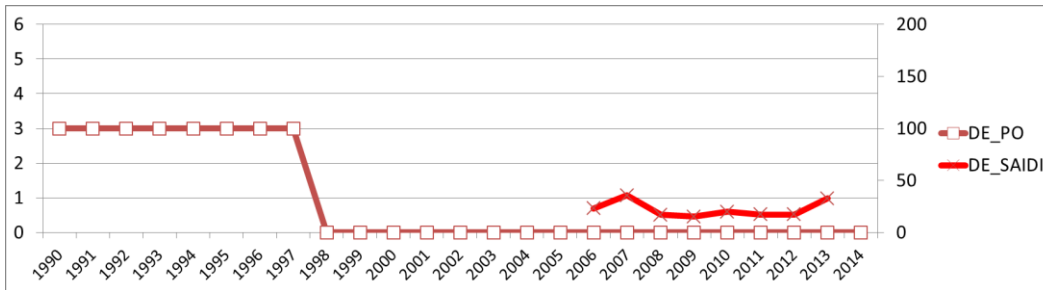


# Case Study - Germany

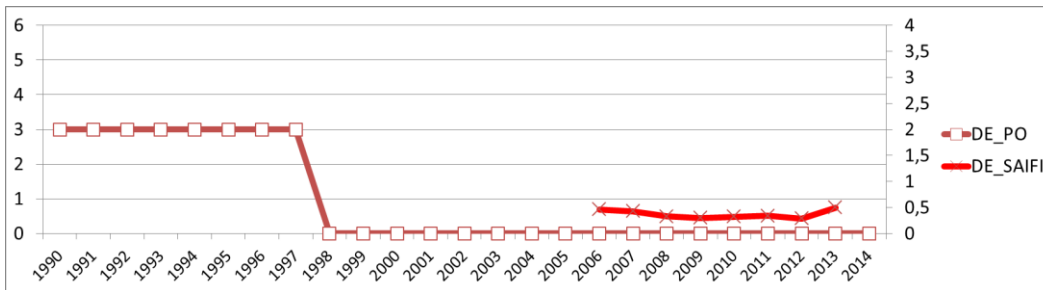
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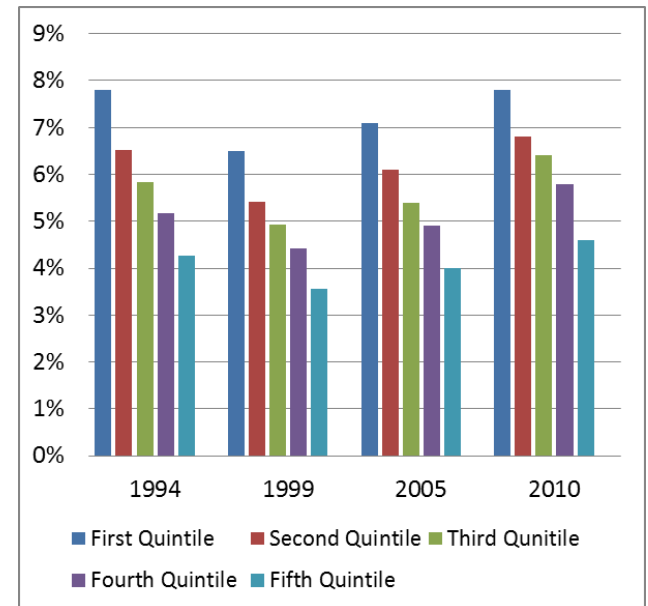
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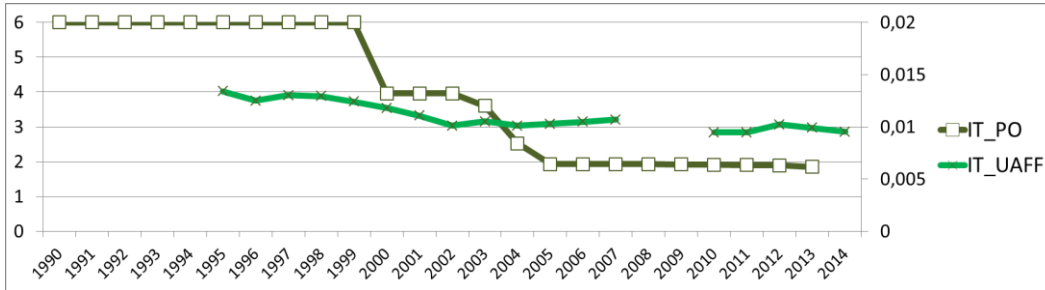
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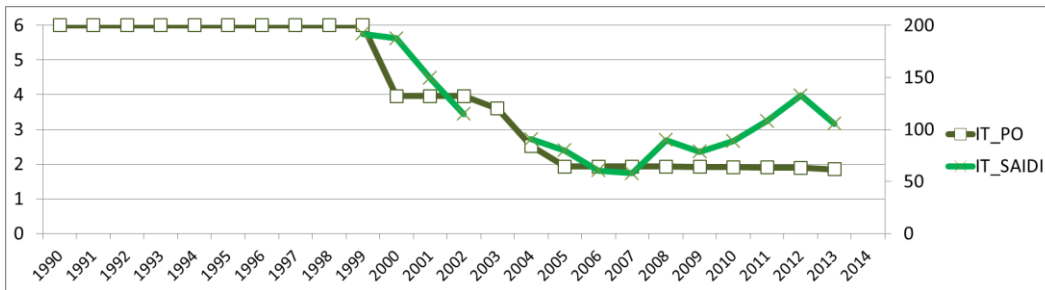


