

Henten, Anders; Falch, Morten

Conference Paper

The future of telecom regulation: The case of Denmark

25th European Regional Conference of the International Telecommunications Society (ITS):
"Disruptive Innovation in the ICT Industries: Challenges for European Policy and Business",
Brussels, Belgium, 22nd-25th June, 2014

Provided in Cooperation with:

International Telecommunications Society (ITS)

Suggested Citation: Henten, Anders; Falch, Morten (2014) : The future of telecom regulation: The case of Denmark, 25th European Regional Conference of the International Telecommunications Society (ITS): "Disruptive Innovation in the ICT Industries: Challenges for European Policy and Business", Brussels, Belgium, 22nd-25th June, 2014, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/101404>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

The future of telecom regulation – the case of Denmark

Anders Henten and Morten Falch

Center for Communication, Media and Information technologies (CMI)

Electronic Systems, Aalborg University Copenhagen, Denmark

Paper presented at

25th European Regional Conference

International Telecommunication Society

22-25 June 2014

Brussels, Belgium

The future of telecom regulation – the case of Denmark

Anders Henten and Morten Falch

CMI, AAU-Cph, Denmark

1. Introduction

One of the very first initiatives of the center-left government that came into power in Denmark in October 2011 was to dismantle the then Danish IT and telecom regulatory agency NITA (National IT and Telecom Agency). This came as a total surprise, as the issue had not in any way been discussed neither in the broader public nor the narrower telecom and IT public before the elections. It did not either create much debate after the dismantlement. Nothing much was written about it in the press – neither did the new government explain its initiative. Nobody seemed to care much – except for the staff who needed to move to other authorities and a few people especially interested in IT and telecom regulation.

The functions of NITA were split up between 4 different ministries: The Ministry of Business and Growth, The Ministry of Defense, the Ministry of Financial Affairs, and the Ministry of Economic and Domestic Affairs. The telecom regulatory functions were moved into the general Danish Business Authority under the Ministry of Business and Growth, and staff from NITA contributed to two new authorities: the Danish Agency for Digitalization and the Danish Agency for Modernization.

This development could, obviously, be interpreted as an insignificant organizational change. The Danish 1997 Act on the telecom authority prescribing the independence of the telecom regulator is still in force. But it can also be interpreted in light of broader developments in IT and telecom policies in Europe (and Denmark). The research hypothesis of the paper is that the present changes in the regulatory functions and institutions are related to the increasing focus on broadband expansion and decreasing focus on competition stimulation, on the one hand, and the conceptualization of telecommunications as an enabling technology for the development of other sectors and industries, on the other.

Since the economic crisis starting in 2008, there has been much focus on expanding the coverage and bandwidth of broadband in Europe and less focus in EU and national government policies on creating a competitive level playing field in the telecom sector. This can be interpreted as a shift in emphasis from a regulatory state towards a developmental state - meaning a shift in emphasis from a state primarily focusing on regulating markets including competition towards an increasingly interventionist (developmental) state, where there is more focus on promoting industrial development, for instance by way of public investments.

In addition, information and communication technologies (ICTs) have increasingly become enablers for many other industries and functions in society and have become embedded in other societal sectors. This means that there is less focus on ICTs (and telecommunications) as separate issues, and that ICT policies increasingly are part of a larger 'package' of policy initiatives for the development of e-health, smart cities, e-learning etc. Such developments have been on their way for many years in different industries and sectors and also in policy initiatives at the European and national levels. However, this has become an

increasingly strong development trend recently. The question is how telecom regulation relates to such developments.

The paper analyses the developments of the Danish IT and telecom regulatory authority in light of the abovementioned general trends. An important focus is on the independence of the regulatory institution in relation to the policy functions of the state, as this has been a central issue in the telecom reform process since the late 1980s in Europe (and elsewhere). This entails a discussion of the role of independent regulation and regulatory institutions in the Danish (and European) context. The paper will, therefore, also analyze the developments of the Danish IT and telecom authority in light of the structure of public administration in the Danish and European context.

The empirical basis for the paper consists of written documentation and interviews with 6 key stakeholders from the telecom area in Denmark: The telecom industry, the regulatory authority, and the national consumer association. The 6 key stakeholders are interviewed as experts, but their assessments obviously reflect their organizational background. The topics addressed in all 6 interviews focus on the three main approaches presented above: Regulatory and developmental functions of the state in the telecom area; ICTs as enabling technologies; and, the structure of public administration. In addition, experiences with the development, effectiveness, and fairness of regulation were discussed with the interviewees. The interviews have thus not been explorative in an inductive manner. A considerable degree of flexibility was used in the interviews, however, they all centered on the three core issues of the paper.

First, there are three theory sections on the general trends regarding the regulatory and developmental functions of the state, ICT as enabling technologies, and the structure of public administration. Thereafter, there is an empirical section describing the development of the telecom regulatory institutions in Denmark with an emphasis on the developments since the establishment of a new telecom regulator in 1991 as a reaction to the call for the separation of operation and regulation in the 1987 CEC Green Paper on the change of the telecom sector in Europe (CEC, 1987). Special focus will be on the latest developments including the dismantlement of the Danish NITA in 2011. Finally, before the conclusion, there is a findings and analysis section based partly on the interview findings and partly on the description of the developments of Danish regulation discussing the actual developments in Denmark in relation to the general trends taken up in the theory section.

2. Regulatory and developmental functions of the state

The paper distinguishes between two different approaches to ICT policy – a regulatory and a developmental approach. This distinction is inspired by Chalmers Johnson (1982) and by Giandomenico Majone (1997). In his book on the Japanese post-war miracle, Johnson introduced the concept of the developmental state as opposed to the regulatory state. According to Johnson, the role of the state bureaucracy in a developmental state includes ‘first, to identify and choose the industries to be developed (industrial structure policy); second to identify the best means of rapidly developing the chosen industries’ (Johnson, 1982).

