

The Evolution of the European Regulatory Framework for Electronic Communications

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Main points

1. Europe has had remarkable success in closing historical ICT performance deficits to peer nations
2. Because of continuing technological, economic and political change, this policy model has recently reached limitations
3. It will be necessary to adapt the framework but this process may take years

Plan of presentation

- A brief synopsis of the European path
- Unique features of the European approach
- Governance challenges of advanced ICT
- Reassessing the European experience

The European reform path

Comprehensive change

- Beginning in the 1970s, the historical model of state ownership and monopoly started to disintegrate
- National reforms (e.g., U.K., Sweden) gained momentum with initiatives at the European level
 - First EU directives in late 1980s to liberalize terminal equipment and value-added services by 1993
 - Expansion to mobile (1996) and other services with full liberalization of networks and services by 1998
 - Two comprehensive reviews of communications regulation in 2003 and 2007
- Since 2007 integrated framework for electronic communications, based on principles of technological, competitive, and provider neutrality

Reform trajectories

- Liberalization
 - Opening of markets and of access to networks (e.g., using interconnection, open access, unbundling)
 - Regulation limited to markets with significant market power (the number of relevant markets was reduced from 18 in 2003 to seven in 2007)
- Independent regulation, establishment of national regulatory agencies (NRAs)
- Privatization of incumbent state-owned PTOs
- Supporting policies (e.g., universal service, R&D policy)