# Case Study - Italy

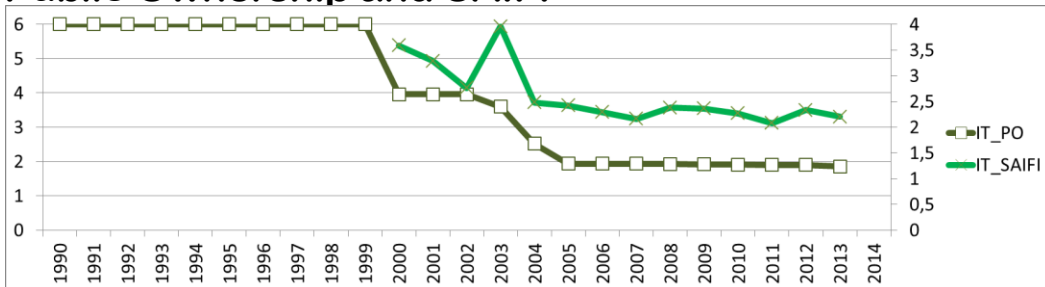
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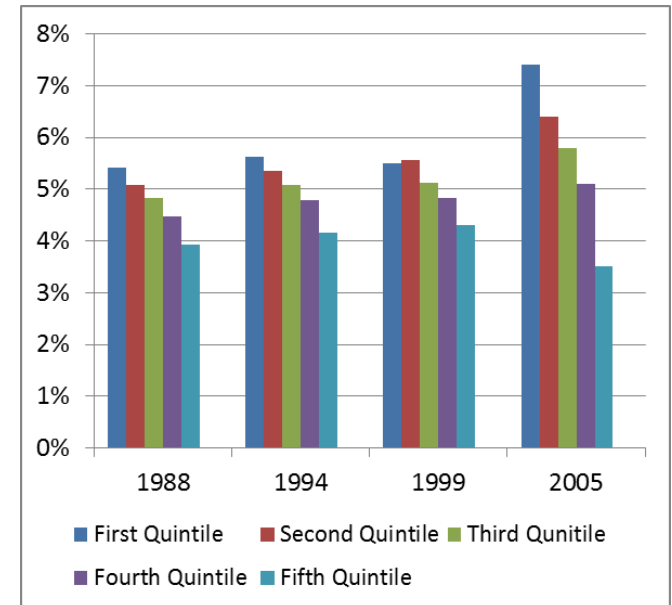
## Public Ownership and SAIDI



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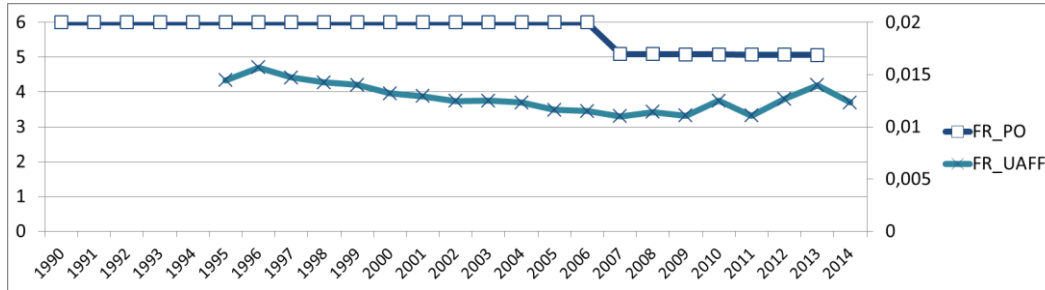


