

# Feed in or Certificates, Complementarity or competition? From a Static Efficiency to a Dynamic Innovation Perspective on Greening of Energy Industry



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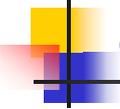
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## The Argument in a Nutshell



- Debate between proponents of feed in versus certificates
- The two approaches are often considered contradictory
- We argue that they could be complementary in a dynamic perspective of economic development

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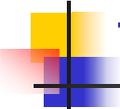


## Two perspectives on the economy

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- **Mainstream neoclassical approach:** efficient allocation of economic resources between alternative deployment under given and scarce technologies and resources
- **Marx-Schumpeter model** of industrial dynamics: technological competition is a major form of competition: Innovations open up new business opportunities that secure growth and economic welfare

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## Two challenges to the firm

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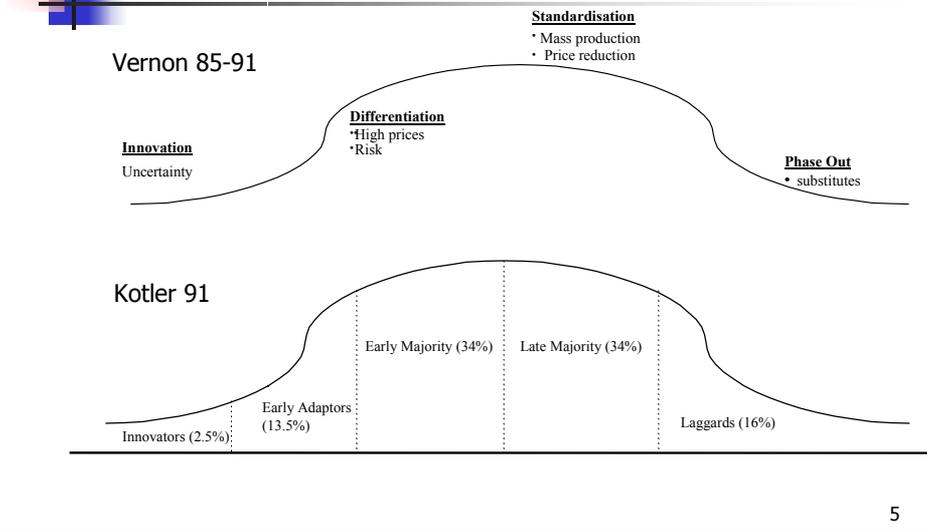
- **Lazonick:** The optimising firm and the innovating firm
- **March:** Exploitation and exploration;

## Towards a dynamic synthesis

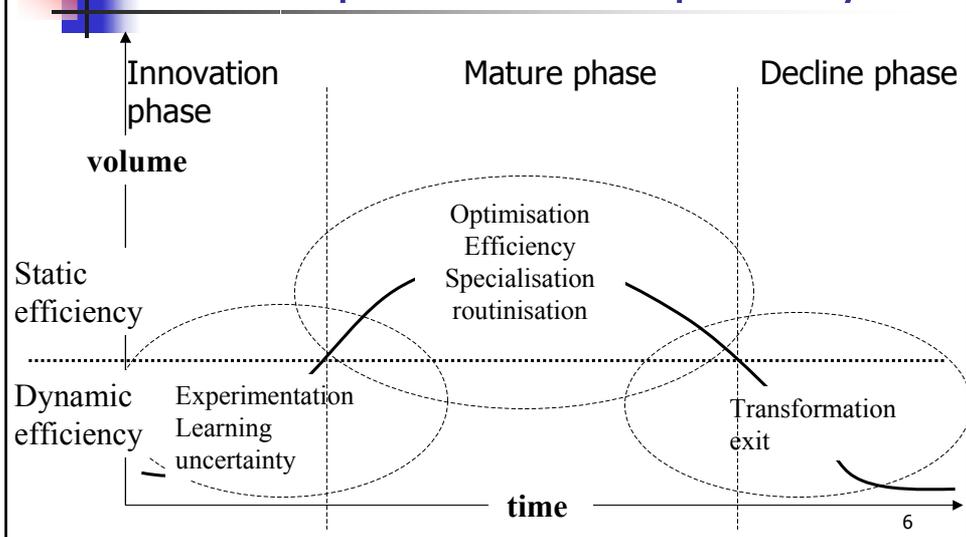
- **Both the static and dynamic perspectives are valid**
- **The firms have to live in both worlds**
- **This duality can be resolved in a dynamic analysis.**