The developmental state is contrasted with the regulatory state, where the state is mainly concerned with facilitating economic competition, but not with direct intervention in substantive matters. Japan was an example of a developmental state while the US is mentioned as an example of a regulatory state. Johnson

(1982) claims that state intervention and especially the role of the Ministry of Trade and Industry (MITI) played an instrumental role in the successful economic development in Japan. In a later contribution, he suggests that other East Asian countries (Hong Kong, Taiwan, Korea, and China) each have developed their own versions of the developmental state (Johnson, 1999).

Majone (1997) distinguishes between three different types of public intervention: 1) Income redistribution, 2) macroeconomic stabilization, and 3) market regulation. According to Majone, governments in all countries are engaged in all of these three activities, but there are different priorities among countries. The objective of market regulation is the correction of market failures in order to achieve Pareto-optimal allocation of resources. The rationale for this kind of policy is thus rooted in neoclassical theory. Macroeconomic stabilization may involve regulatory as well as developmental types of interventions.

With inspiration from Keynes, fiscal and monetary policies were supplemented by what Majone (1997) calls more intrusive forms of capital allocation and nationalization of key sectors in post-war Western Europe. Majone (1997) labels a state, which is a planner, a direct producer of goods and services, and an employer of last resort, as a positive state. Although the positive state is linked to Keynes and the Social Democratic welfare state concept, the kinds of state interventions in the market are in line with the policies of Johnson's developmental state. However, the positive state and the developmental state are both defined in specific historical and geographical contexts, and there are important differences between the two concepts. The positive state, for instance, focuses on stabilization and redistribution, while the developmental state focuses on economic growth. Nevertheless, compared to the regulatory state, they share the approach of direct government intervention in the market, and the policy instruments applied are, to a large extent, similar (table 1).

According to Majone (1997), European countries were forced to change their mode of governance in direction of a regulatory mode of governance in response to the challenges created by increasing international competition and deepening economic integration within the EU in the late 1970s. This included privatization of public enterprises including public utilities, liberalization of markets, and regulatory reforms. Historically, public ownership has been the main mode of regulation in Europe (Majone, 1997). With privatization, new modes of governance had to be developed. Especially within the area of public utilities, privatization had to be accompanied by regulatory reform.

Within the area of ICT, EU policies have included regulatory as well as developmental initiatives. The EU initiatives have followed at least three different tracks. The first track initiated by the EU Commission focused on the telecom manufacturing industry and included funding of precompetitive research and standardization. Even though these activities carefully were defined in a way so that market distortions were to be avoided, the first track is clearly in line with the developmental mode of governance. The second track focuses on the liberalization of the telecom service industry and was introduced with the Green Paper in 1987 (CEC, 1987). The aim was to stimulate growth and competition on a common European wide telecom market, and the instruments were privatization, liberalization, and regulation.

Although the telecom reform has been followed by an impressive market growth, it has turned out that the regulatory mode of governance has its limitations. William Melody (2013) talks about 'the failure of the liberalization policies' and discusses suggested alternative policy frameworks including public investments as the driver for broadband network development. The third track can be seen as such an alternative policy

framework. It has attracted growing attention within the past decade and has a broader perspective than the two previous tracks, as it embraces the entire ICT ecosystem and includes a number of developmental initiatives stimulating the use of ICT applications such as e-government and e-health.

Majone (1997) observed a European trend towards the regulatory mode of governance. However, it seems that at least with regard to ICT the developmental governance mode has gained importance. One reason is that the regulatory instruments used - or at least the manner in which they have been used - according to some scholars (e.g. Melody, 2013), have proven to be insufficient to facilitate the development of broadband infrastructures at an adequate speed, and many countries are searching for alternative policy instruments (Falch, 2008).

The concept of the developmental state is applied in a forthcoming study on broadband strategies (Lemstra, 2014). In this study, the US is seen as a good example of a regulatory state, while South Korea applies the developmental model. Between these two extremes we find most of the EU countries. UK is leaning towards the regulatory model, while France is more oriented towards the developmental model. However, even in the US, a number of developmental initiatives have been taken (Falch and Henten, 2010).

The revival of the developmental mode of governance within the ICT area is related to ICT convergence and the growing importance of access to ICT services. The revival does not imply a return to Keynesian inspired policies practiced in the post-war period. Developmental initiatives must conform to a liberal market environment, and private enterprises are involved whenever it is possible, e.g. with the establishment of public private partnerships.

In table 1, inspired by Majone (1997), central characteristics of the developmental, the positive, and the regulatory are presented with respect to main functions, instruments, main areas of political conflict, institutions, key actors, policy style, policy culture, and apolitical accountability.

Table 1: Comparing developmental, positive, and regulatory modes of governance

	<i>Developmental state</i>	<i>Positive state</i>	<i>Regulatory state</i>
<i>Main functions</i>	<ul style="list-style-type: none"> • <i>High economic growth,</i> • <i>Social welfare</i> 	<ul style="list-style-type: none"> • <i>Redistribution</i> • <i>macroeconomic stabilization</i> 	<ul style="list-style-type: none"> • <i>Correcting market failures</i>
<i>Instruments</i>	<ul style="list-style-type: none"> • <i>Guide posting, market-conforming methods of state intervention</i> • <i>Financing and tax incentives</i> • <i>Public Private Partnerships</i> 	<ul style="list-style-type: none"> • <i>Taxing</i> • <i>Borrowing</i> • <i>Public spending</i> 	<ul style="list-style-type: none"> • <i>Rule making</i>
<i>Main arena of political conflict</i>		<ul style="list-style-type: none"> • <i>Budgetary allocations</i> 	<ul style="list-style-type: none"> • <i>Review and control of rulemaking</i>
<i>Institutions</i>	<ul style="list-style-type: none"> • <i>Parliament</i> • <i>Ministerial departments</i> • <i>Publicly owned</i> 	<ul style="list-style-type: none"> • <i>Parliament</i> • <i>Ministerial departments</i> • <i>Publicly owned</i> 	<ul style="list-style-type: none"> • <i>Parliamentary committees</i> • <i>Independent agencies and</i>