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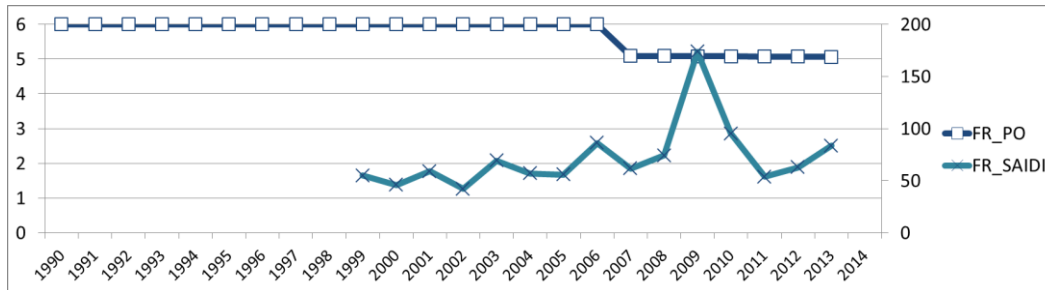


# Case Study - France

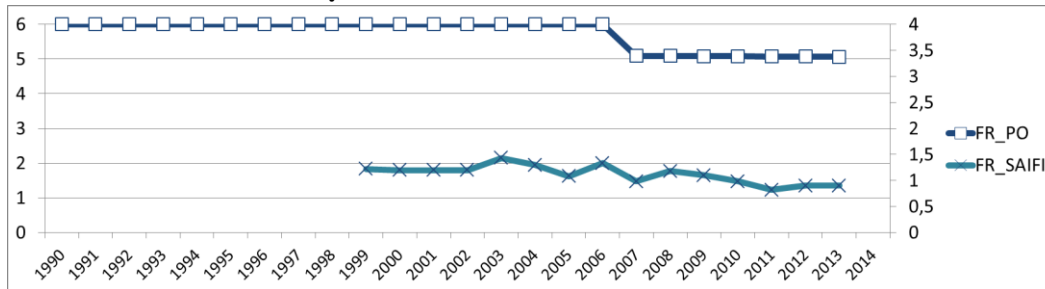
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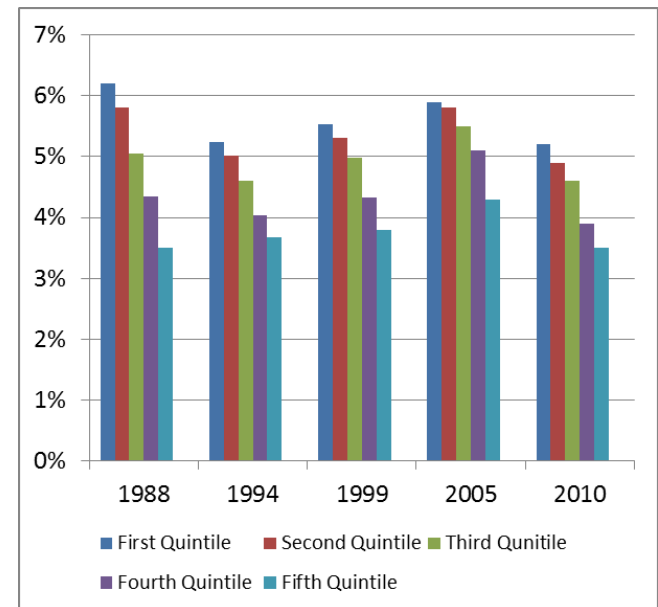
## Public Ownership and SAIDI



## Public Ownership and SAIFI



## % of income spent on Electricity



# Conclusion

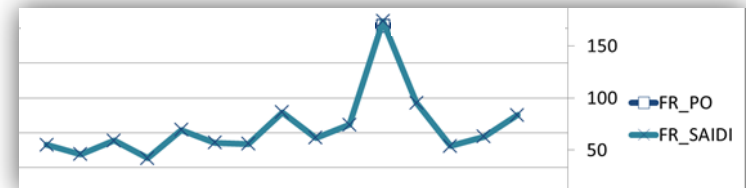
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- Electricity reform has usually involved privatisation of incumbents

- But is electricity more **affordable**?



- Is electricity supply more **reliable**?



- At the beginning of the millennium, households seemed to be better off

- It is **not conclusive** that public ownership will lead to affordability and reliability, but there is **no strong relationship** with private ownership

# We thank you for your attention!

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**EUsers Electricity Group**

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