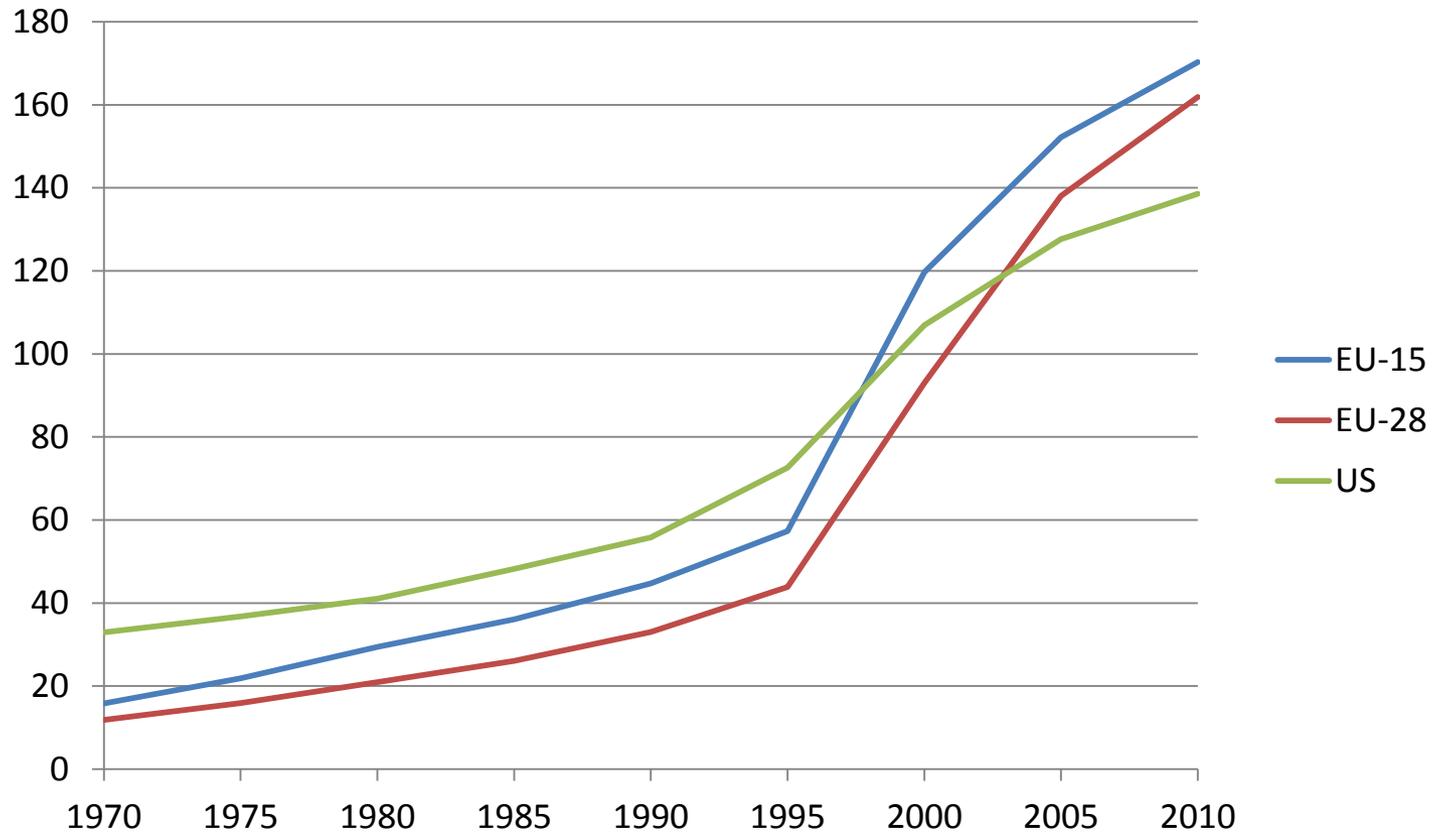
EU framework: directives

- Directive of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (“Framework Directive”)
- Directive on the authorisation of electronic communications networks and services (the “Authorisation Directive”)
- Directive on access to, and interconnection of, electronic communications networks and associated facilities (the “Access Directive”)
- Directive on the universal service (the “Universal Service Directive”)
- Directive on the processing of personal data (the “Privacy and Electronic Communications Directive”)