	<ul style="list-style-type: none"> <i>corporations</i> <i>Local governments</i> 	<ul style="list-style-type: none"> <i>corporations</i> <i>Welfare services</i> 	<ul style="list-style-type: none"> <i>agencies</i> <i>Tribunals</i>
<i>Key actors</i>	<ul style="list-style-type: none"> <i>Political parties</i> <i>Civil Servants</i> <i>Corporate Groups</i> 	<ul style="list-style-type: none"> <i>Political parties</i> <i>Civil Servants</i> <i>Corporate Groups</i> 	<ul style="list-style-type: none"> <i>Single issue movements</i> <i>Regulators</i> <i>Experts</i> <i>Judges</i>
<i>Policy style</i>	<ul style="list-style-type: none"> <i>Discretionary</i> 	<ul style="list-style-type: none"> <i>Discretionary</i> 	<ul style="list-style-type: none"> <i>Rule-bound</i> <i>Legalistic</i>
<i>Policy culture</i>	<ul style="list-style-type: none"> <i>Corporatist</i> 	<ul style="list-style-type: none"> <i>Corporatist</i> 	<ul style="list-style-type: none"> <i>Pluralist</i>
<i>Political accountability</i>	<ul style="list-style-type: none"> <i>Direct</i> 	<ul style="list-style-type: none"> <i>Direct</i> 	<ul style="list-style-type: none"> <i>Indirect</i>

Adapted from Majone (1997)

3. ICTs as enabling technologies

Telecommunications has since its inception, to an increasing degree, become one of the basic technological infrastructures of society. In that sense, it has ‘always’ been an important enabler for other societal sectors and functions. However, with the growing convergence of telecommunications and IT since the 1960s, ICTs have increasingly developed into being central communicational foundations for almost all other sectors and functions of society – not only as ‘elements’ or ‘infrastructures’ but the central change drivers for other sectors and functions. This is what was termed a new ‘technological paradigm’ by Giovanni Dosi (1982) in cooperation with Christopher Freeman (1982).

For 30+ years we have, according to the conception of Dosi (1982), been living in an era with ICTs as the basic technologies in the dominant technological paradigm. However, the major focus has not from the beginning been on the sectors and societal functions using ICTs. This indeed applies to telecommunications, while discussions around IT including IT research have been much more pre-occupied with the use of IT in organizations. A whole research tradition has been built up around studying the adoption, implementation, and use of IT in organizations, namely Information Systems (IS) research. However, if one looks at the research and general public interest in the telecom area, most attention has been on the sector itself. Technological research on telecommunications has been concerned with increasing speed and reliability of telecom networks and services, and social science research on telecommunications has mainly been interested in the economics of telecom networks and services and regulation. The difference in attention between the telecom area and the IT area can, for instance, be illustrated by the differences in focus between the early EU research programs: RACE in the telecom area and ESPRIT in the IT area. RACE focused on the technological development of telecommunications, while ESPRIT was primarily concerned with the implementation and use of IT.

This, however, has changed. Not in the sense that the dominant focus in the ICT part of the new European Horizon 2020 research framework program has shifted away from technology developments. But the use part of ‘the equation’ plays a far greater role today. The enabling role of ICTs has come more to the fore. This could be interpreted in light of how Carlota Perez has extended the conceptual framework of technological paradigms (Perez, 2010). She has put forward the idea that when a technological paradigm

matures, focus will shift from the technological basis itself to all the applications of the basic technologies and the social implications thereof. This has been seen in connection with previous technological paradigms and can also be seen with the present ICT based technological paradigm.

While such an abstract notion is helpful for conceptualizing the ongoing changes, the more specific developments also need to be discussed. With the increasing convergence of telecommunications and IT, telecommunications 'creeps' into the inside of companies and organizations. While telecommunications in the business market formerly was a set of technologies used primarily for external communications between different organizations, telecommunications now plays a crucial role internally in organizations with the converging information and communication technologies. Internet, which is the result of the convergence of IT and telecommunications, exemplifies this. Nowadays, Internet plays a central role in the organization and conduct of all businesses and other societal entities externally as well as internally.

One of the many implications is that different sectors and organizations will require an increasing influence on their communication infrastructures. Whereas formerly, they would leave it to the telecom providers to organize their external communications, there is a trend towards an increasing demand for taking part in and influencing the communication infrastructures. With the central role of ICTs in all business processes, the organization of the ICT infrastructures acquires a strategic position.

These developments constitute the background for the conception of ICTs as central enabling technologies. 'Enabling' may not be the most fortunate expression, as it assigns ICT to a second order position. Nevertheless, the discussion around ICTs as enabling technologies intends to shed light on the central role of ICTs in all social processes. The implications in terms of regulations of telecommunications could be that the regulation of the telecom area needs to be further integrated into a broader set of regulations. This could call for a change in the organization of the regulation of telecommunications away from a stand-alone regulatory position towards a greater integration into a more generalized regulatory environment. This is, for instance, the claim that the former telecom regulator in Denmark, Jørgen Abild Andersen, has made (CMI conference 2013).

It could, on the other hand, be claimed that right from the start of the new telecom policies which were developed at the beginning of the 1990s, there was a strong focus on the broader societal potentials of the use of ICTs. At the EU level, the Delors plan (European Communities, 1993) dealt with these potentials, which since have been the focus of attention in numerous eEurope plans with Digital Agenda for Europe as the latest and present one. At the Danish national level, "Informationssamfundet år 2000" (The Information Society Year 2000) from 1994 (Forskningsministeriet, 1994) came out one year ahead of the blue print for the telecom reform process in Denmark. "Bedst og billigst gennem reel konkurrence" (Best and Cheapest by Way of Real Competition) (Forskningsministeriet, 1995).

