



Economics of Regulation

Prof. Dr. Georg Götz

Justus-Liebig-Universität Gießen

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Why you should take this course

- Up-to-date theory combined with relevant applications and empirics
- Important industries
- Interesting job perspectives



Bundesnetzagentur



Wir sind das kommunale Versorgungs- und Verkehrsunternehmen der Region für über 190.000 Menschen mit einem Jahresumsatz von 430 Mio. €. Unsere 796 Mitarbeiterinnen und Mitarbeiter engagieren sich für eine kundenorientierte, sichere und umweltschonende Versorgung mit Strom, Erdgas, Fernwärme und für die Lieferung von Wasser sowie für den ÖPNV und unsere Bäder. Damit wir uns auch weiterhin erfolgreich um unsere Kundinnen und Kunden kümmern können, suchen wir befristet auf zwei Jahre für unsere Abteilung „Energiebeschaffung“ eine/n

MITARBEITER/IN FÜR DAS BILANZKREISMANAGEMENT

Die Aufgabenbereiche Ihrer Tätigkeit sind:

- Ausgleich der Energiemengenbilanzen Strom und Gas (Erzeugungs-, Handels- und Verbrauchsmengen)
- Sicherstellung der gesetzlichen Vorgaben aus dem Erneuerbare Energien Gesetz (Strom)
- Überwachung des Front-Offices gemäß interner Richtlinien (Strom & Gas)
- Rechnungsprüfung der Energiemengenbezugsrechnungen (exklusive Regelenergierechnungen)

Wir erwarten von Ihnen:

- Ein abgeschlossenes Hochschulstudium (Betriebswirtschaft, Wirtschaftsingenieurwesen) oder vergleichbare erworbene Berufskennnisse
- Fundierte IT-Kenntnisse (MS-EXCEL, SQL, DOT.NET)
- Kenntnisse über energiewirtschaftliche Rahmenbedingungen (EnWG, ARegV, StromNEV, GasNEV, EEG etc.)
- Eine ausgeprägte Affinität zu Zahlen sowie analytisches Denkvermögen mit einer hohen Auffassungsgabe, um komplexe Sachverhalte zu verstehen und hieraus pragmatische Lösungen ableiten zu können
- Eine strukturierte, vorausschauende, selbständige und flexible Arbeitsweise
- Flexibilität in der Arbeitszeitgestaltung

Wir bieten Ihnen:

- Anforderungs- und leistungsgerechte Entlohnung nach dem Tarifvertrag für Versorgungsbetriebe (TV-V)
- Qualifizierte Einarbeitung und Weiterbildungsmöglichkeiten
- Attraktive Sozialleistungen (Altersabsicherung, flexible Arbeitszeitregelungen)
- Leistungsförderndes Arbeitsumfeld
- Flexible Arbeitszeitgestaltung

Interessiert?
Dann freuen wir uns auf Ihre aussagefähigen Bewerbungsunterlagen bis spätestens **14. Februar 2015** unter Angabe Ihrer Einkommensvorstellung und des frühestmöglichen Eintrittstermins an die unten stehende Postanschrift. Wir bitten, Bewerbungen nur in Kopie – ohne Hefter, Hüllen, usw. – vorzulegen, da diese nach Abschluss des Bewerberauswahlverfahrens nicht zurückgesandt werden. Bewerbungen per E-Mail sind nicht erwünscht.

Nähere telefonische Auskünfte vorab erteilt Ihnen gerne Herr Olaf Volkmer unter 0641 708-1421.

Stadtwerke Gießen AG
Personalabteilung • Lahnstraße 31 • 35398 Gießen

MIT ENERGIE. FÜR DIE REGION. **SWG**

Network regulation – the 'RIIO' model



Network companies are monopoly businesses, you don't normally get to choose which one you use. So Ofgem sets price controls – a ceiling on the amount companies can earn from charges to use the networks. We do this to protect consumers and ensure they get value, and to also make sure companies operate the network efficiently and sustainably, while they make a return.