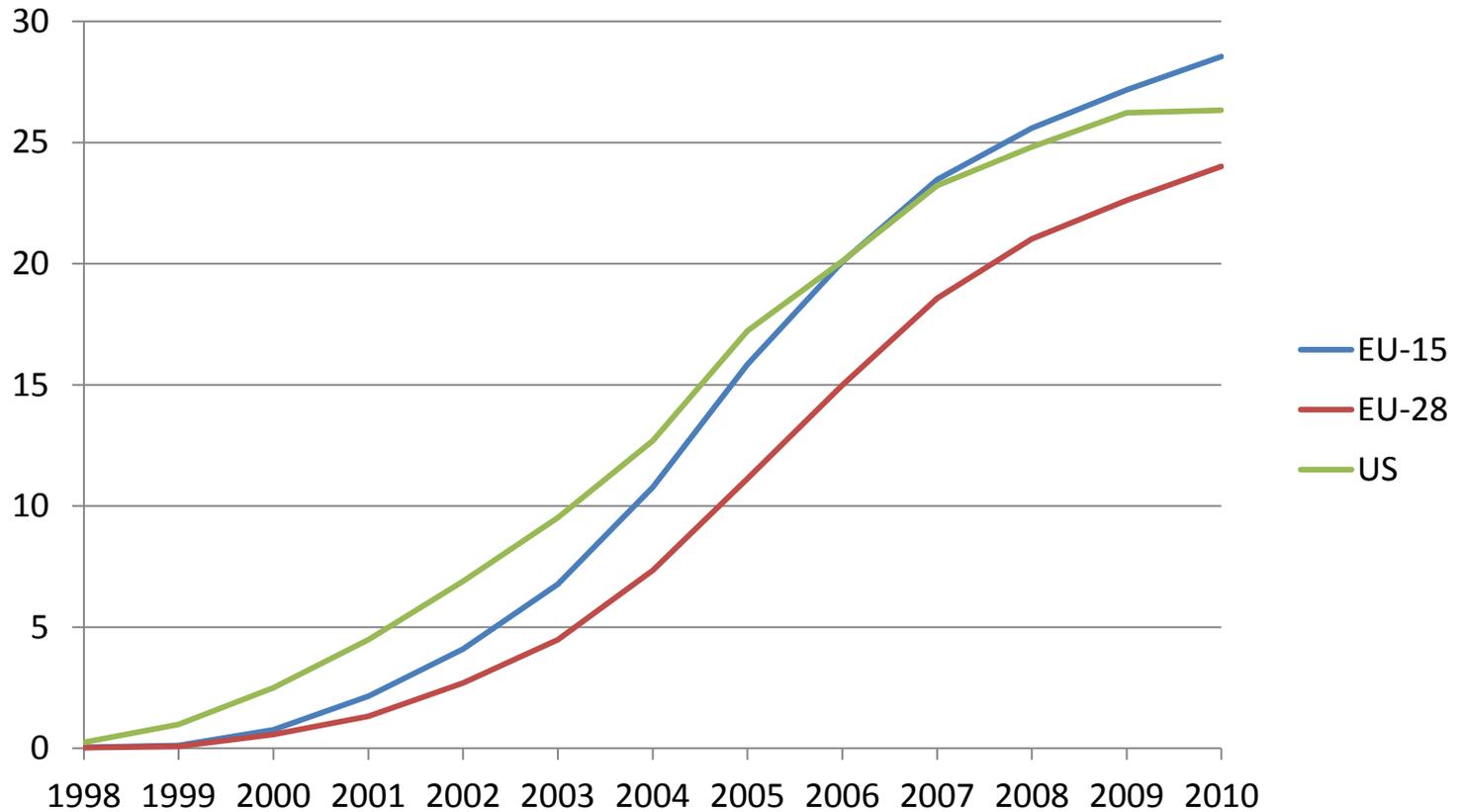
Relevant markets

- Commission recommendation on relevant product and service markets within the electronic communications susceptible to *ex ante* regulation distinguishes one retail and six wholesale markets:
 1. Access to the public telephone network at a fixed location for residential and non-residential customers (retail)
 2. Call origination on the public telephone network provided at a fixed location (wholesale)
 3. Call termination on individual public telephone networks provided at a fixed location (wholesale)
 4. Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location (wholesale)
 5. Wholesale broadband access
 6. Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity
 7. Voice call termination on individual mobile networks (wholesale)

Fixed and mobile access paths (per 100 inhabitants)