The knowledge concerning the enabling character of ICTs has thus been present all the while. However, the demand for a new telecom specific policy and regulation was so pressing at that point in time that telecom policies and regulation had to have their own platform in terms of policies, regulation, and organizational structure. However, now that the telecom policies and regulation that were put in place in the late 1980 and the 1990s have been in force for some 20 years, the specific telecom policies and regulation do not have as prominent a position as before and can, to a greater extent, be subsumed under the more general ICT policies. This is, at least, how the argument for abolishing a stand-alone telecom regulatory institution

could be formulated. And, it could even be strengthened by claiming that a stand-alone regulatory institution could be counter-productive under the present circumstances (Jørgen Abild Andersen at the CMI conference 2013).

In the EU context, the term Key Enabling Technologies (KETs) is used for technologies like nanotechnology, micro- and nanoelectronics including semiconductors, advanced materials, biotechnology and photonics (European Commission, 2012). These are considered the building block for the present and future technology developments. As can be seen, some of the KETs are important elements in telecommunications. But there is a conceptual difference between the use of the concept of key enabling technologies and what has been termed enabling technologies in this paper. In the framework used in this paper, the term enabling technologies is seen in connection with the conception that ICTs constitute the central technologies in the present dominant ICT technological paradigm. KET is a broader term relating to different prominent industrial areas and focusing on a broader set of technologies.

4. The structure of public administration

The third basic element of the analytical framework of this paper is concerned with the independence of telecom regulation. The independence of telecom regulation could be said to be one of the key touchstones – if not *the* key touchstone – of the telecom reform process in Europe and elsewhere. The reason is that an independent regulatory institution has been seen as a prerequisite for establishing a level playing field for competition to develop in the liberalized telecom markets and for the protection of consumers.

In most telecom markets – except for the US and a few other countries – there was formerly a state owned monopoly operator before the liberalization of telecom markets. Operation and regulation were not separate and were performed by national telecom administrations. In order to break up this situation, it was necessary to separate regulation from operation and competition was introduced to the telecom markets by way of liberalization. In a number of countries, the former state owned incumbents were privatized, but in other countries the state maintained a minority or even a majority share in the former monopoly operators. The independence of the new regulatory institutions could thus be seen in relation to the institutions representing state ownership.

However, the independence was also necessary in relation the policy administrations even in situations with no public ownership. The importance of this kind of independence has to do with independence in relation to the daily policy processes of government. Policy intervention in the regulatory functions will have a tendency to lead to fluctuating and unstable regulations. Melody (e.g. 1997) has argued strongly in favor of independent regulation. In his paper “On the meaning and importance of ‘independence’ in telecom reform” (Melody, 1997), he discusses different aspects of the independence issue, among them the question whether independence means independence from policies. This, he argues, is not the case, as regulation builds on policy decisions and laws. However, independence means the independence from the turbulences of daily policy processes. It also means the legal basis for independence in relation to the market players lobbying politicians and for avoiding capture and, consequently, promoting a focus on reel competition in the market place instead of a politization of competition (Melody, 1997).

Independence can thus be seen from different angles:

- Independence from state owned operators
- Independence from the day-to-day policy processes
- Independence from operators lobbying the policy processes

This means that independence is seen in relation to the ‘principals’ – the policy makers and ministries determining the policy platforms for regulation – as well as those being regulated. The functions of telecom administrations, which formerly were united in one organization, is now divided into three separate organizations: Policy development, regulation, and operation.

Finally, it could obviously be discussed whether a sector specific policy and regulation is necessary in relation to the telecom area. Two arguments have been central: One being that telecommunications is an important infrastructure for society and, therefore, that public influence is important. The other explanation is that, as the markets are dominated by the former monopolies, it is necessary to ensure the build-up of competition by way of sector-specific policy and regulatory interventions. The answer to these considerations has been to establish independent regulatory institutions in the telecom area.

The foundation for the idea of independent telecom regulation was first forcefully introduced at a European scale on the 1987 in the ‘Green paper on the development of the common market for telecommunications services and equipment’ (CEC, 1987) – or that is to say, the emphasis was on the separation of the administrative and operational parts of telecom administrations. However, the UK was ahead of the other European countries with respect to the liberalization on the telecom area. In 1984, British Telecom became a public limited company, and the regulatory agency Oftel (later to become Ofcom) was created at the same time.

Soon, the call for independent telecom regulation became a central part of the telecom reform process in Europe (and elsewhere). In Denmark, for instance, a new telecom regulatory agency was created in 1991. At the global scale, a ‘Reference Paper’ in the telecom area was agreed upon in 1996 in the context of the World Trade Organization (WTO) negotiations on services (WTO, 1996). A requirement for independent regulation was part of the ‘Reference Paper’ and has hugely affected the development of independent telecom regulatory agencies around the world. At the European level, the Independent Regulators Group (IRG) was founded in 1997 – later to be converted into the European Regulators Group and from 2009 into The Body of European Regulators for Electronic Communications (BEREC).

There is no doubt that an important inspiration for the independence of telecom regulation came from the US. Although AT&T was a quasi-monopoly in the US market, it was a privately owned company and it was, therefore, regulated from the ‘outside’ by the Federal Communications Commission (FCC). This was vastly different from the general European situation, where administration and operation were one. And, when regulation was separated from operation, the inspiration from the US tradition for independent regulation became influential. This has oftentimes led to a discussion as to whether the US tradition for independent regulation really is in harmony with the European tradition for the organization of public administration. This is the question, which will be further discussed in the remainder of this section.

The question is, however, whether this issue is correctly put, as the traditions for public administration differ greatly in the European countries. In the abovementioned paper from 1997, Melody mentions that “an FCC-type independent regulatory agency is a unique product of the US constitutional system with its

elaborate division of powers among executive, legislative and judicial branches of government". This argument points to the US-type of regulation as a special case. However, the question is the extent to which the European countries in general differ from the US.