RIIO (Revenue=Incentives+Innovation+Outputs) is Ofgem's performance-based framework to set the price controls.

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1) (Traditional) Topics

- Government interventions in ‘natural monopolies’ (utilities)
- Regulation in the fields of (product) safety, health and (environmental) standards (‘social regulation’)
- Distinction from and overlap with antitrust policy
- Positive Theory of Regulation: Why is there a specific regulation and what (which sector) is regulated? Supply of and demand for regulation
- Normative Theory of Regulation: (What and) How should regulation look like?

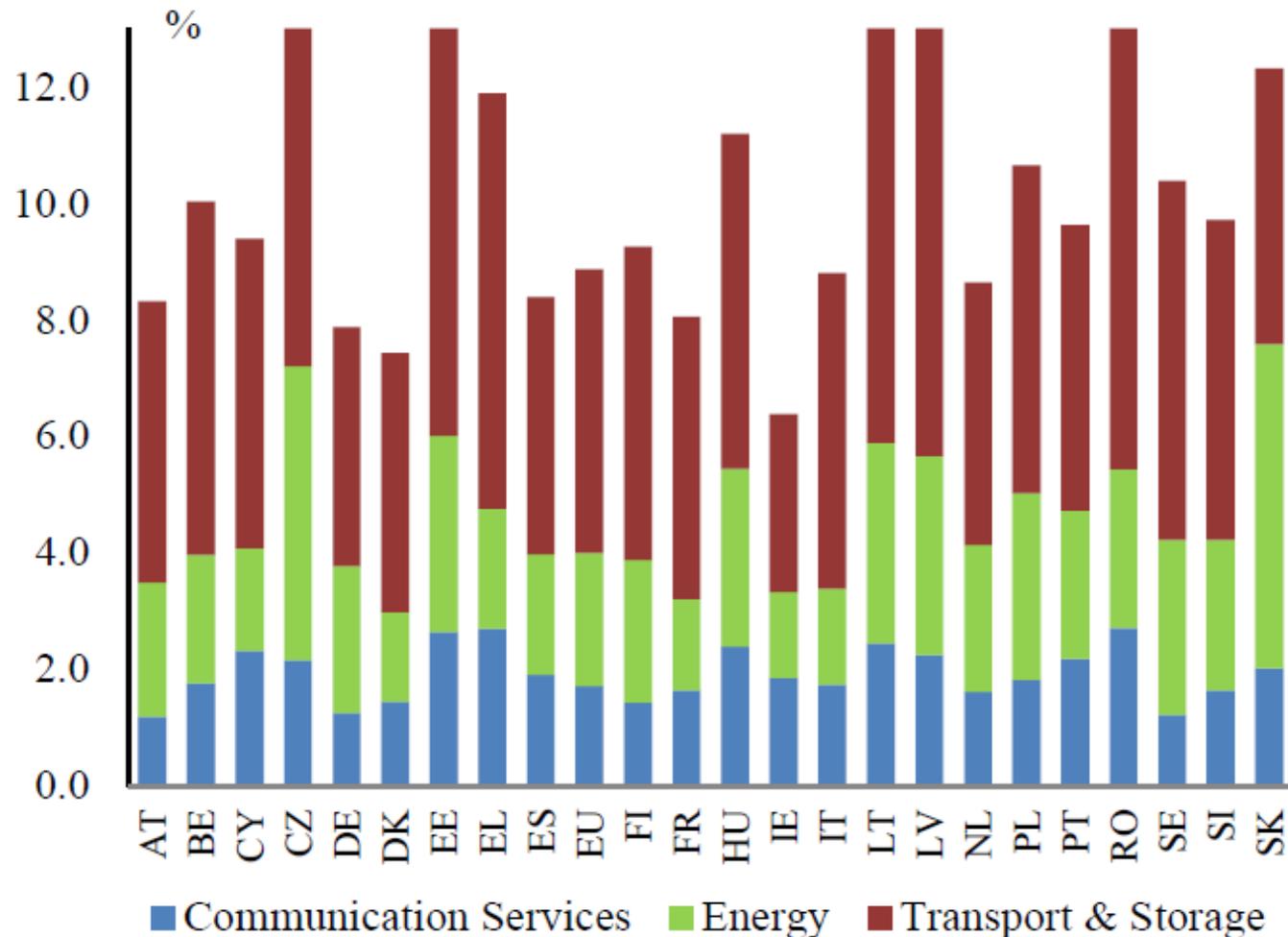


1) 'Burning' questions

- How to establish effective competition in former (state-owned) monopolies?
- How to regulate liberalized sectors?
- What organizational structure to choose for former integrated (state-owned) monopolists?
- How does the relation between (ex-ante) sector-specific regulation and general antitrust policy evolve over time?
- How to deal with asymmetric distribution of information?
- How to share risk in public procurement?
- How to maintain incentives to invest under regulation?

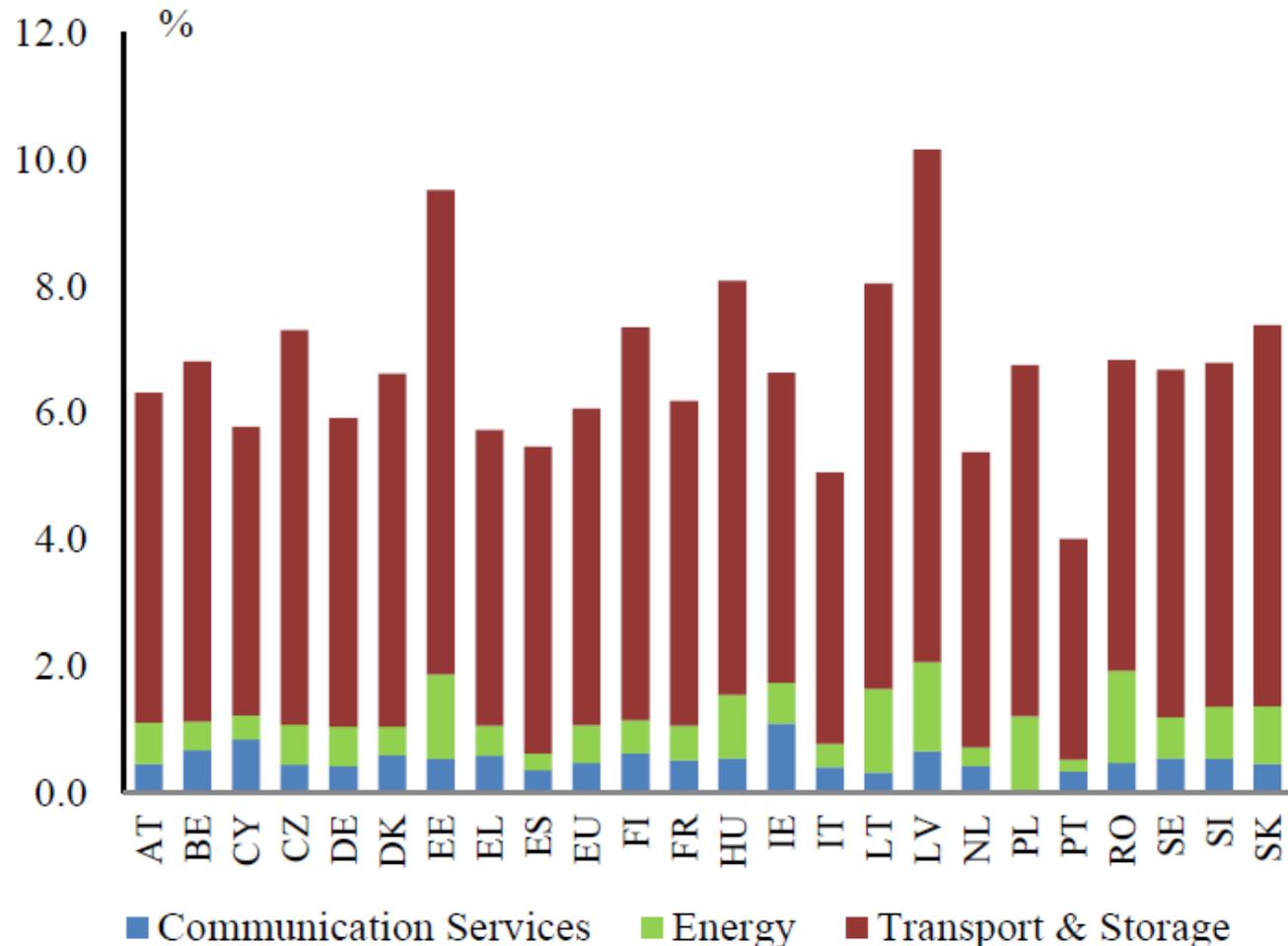
Importance of network industries:

Share of e-communications, energy, and transport in **gross value added** (2009)



Importance of network industries:

Share of e-communications, energy, and transport in **employment** (2009)



Importance of network industries

Value added in the network industries as a percentage of GDP, 1994

	Communications (inc. post)	Electricity and gas	Water	Urban transport	Air transport	Railways
Belgium	1.8	4.1		n.a.	n.a.	n.a.
Denmark	1.9	1.6	0.1	n.a.	n.a.	n.a.
Germany (West)	2.3	2.0	0.2	n.a.	0.7	0.40
Greece	n.a.	2.1		n.a.	n.a.	n.a.
Spain	2.1	2.3	0.3	0.2	0.9	0.01
France	2.3	2.3		0.3	0.9	0.50
Ireland	2.3	n.a.	n.a.	n.a.	n.a.	n.a.
Italy	1.8	5.9		n.a.	0.5	n.a.
Luxembourg	3.3	1.6		n.a.	n.a.	n.a.
Netherlands	2.1	1.4	0.3	0.04	1.5	n.a.
Austria	2.5	2.5	0.2	n.a.	n.a.	n.a.
Portugal	2.3	3.9		n.a.	n.a.	n.a.
Finland	2.0	2.1	0.3	n.a.	n.a.	n.a.
Sweden	2.1	2.3	0.4	0.1	n.a.	0.22
UK	2.7	2.2		n.a.	1.5	n.a.

Sources: IEI Study, OECD national accounts, national accounts of Germany and the UK.

Importance of network industries – Value added and employment

Value added creation of transport and utilities in the European Union (billion euro)

	Electricity, gas and water supply	Transport, storage and communication	Total network industries	GDP in current prices	Share in GDP
EU-25					
1995	154	433	587	6 353	9.2%
1999	171	545	717	7 684	9.3%
2003	184	648	832	8 998	9.2%
<i>Annual real growth</i>	1.2%	4.4%	3.6%	2.2%	

Number of persons employed in European Union transport and utilities (x1 000)

	Electricity, gas and water supply	Transport, storage and communication	Total network industries	Total employment	Share in total employment
EU-25					
1995	1 795	10 788	12 583	184 153	6.8%
1999	1 653	11 235	12 888	192 496	6.7%
2003	1 446	11 241	12 687	199 321	6.4%
Change 1995-2003	-349	453	104	15 168	
<i>Annual average</i>	-2.7%	0.5%	0.1%	1.0%	

Network industries as “critical infrastructure”

“Critical infrastructures may, with reference to their technical, structural and functional specifics, be classified as vital (absolutely essential) technical basic infrastructure, on the one hand, and vital (absolutely essential) socio-economic services infrastructure, on the other hand. In Germany, these include: (Source: German National Strategy for Critical Infrastructure Protection)