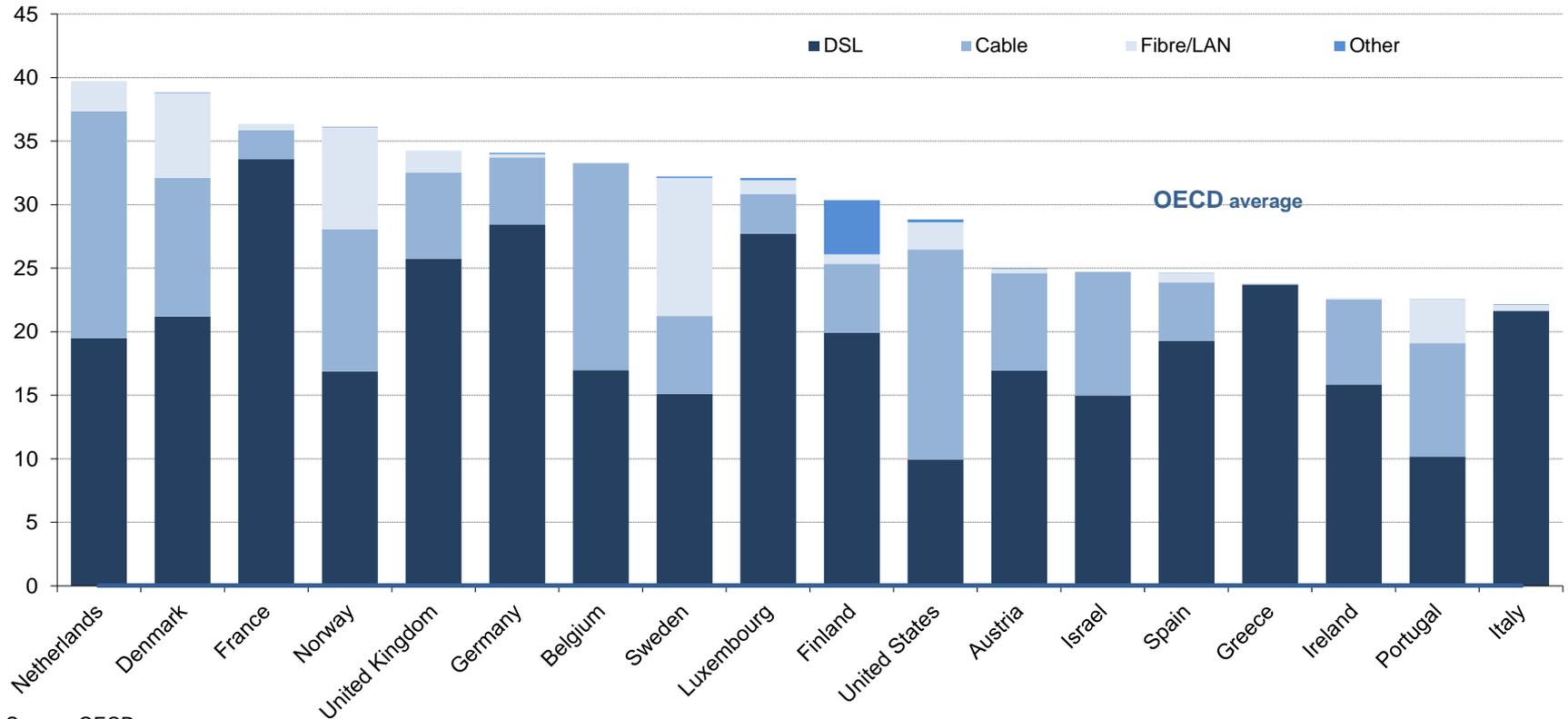


Wired broadband access (per 100 inhabitants)



Broadband adoption in 2012, EU-15

OECD Fixed (wired) broadband subscriptions per 100 inhabitants, by technology, Dec. 2012



Source: OECD

Public network investment (per capita, in US \$)



Source: OECD Communications Outlook 2013

Unique features

Punctuated change

- Rare historical opportunity to redesign the legal and regulatory framework of an industry
- EU could take advantage of experience elsewhere, especially in the U.S.
- Resulted in slim and streamlined regulation (small agencies, pragmatic instruments)
- Maturation and increasing bureaucratization
 - Proliferation of stakeholders “playing the regulation game” to seek strategic advantage
 - Development of regulatory practices and routines that were difficult to adapt to new circumstances

Coherent framework

- *Ex ante* regulation tied to presence of significant market power (SMP)
- Limited range of remedies that NRAs can adopt
- Since 2003 assessment of SMP fully compatible with European Competition Law
- Periodic assessment of appropriateness in comprehensive reviews
- Nonetheless, increasing inertia and rigidity of regulatory choices as illustrated by NGA policy

Policy as a complement

- Willingness to use other public policies (taxes, subsidies, PPP) to complement regulation
- Long record of industrial policy actions (from ESPRIT to RACE to Lisbon Agenda to Digital Agenda 2020)
- In principle, public sector organizations could internalize spillovers and externalities
- Particularly important for infrastructure rollout and in cases of systemic innovations (e.g., smart grids, health IT)
- Nonetheless ambiguous track record of such measures

Continued heterogeneity

- Despite long efforts to establish a single European ICT space, cultural, political, and economic heterogeneity prevails
- While some see this as a problem, it can also be regarded as a benefit
 - Institutional innovation in a world of uncertainty depends on wide-ranging experimentation
 - NRAs can learn from each other, European institutions can learn from local policy experiments (“experimentalist” approach, “patching”)
- Finding the best balance between integration and heterogeneity and taking advantage of it