In a paper entitled "Delegation to independent regulatory agencies: Pressures, functions and contextual mediation" from 2002, Thatcher analyses the development of independent regulatory institutions in four European countries (Britain, France, Germany and Italy). He emphasizes the differences between the four countries and the many contextual factors affecting the specific developments in the different countries. However, the core of his analysis is concerned with the development of independent regulatory institutions in European countries in the 1980s and 1990s. The analysis shows that this was a period in time, where there was an increasing pressure on the political institutions and that the delegation of powers to independent regulatory institutions was seen as an answer to this (Thatcher, 2002). The overall types of pressures related to internationalization, new technologies, and a policy trend in direction of increasing liberalization.

In general terms, the establishment of independent regulatory institutions should be seen in relation to the increasing emphasis of the regulatory functions as opposed to the developmental functions of the state dealt with in section 2 of this paper. This also means that, to the extent the developmental functions are upgraded, there will be likely to be less emphasis on the independence of regulatory institutions.

Thatcher (2002) differentiates between two different types of regulatory institutions: Those primarily dealing with issues like competition, price control, etc. and others dealing with issues such as environment, safety, etc. Telecom regulatory institutions belong to the first category and so do competition authorities - and the two of them have been created in all European countries. As it turns out, Britain is the country among the four that has delegated powers to independent regulatory agencies to the largest extent. Britain is also, according to Thatcher (2002), the country that is most inspired by the US, which may find an explanation in the fact that both countries (as well as other Anglophone countries) are based on the British common law tradition. This also transpires in the greater degree of freedom and powers to interpret and develop the specificities of regulations in the US as well as Britain. There is here a fundamental difference between the Anglophone system and the continental European civil law system. However, as emphasized by Thatcher (2002), there are large variations also between continental European countries.

5. Development of telecom and ICT regulatory institutions in Denmark

Discussions concerning the relationships between policy development and administrative functions regarding public institutions have a long history in Denmark – as in other countries. In 1960, the basic model with a functional differentiation between the policy development functions located in the ministries/departments and the administrative functions located in agencies was 'canonized' in Denmark (Finansministeriet 2006). In practice the division of labor was never that clear cut, and especially since the 1980s, it has become more common that agencies also have assignments with respect to policy development in terms of drafting laws and ministerial orders and servicing the ministers. During the past couple of decades, nevertheless, there has been a tendency to locate regulatory assignments outside the ministries/departments in specialized agencies (Finansministeriet, 2006). However, it should be noted that such agencies in Denmark report to the respective ministries/departments and are subsumed under their auspices based on the Danish Ministerial Responsibilities Act.

The functional division between policy development and administrative/regulatory functions is generally found in European countries with the UK and Sweden as the most prominent examples (Finansministeriet, 2006). The Swedish case shows that it is not only a question of the common law vs. the civil law traditions. In Sweden, the independence from ministries is constitutionally ensured, and ministries cannot intervene in the administrative case handling (Finansministeriet, 2006). The specific divisions of labor between ministries/departments and agencies differ, to a large extent, between European countries. However, the general purpose as formulated by the OECD (2002) is to provide the basis for stability and predictability in administrative decision making and to prevent a politization of administrative functions.

With respect to telecom regulation in Denmark, the first separate regulatory institution was actually established already in 1919. The reason is that while telephony in Denmark as well as in most other countries started as a private and local enterprise area, this remained the case in Denmark until the beginning of Second World War. Actually, Denmark never had one single national monopoly operator and the largest regional operators were limited companies – however, after the beginning of the Second World, with the state as the majority shareholder. In different shapes and forms, this regulatory institution remained in function until 1982, and then there was a short intermezzo till the new telecom regulatory agency (Telestyrelsen) was created in 1991 (Henten, 2005). This regulatory agency could be seen as a reaction to the upcoming liberalization of the market and the EU call for new regulatory institutions, but it did not yet have an independent status and it was mainly aimed at regulating Tele Denmark, which was created as a national holding company for the regional operators, and which at that point in time still had a monopoly on fixed line communications.

However, this all changed in the middle of the 1990s. In 1995, the Ministry of Research issued a policy report entitled “Bedst og billigst gennem reel konkurrence” (Best and cheapest by way of real competition), where the goal and plan for the liberalization of telecommunications in Denmark was put forward. This plan was the basis for a political agreement in Parliament, which was the start of the full liberalization of telecommunications in Denmark. The political agreement also included the plan for the establishment of an independent regulatory institution. And, in 1997, “Lov om Telestyrelsen” (Act on the telecom authority) was passed constituting the legal basis for the independence of the regulatory institution.

The conception of and the degree of independence of this regulatory institution is probably best represented by the wording of the political agreement and the comments to the act. All Danish parliamentary acts are complemented by a set of comments highlighting the major intentions and elements of the acts. In the political agreement from 1995, it is stated:

The independence of the telecom regulatory authority (Telestyrelsen) as general supervisory authority in the telecom area is to be ensured. This will imply the blocking of the present possibility for complaints concerning decisions by the telecom authority to the Ministry of Research and the blocking of the possibility for giving instructions from the ministry to the telecom authority in connection with supervisory assignments and decisions in case handling in this connection (Principaftalen, 1995, *our translation*).

In the comments to the act, it is stated that:

There is no central administrative management and supervisory agency with such wide ranging legally based independence and such powerful authority to intervene and issue sanctions as has been

assigned to the telecom agency in this act. There has thus been a need for new thinking within the bounds of possible legal state, administrative and appropriation frameworks, as there are no regulation models elsewhere in the state administration which immediately can be copied (Bemærkninger til lov om Telestyrelsen, 1997, *our translation*).

The comments are obviously referring to Denmark and the legislators were apparently happy with themselves having found a balance between independence of the regulator and the political responsibility of the parliament and government. In the comments to the act, they say:

The proposal includes a model that, on the one hand, secures the real independence with respect to supervisory assignments ... and, on the other hand, secures full transparency ... with respect to the overriding consideration concerning the leading role of the minister and the parliament... (Bemærkninger til lov om Telestyrelsen, 1997, *our translation*).

The reason, which is mentioned in the comments to the act, is:

A complete carrying out of the principle of independence of the telecom authority ... leads to a range of constitutional problems including the current Ministerial Responsibilities Act (Bemærkninger til lov om Telestyrelsen, 1997, *our translation*).