Technical basic infrastructure	Socio-economic services infrastructure
Power supply	Public health; food
Information and communications technology	Emergency and rescue services; disaster control and management
Transport(ation)	Parliament; government; public administration; law enforcement agencies
(Drinking-) water supply and sewage disposal	Finance; insurance business
	Media; and cultural objects (cultural heritage items)



1) Definition

- (Economic) Regulation: „a state imposed limitation on the discretion that may be exercised by individuals or organizations, which is supported by the threat of sanction“ (Stone, 1982, quote taken from VVH, p. 297)
- In particular:
 - the government control of firm behavior of industries characterized by a lack of competition (traditionally national monopolies).
- To distinguish: Social regulation: Environmental protection, consumer protection, health sector, workplace safety, etc.

1) What is/does regulation?

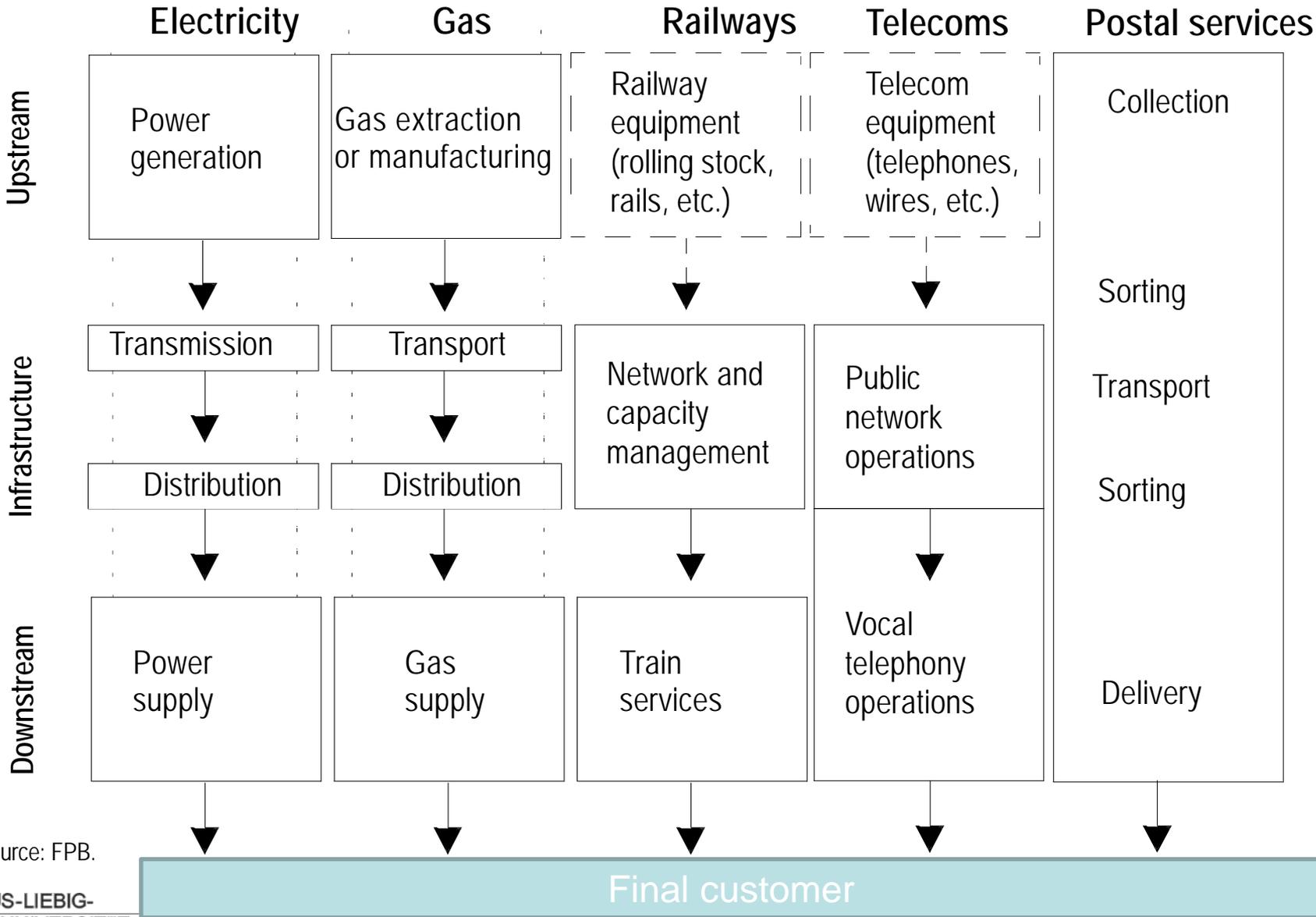
- Regulation imposes constraints on the behavior of agents by implementing specific measures such as entry regulation, price and quality regulation, and regulation of competitive conditions.
 - E.g. administrative entry conditions: Licenses; Conditions surrounding natural monopolies
 - Price regulation to prevent excessive price and expropriation by the monopolist, also for 'social' reasons (housing, health sector)
 - Entry regulation by controlling number of entrants: college admissions (Studienplätze), Medical doctors, Notaries, Taxis
 - State-owned companies, service provision through government