Governance challenges

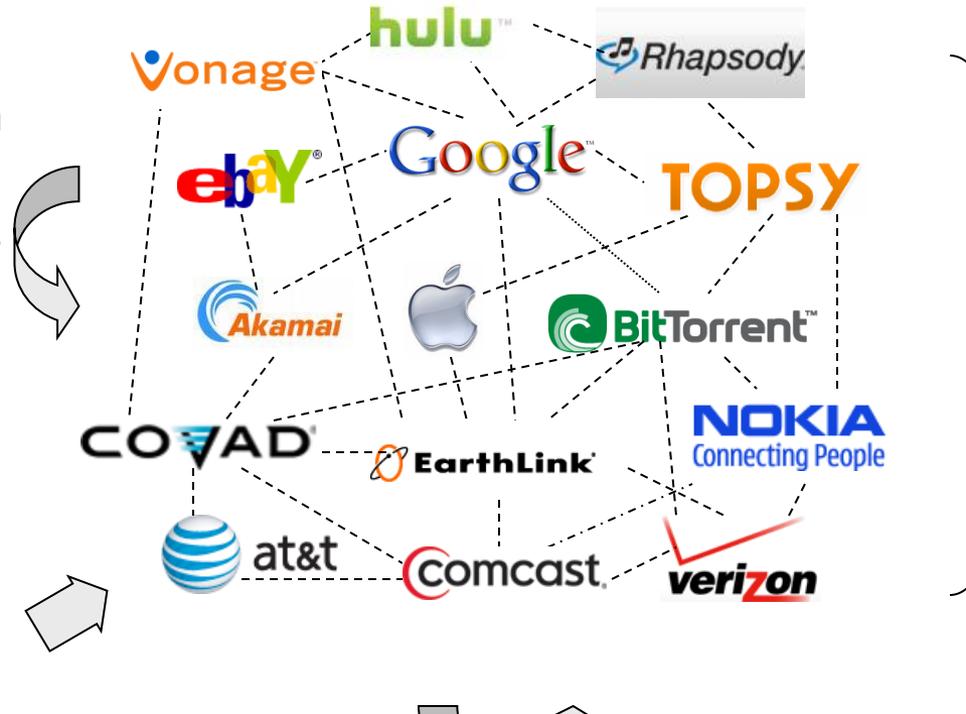
An interdependent system



Regulation and performance

Vertical regulation
(e.g., network neutrality, openness, separation)

Public policies
(e.g., tax credits, subsidies, public investment, industrial policy)



Performance
(investment, innovation rate, prices, quality, diffusion, ...)

Horizontal regulation
(e.g., unbundling, access, interoperability)

Shortcomings of current policy

1. Current regulatory theory and practice largely ignores innovation—at odds with technological and economic dynamics of the ICT system
2. Incomplete consideration of pervasive interdependencies of players in ICT but focus of on players with historically dominant position
3. Tacit assumption that regulation is costless and can easily be adapted to changing technological and economic circumstances
4. Tacit assumption that all problems can be fixed

Lacking innovation perspective

- Innovation commonly regarded as collateral outcome of liberalization and competition
- However, regulation influences the level and direction of innovation directly and indirectly
- Major policy instruments (interconnection pricing, unbundling) seek to imitate perfectly competitive market equilibrium (e.g., LRIC)
- Innovation requires to ability to take risk and earn temporary super-normal profits
- Traditional regulation therefore biases investment and innovation signals to incumbents and new players

Example EU NGA policy

- Next-generation access networks require substantial new investment and risk taking (rather than access to existing facilities)
- First draft recommendations kept important activities unregulated (e.g., VDSL, fiber) to respond to new challenges
- After stakeholder interventions and further consultations, final version in 2010 essentially fell back onto existing framework (e.g., all unbundling remedies)
- Most likely has a depressing net effect on investment and innovation