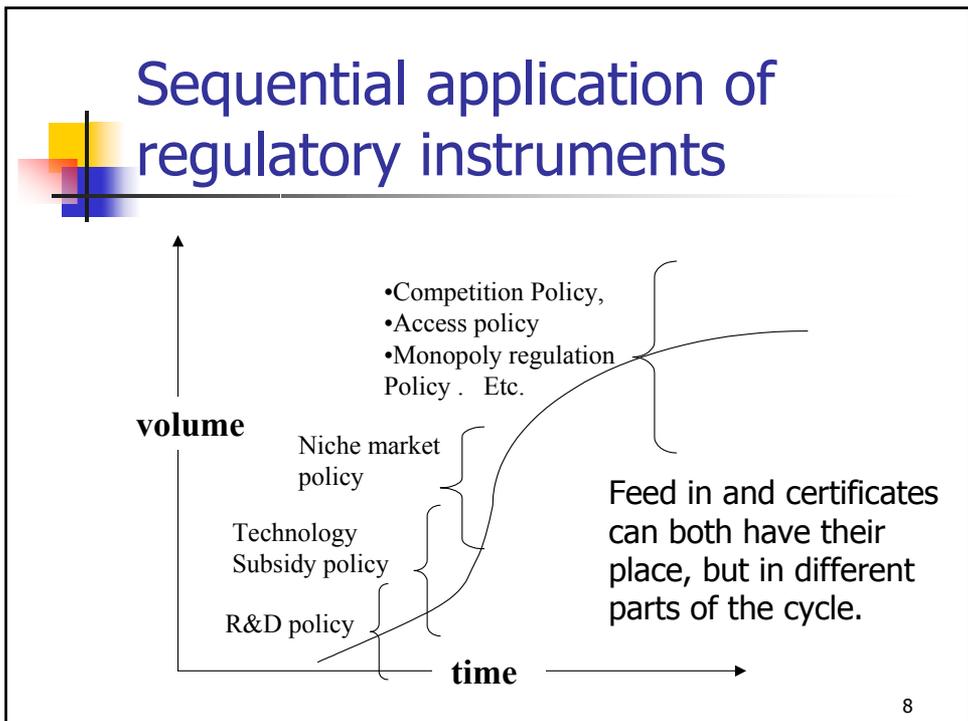
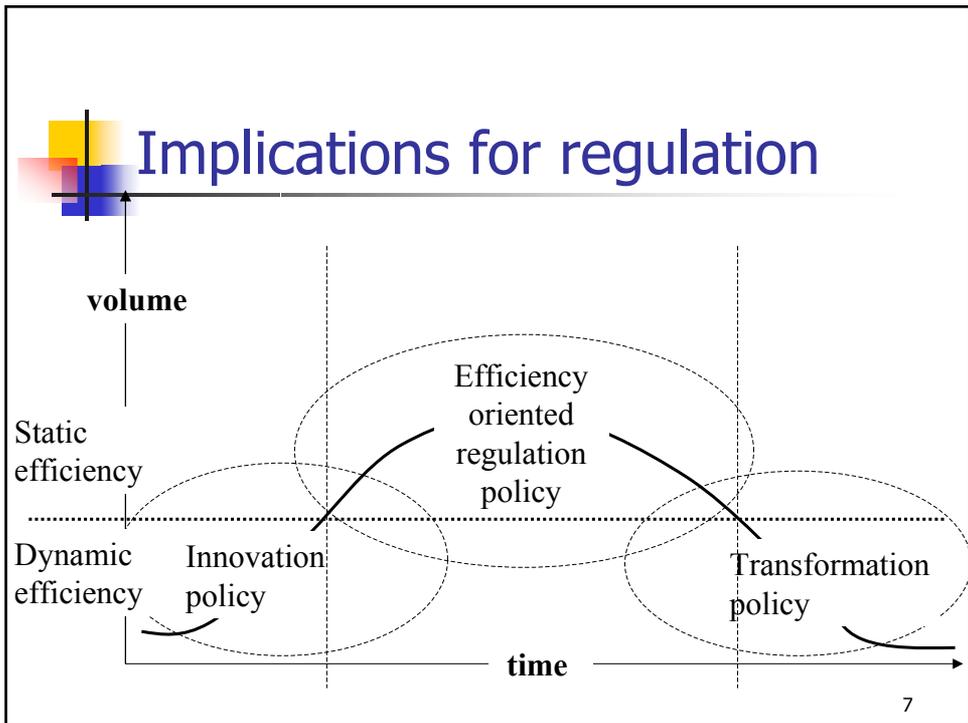
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# The product cycle as a point of departure