1) Positive and normative approach

- Normative theory of regulation:
 - microeconomic field, which looks for optimal mix of regulatory instruments from an allocative point of view
 - Question: How to optimally regulate a certain sector where market failure arises? How to do that with "market-like" instruments?
- Positive theory:
 - Close to public choice/political economy approaches
 - Analysis of the regulatory process (law making, implementation and correction of regulatory instruments, negotiations, etc.);
 - Question: Why is there a certain regulation?

Production chains of five selected network industries



Source: FPB.

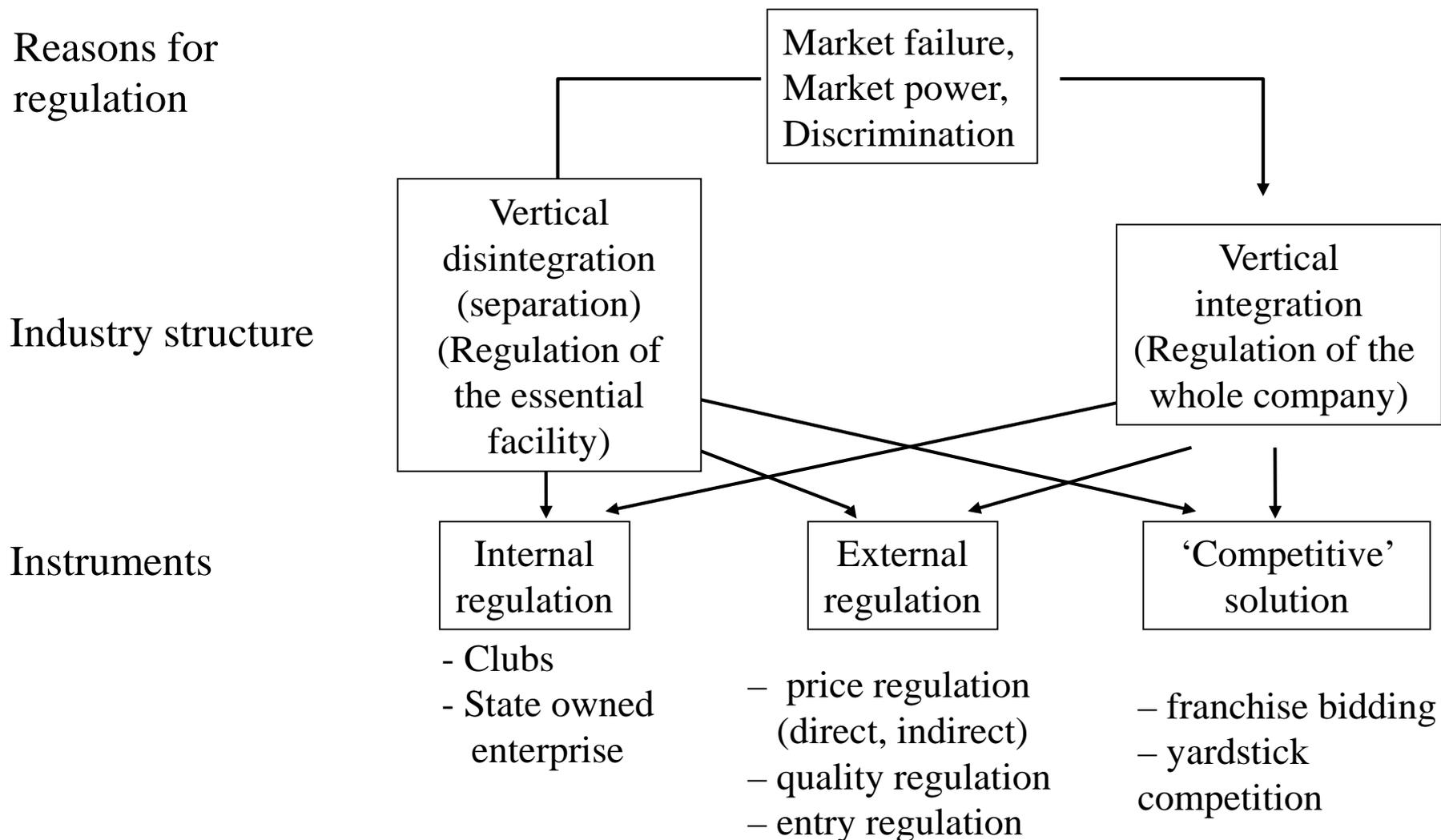
Economic characteristics of selected network industries – to be discussed!