In the act on the telecom regulatory authority, it is stated that the authority amongst others will have the following assignments (Lov om Telestyrelsen, 1997):

- Supervise and take decisions regarding compliance with the legislation in the telecom sector;
- Establish administrative rules in the area, where the competence is assigned to the telecom authority;
- Provide advice to the users of telecommunications, companies, etc. in the telecom sector concerning the legislation for the sector and other general telecom related issues;
- Provide advice to the minister of research concerning telecom issues and ensure a continued collection and communication of experiences concerning the current legislation for the telecom sector and its functions;
- Provide advice to the minister of research concerning possible needs for changing or amending current legislation;
- Take care of Danish interests in the telecom area in international organizations.

The new legislation for the telecom authority thus included regulatory assignments as well as assignments concerning policy development.

In 1999, a new political agreement concerning telecom policies was made. This political agreement actually still is the political basis for Danish telecom policies presently (2014). The telecom agreement of 1999, positioned telecom and ICT policies at the center stage of policies for national economic development. In his address to the Danish public on the 1st of January 2001, the prime minister expressed the wish that 'Denmark simply should be the best IT nation in the world'. Such a statement pointed to the central position of telecom and ICT policies and, therefore, also the importance of the telecom regulator and its activities. This provided the telecom regulatory institution with a boost in importance – also in terms of its independence.

The OECD, however, was not entirely convinced of the independence of the Danish telecom authority to be sufficient. In an assessment of the Danish telecom authority, the OECD wrote:

Until now, the National Telecom Agency has been relatively weak and incapable of carrying out an efficient regulation (OECD, 2000, *our translation from Danish from Greve (2002)*).

Furthermore, the OECD wrote:

The independent telecom regulator should be separated from the ministry and should be given a higher degree of authority... (OECD, 2000, *our translation from Danish from Greve (2002)*).

Finally, the OECD concluded:

The role of the ministry is more comprehensive and active in Denmark than in many other OECD countries that have an independent regulatory authority (OECD, 2000, *our translation from Danish from Greve (2002)*).

There was thus some disagreement regarding the independence of the Danish regulator. At the same time, the OECD (2000) praised the Danish telecom market for being one of the most open markets in the OECD area. Bent Greve (2002) concludes in his small book on Danish telecom regulations that this indicates that the Danish telecom regulator may not be as independent as some of his colleagues in the OECD context, but that the real independence is high in terms of proactivity and accountability in market interventions.

In 2002, something new happened. The telecom regulatory authority, Telestyrelsen, was merged with Statens Information, which was an agency with responsibilities for providing information to the public regarding official matters. In connection with this, the name of the institution was changed from Telestyrelsen (telecom authority) to IT og Telestyrelsen – National IT and Telecom Authority (NITA). Although the importance of such a change can easily be exaggerated, it signaled the inclusion of IT issues into the telecom regulatory institution. In that sense, it could be interpreted as a reaction or a proactive move in relation to the convergence of telecommunications and IT.

It meant that IT policies acquired an increasing importance in the organization, which could be a step forward in the sense that convergence is a fact that needs to be taken into consideration. But it also meant that the regulatory functions of the agency were supplemented with promotional activities regarding the use of IT. IT is not regulated in any manner equal to telecommunications, but is subject to a great deal of promotional policies and activities. NITA thus started combining the two different functions of agencies dealt with by Mark Thatcher (2002): Those primarily concerned with the regulation of competition and price control and those concerned with 'softer' issues and promotional activities.

The question is whether this has been helpful in terms of securing the independence and pro-activeness of the regulatory institution. It has certainly involved the regulatory institution in a greater amount of policy initiatives. And, this may have taken attention away from the 'hard' regulatory tasks. However, it is hardly likely that this in itself has weakened the regulatory institution. A much more likely explanation is that the policy attention in general to the telecom area weakened during the second part of the first decade of the new millennium. By the end of the first decade, complaints from the telecom environment were often heard concerning the lack of attention to the telecom area from the ministry. This is probably what weakened the regulatory institution and was part of the basis for its dismantlement in 2011.

In summary of this section, it can be concluded that an independent status of the regulatory institution was implemented in connection with the liberalization of the field and a great focus on creating competition. Also, the big attention to telecommunications and ICT led to a prominent status for the telecom regulatory institution and allowed for a considerable degree of actual independence. In the second part of the first decade of the new millennium, there was a decreasing attention to telecommunications as such. There was an increasing attention to the use of ICT – what in this paper has been termed the enabling aspects of ICT. At the same time, the IT area was included in the responsibilities of the telecom regulatory institution. A hypothesis could be that that has weakened the regulatory functions.

6. Findings, analysis and discussion

In the present section, the immediate findings from interviews with key stakeholders are reported, followed by an analysis and discussion of these findings and the information provided in in the section on the development of telecom and ICT regulatory institutions in Denmark.

6.1 Findings

As part of the research, 6 key stakeholders were interviewed, representing different positions and roles in the telecom field in Denmark: The telecom industry, the regulatory authority, and the national consumer association. Although their points of view obviously are influenced by their positions and roles, emphasis has not been on clarifying the implications of such differences in positions and roles. The interviewees have been considered as experts in the field – however taking the potential implications of their different positions and roles into account.

The interviews with the 6 stakeholders were conducted as semi-structured interviews. The topics addressed in all 6 interviews centred on the three main themes of the paper: Regulatory and developmental functions of the state in the telecom area; ICT as enabling technologies; and, the structure of public administration. In addition, the possible reasons or backgrounds for dismantling the former regulatory institution and the potential implications thereof were discussed as were the reasons for aiming at terminating the political agreement from 1999 on Danish telecom policies and creating a new political agreement for the telecom policies for the coming years. In table 2, highlights regarding five themes are summarized: Regulatory and development functions of the state, enabling technologies, independence of the regulator, reasons for dismantling the former regulatory institution, and implications of dismantling the former regulatory institution. The interviewees are denoted Interviewee 1 to Interviewee 6.