Interdependencies

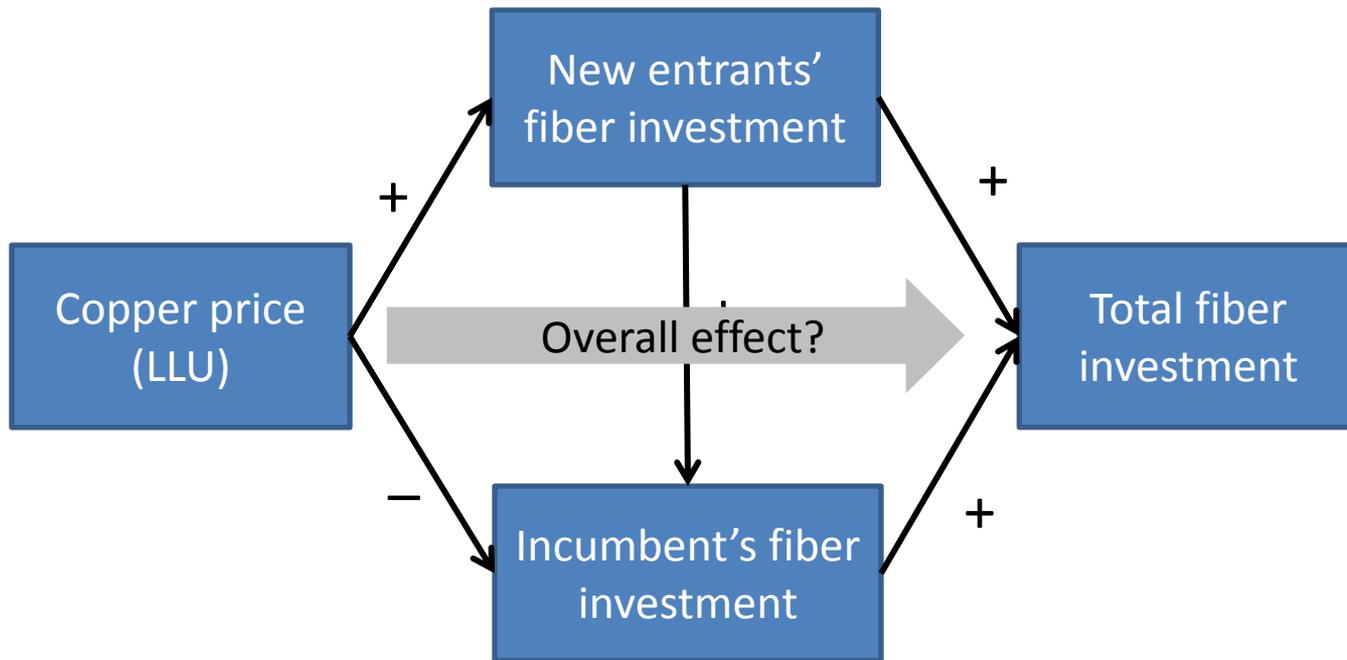
- Regulatory theory and practice generally adopts narrow definition of markets
- Pervasive presence of platforms (multi-sided markets) and systemic competition in advanced ICT systems
- Requires broader analysis of market relationships to avoid erroneous regulatory decisions
- Because platforms raise complicated antitrust issues, the framework for assessing SMP ex ante breaks down
- Possible solution: new instruments, move to ex post regulation within broader enforcement framework

Regulation and NGA investment*

	Platforms			Content, applications	
	Incumbent	Service entrant	Facilities entrant	Complement	Substitute
Horizontal regulation					
Stringency of unbundling	-	+	-	+	+
Vertical regulation					
Stringency of non-discrimination	-	+	-	+/-	+
Lower transaction costs	+	+	+	+	+
Other policy					
Investment tax credit	+	+	+	+	+
Subsidies	+	+	+	+	+
State ownership	-/+	+	-	+	-

* *Ceteris paribus* (all other things being equal) first-round effects, see Bauer (2009) for more details

Example: copper pricing and fiber investment



Costs of (adapting) regulation

- Institutional arrangements are costly to adapt
- Current EU struggles can in part be traced back to path dependencies
 - Establishment of NRAs but no European regulatory agency has contributed to national fragmentation of policy
 - Regulatory practices geared to accelerate competition and incent market entry are retarding network infrastructure investment
 - Decision to keep spectrum management a national task delayed development of 3G and 4G markets and the emergence of a European market
- Should cause pause when ever-more precise forms of regulatory intervention are proposed

Conclusions

Success and challenges

- During the past 25 years, Europe has achieved remarkable progress in closing historical performance deficits to peer nations
- However, the European system is poorly adapted to the working of the present and future communications system
- Such periodic mismatches are to be expected in a dynamic system but it is important that further adjustments take place

Ways forward

- The window for allowing facilities competition in NGA was missed but the existing framework can be modified to support investment
- Need for new conceptual foundations that take investment and innovation explicitly into account
- Realignment of balance between European coordination and national experimentation, e.g.
 - more centralization in spectrum management
 - more national experimentation with approaches to NGA
- Making policy more adaptive (systematic monitoring, regular adjustment of concepts and practices)
- Renewed discourse on core policy goals in an all IP environment (degree of differentiation, universality, ...)