	Electricity	Gas	Railways	Telecoms	Postal services
Network externalities	Indirect club externalities; Congestion	Indirect club externalities; Congestion	Indirect club externalities; Congestion	Direct and indirect club externalities	Indirect club externalities; Congestion
Natural monopoly	Transmission and distribution networks	Transport and distribution networks	Larger part of the network	(Local loop)	Delivery
General interest ^a	USO & PSO: continuous supply & environment	PSO: security of supply	PSO: passenger services & network maintenance	USO: e.g. phone boxes for all citizens	USO: daily delivery for all citizens

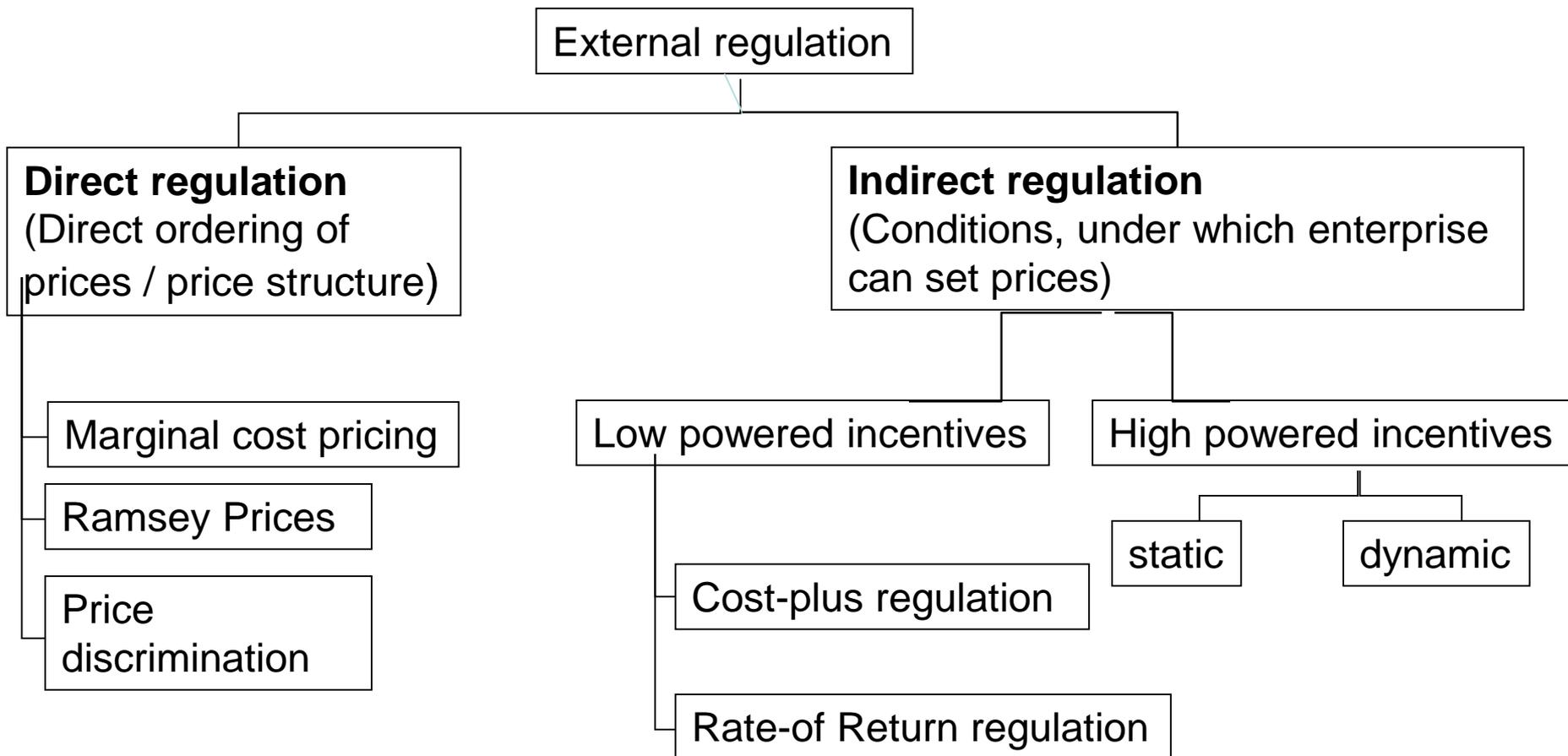
a. USO = Universal service obligation; PSO = Public service obligation.

Source: FPB.

1) Models and instruments of monopoly regulation 1/2



1) Models and instruments of monopoly regulation 2/2



Asymmetric information?

Table 5.3 Distribution capex through the determination process

<i>Network operator</i>	<i>Network proposal</i>	<i>AER draft determination</i>	<i>Network revised proposal</i>	<i>AER final decision</i>	<i>Percentage reduction from original</i>
	\$m	\$m	\$m	\$m	(%)
CitiPower	1 167	676	1 005	830	28.8
Powercor	1 879	1 300	1 826	1 567	16.6
Jemena	657	372	621	473	27.9
SP AusNet	1 484	1 066	1 582	1 481	0.2
United Energy	911	652	949	887	2.6
Country Energy	4 041	3 955	3 989	3 826	5.3
EnergyAustralia	7 381	7 158	7 050	6 638	10.1
Integral Energy	2 953	2 914	2 735	2 721	7.8
Energex	6 466	5 718	6 286	5 783	10.6
Ergon	6 033	5 013	6 274	4 989	17.3
ETSA	2 249	1 628	1 793	1 588	29.4
ActewAGL	287	278	298	275	4.0
Aurora	675	536	618	535	20.7

Sources: Various AER determination papers.

1) Basics

- Perfect competition
- Monopoly
- Efficiency (Consumer surplus)
- Cost theory (Sub-additivity, Costs of multi-product firms)