Table 2: Summary of interviews

<i>Regulatory and developmental functions of the state</i>	<i>Interviewee 1</i>
	<ul style="list-style-type: none"> • <i>Regulation has been supplemented with more growth oriented policies</i> • <i>More attention needs to be given to the demand side in growth oriented policies</i>
	<i>Interviewee 2</i>
	<ul style="list-style-type: none"> • <i>Regulation is as important and strong as it has been for years</i>
	<i>Interviewee 3</i>
	<ul style="list-style-type: none"> • <i>Developmental policies have been discussed, but no important decision makers are in reality in favour of major public funding of infrastructures</i>
	<i>Interviewee 4</i>
	<ul style="list-style-type: none"> • <i>ICT policies should be centred on demand side policies</i>
	<i>Interviewee 5</i>

	<ul style="list-style-type: none"> • <i>Competition policies and regulation have focused on service competition</i> • <i>Infrastructure competition should be given more attention, as this kind of competition drives infrastructure development</i> <p><i>Interviewee 6</i></p> <ul style="list-style-type: none"> • <i>Danish policies have been and are that telecom developments should be market based – and this should be maintained</i>
<i>Enabling technologies</i>	<p><i>Interviewee 1</i></p> <ul style="list-style-type: none"> • <i>Policy focus should be on the enabling potentials of ICT infrastructures and services</i> <p><i>Interviewee 2</i></p> <ul style="list-style-type: none"> • <i>ICT policies already take the enabling potentials of ICTs into consideration</i> <p><i>Interviewee 3</i></p> <ul style="list-style-type: none"> • <i>The enabling character of ICTs is already part of ICT policies and it has been a challenge to have telecom regulation and ICT promotion in the same regulatory institution</i> <p><i>Interviewee 4</i></p> <ul style="list-style-type: none"> • <i>Digital public services have been an important driver for ICT developments</i> <p><i>Interviewee 5</i></p> <ul style="list-style-type: none"> • <i>NA</i> <p><i>Interviewee 6</i></p> <ul style="list-style-type: none"> • <i>NA</i>
<i>Independence of regulator</i>	<p><i>Interviewee 1</i></p> <ul style="list-style-type: none"> • <i>The Danish telecom agency does not have a unique status in Danish administrative tradition</i> • <i>The only unique thing is that the telecom agency has its own law, where instruction rights from the ministry are blocked and where case decisions taken by the agency cannot be appealed to the ministry</i> <p><i>Interviewee 2</i></p> <ul style="list-style-type: none"> • <i>The politicians have never really understood the concept of independent regulation</i> • <i>The independence of the regulator has meant that the political influence of the regulator has been limited</i> <p><i>Interviewee 3</i></p> <ul style="list-style-type: none"> • <i>Regulatory independence is not unknown in the Danish system, but NITA (the former regulatory institution) has had a high degree of independence</i> • <i>Independence has been a challenge for the system, as many politicians have had difficulties in understanding that they cannot interfere</i> • <i>To be independent entails problems in terms of lack of political influence</i> <p><i>Interviewee 4</i></p> <ul style="list-style-type: none"> • <i>The model with an independent regulator is relatively unique in the Danish system</i> • <i>A division of labour between ministerial departments and agencies is implemented in Denmark, but assignments put on agencies concerning servicing the minister limit independence</i> <p><i>Interviewee 5</i></p> <ul style="list-style-type: none"> • <i>The status of NITA was not special</i> • <i>There is no contradiction between policy involvement and independence – this is only a problem when government has ownership shares in operators</i> <p><i>Interviewee 6</i></p> <ul style="list-style-type: none"> • <i>The independence of the regulator is given by a special law</i> • <i>The regulator is independent – but maybe not as independent as in the US</i>
<i>Reasons for dismantling the former regulator</i>	<p><i>Interviewee 1</i></p> <ul style="list-style-type: none"> • <i>It could be argued that there is ICT in everything and that there is, therefore, no need for a specialized agency</i> • <i>There was a pressure to move some of the work areas of NITA to other ministries, first and foremost e-government to the Ministry of Financial Affairs; this would make NITA</i>

	<p><i>too small</i></p> <p><i>Interviewee 2</i></p> <ul style="list-style-type: none"> <i>It was a genuine surprise that NITA was dismantled</i> <i>The main explanation is probably that different areas of responsibility were redistributed among ministries for administrative purposes</i> <p><i>Interviewee 3</i></p> <ul style="list-style-type: none"> <i>NITA had been subject to criticism for some time; the agency was successful in the beginning but was later criticized for being too passive – especially by the new operators</i> <i>The new operators had an interest in making a regulatory issue into a political one</i> <i>There was a pressure for more initiatives in the e-government field and the Ministry of Financial Affairs wanted to take over this area</i> <p><i>Interviewee 4</i></p> <ul style="list-style-type: none"> <i>There was a need for more focus on the digitization of the public sector; NITA was too weak in negotiations with ministries, and the Ministry of Financial Affairs is better positioned to enforce digitization</i> <p><i>Interviewee 5</i></p> <ul style="list-style-type: none"> <i>NITA was not sufficiently visible; there was a need to push the telecom agenda, and the former minister had had very little interest in the field</i> <i>There is a need for more political initiatives to promote high-speed broadband, which has become a must</i> <p><i>Interviewee 6</i></p> <ul style="list-style-type: none"> <i>The regulator was not dissolved; it was merely merged with other agencies</i> <i>Organizational changes often happen when forming new governments</i> <i>It seemed logical that the e-government function went to the Ministry of Financial Affairs</i> <i>It had been discussed that telecom would be better placed under a ministry taking care of general business issues</i>
<p><i>Implications of dismantling the former regulator</i></p>	<p><i>Interviewee 1</i></p> <ul style="list-style-type: none"> <i>NA</i> <p><i>Interviewee 2</i></p> <ul style="list-style-type: none"> <i>When operators in the market want something done, they will need to go to the ministry</i> <i>There is a greater degree of political sensitivity - matters more easily become politicized</i> <p><i>Interviewee 3</i></p> <ul style="list-style-type: none"> <i>The idea with the organizational change was probably to strengthen the ICT agenda, but the result has been the opposite; the ICT part of the Business Authority is not visible in the public debate</i> <i>Potentially, more focus can be given to growth and development and a developmental agenda is not compatible with independent regulation</i> <i>Simply because of the size of the Ministry of Business and Growth, assignments will be taken over by the department and will be subject to more criticism for not being neutral</i> <p><i>Interviewee 4</i></p> <ul style="list-style-type: none"> <i>Telecom is no more a special sector and is treated as other sectors</i> <i>Easier for stakeholders to influence the regulatory processes</i> <p><i>Interviewee 5</i></p> <ul style="list-style-type: none"> <i>The general Business Authority is more visible than NITA was and the telecom agenda has become part of a stronger ministry with more influence</i> <i>Growth and business perspectives have been added to the telecom agenda</i> <p><i>Interviewee 6</i></p> <ul style="list-style-type: none"> <i>Basically, the role of the regulator has remained unchanged</i>