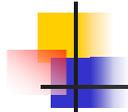


# Static and dynamic efficiency focus in phases of the prod. cycle





## Feed in tariffs in Germany and Certificate prices in Sweden

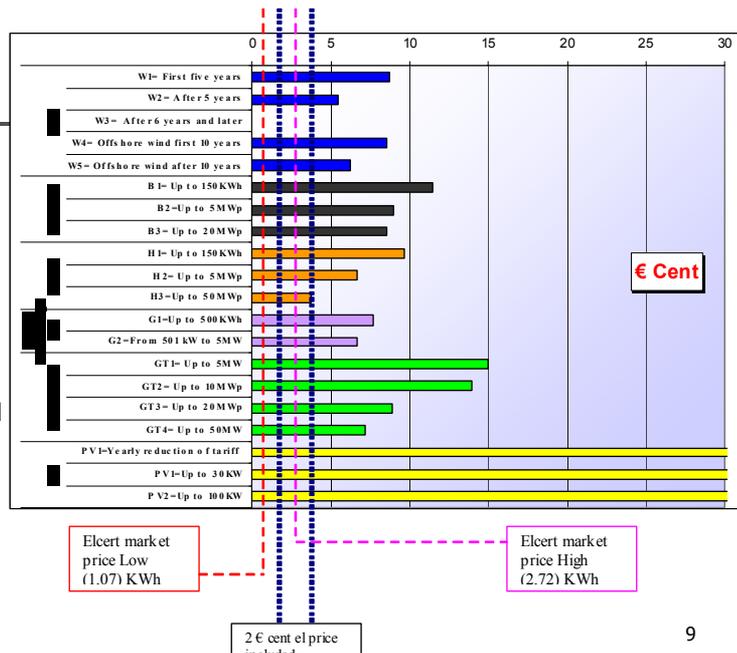


### Feed in:

- Differentiation
- Stability?
- Strong boosting effect

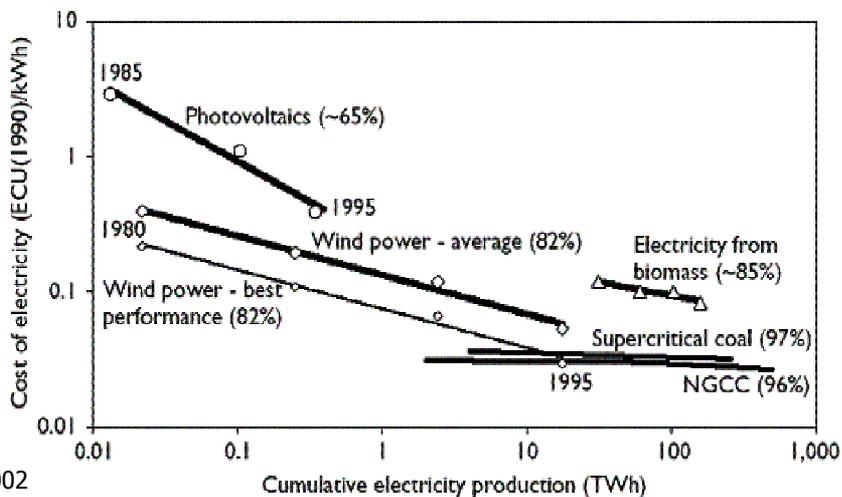
### Certificates:

- Non-differentiated
- Low cost?
- Market exposed

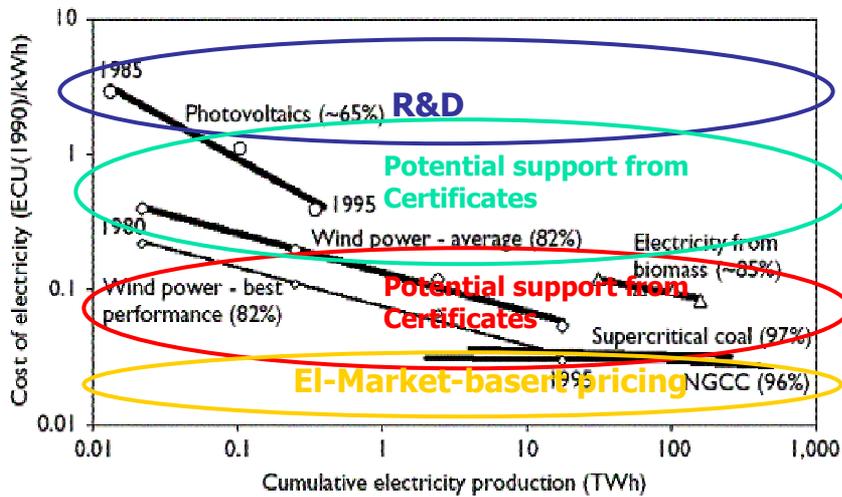


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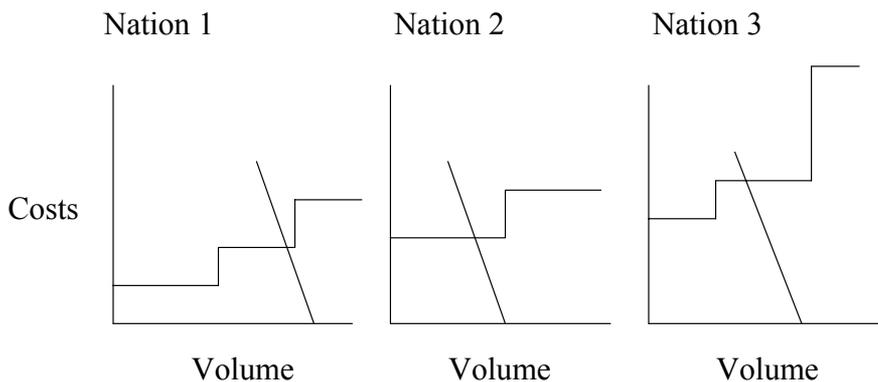
## Support systems and Learning Curves



# Support systems and Learning Curves



# An argument for Europeanisation: Ricardian trade advantages



# An argument for Europeanisation: Possibility for Technology differentiation