- | | |
|--|--|
| | <ul style="list-style-type: none"> • <i>However, there are greater potentials for synergies with other activities of the general Business Authority to grow, e.g. synergies between regulatory and business development aspects</i> |
|--|--|

As can be seen from the bullet points regarding the *regulatory and developmental functions of the state*, the answers provide a mix of positive and normative statements. The general assessment is that regulation overwhelmingly is the main public policy approach for developing the telecom infrastructure - and that it should be so. It is, nevertheless, noted that developmental elements in terms of public support for infrastructure development have entered more forcefully policy discussions in the telecom field in the last few years. The general opinion is that developmental policies should focus primarily on the demand side – as has been the Danish policy approach during the past 20 years. The well-known topic of service and infrastructure competition is also part of the discussion. This can be a purely regulatory issue, but can also include developmental elements concerning public support for infrastructure development. However, none of the interviewees favour extensive public economic funding, but some of the interviewees would favour more focus on infrastructure competition and less on service competition.

Considering policy discussions and the number of programmes offering support for infrastructure development in other EU countries as well as in other regions, it might come as a surprise that only one interviewee suggests a kind of direct support to the supply site. This respondent suggests that reverse auctions could be held in order to secure rural areas. Other interviewees suggest a more active role to be played by the municipalities. They argue that municipalities should become active in the design of local infrastructure projects and be allowed to provide credit facilities if needed.

When it comes to the need for universal access to a fibre based infrastructure, there are different opinions. Some of the interviewees see universal access to fibre as a major success criterion, while other interviewees see wireless infrastructures such as LTE and high speed copper services as adequate alternatives. Most respondents have no special interest in the specific kinds of technologies applied for providing telecom services. Still, the question regarding the need for fibre is a crucial one, as it has implications for how the interviewees see the other issues discussed.

As is reflected in the statements from the interviewees, the issue of the implications of the role of ICTs as *enabling technologies* does not play any immediate role in their assessment of the need for possible changes in ICT policies. However, the issue surfaces again when looking at the potentials for better merging regulatory assignments with business development assignments when the regulator is part of a general Business Authority.

The enabling character of ICTs has been part of Danish ICT policies for long and the general policy approach to the enabling character of ICTs was developed already in connection with the liberalization of telecommunications in the mid-1990s. This is, for instance, reflected in the emphasis by the interviewees on the application side when discussing ICT policies. It does, therefore, not attract any special attention except for one of the interviewees who puts special emphasis on this issue and sees it as an area that needs to be given more attention and which will have substantial implications for the institutions developing ICT policies and regulating ICTs. Moreover, another interviewee observed that having telecom regulation and ICT promotion policies in the same regulatory agency creates tensions.

Concerning the *independence of the regulator*, there is some variation in the answers to the question whether an independent telecom regulator is a unique administrative construction in the Danish context. As observed by one of the interviewees, there is a long standing tradition for implementing a division of labour between ministerial departments and agencies. However, the degree of independence of such agencies varies greatly. The former regulatory institution, NITA, had a high degree of independence in the Danish context. It had its own law (which is still in force), which prescribes that the ministry has no right of instructions and that case decisions by the regulator cannot be appealed to the ministry. This is a rather unique construction, but – as mentioned by one of the interviewees – there are other agencies with similar status, for instance the Competition Authority and the Tax Authority. Another aspect of this is related to the involvement of the regulator in the policy processes. In ministries with small departments, there will be a tendency for large agencies to be involved directly in the policy development processes. This has been the case with NITA formerly, when it was part of the Ministry of Research. This meant that NITA was close to the policy development processes.

It is noted by a couple of the interviewees that (many) politicians have never really have understood the concept of an independent regulator and have now and then done their best to intervene in the daily practice of the regulator. This could obviously happen in any administrative system and with any institution but points to the fact that the concept of independence is not entirely understood or accepted by all. One of the interviewees questioned the need for independence in relation of the departmental level. If there is no public ownership of any of the operators, there is no need of such independence, was the argument. The emphasis here is on the independence in relation to market operators and not the policy processes.

The flip side of independence from the departmental level and the related policy processes is a lack of political influence, was the opinion of some of the interviewees. As can be seen in relation to the question regarding the reasons for dismantling the former regulator, this is an important point, as NITA supposedly did not have sufficient power to get e-government projects firmly and quickly implemented. When part of a ministry lead by a strong minister – as was the case in the 1990s – this is not a serious problem. However, during the second part of the first decennium of the new century, the Ministry of Research, under which the telecom regulator was placed, had a minister with relatively little interest in the ICT field. This affected the influence of the regulator on broader policy processes and decisions.

When it comes to the *reasons for dismantling the former regulators*, very little is known about the actual official reasons. The government has never provided such reasons – just a decision. This also means that the interviewees offer different opinions concerning the reasons, though there is convergence around some of the issues. As noted by a couple of the interviewees, it is not unusual, that functions of ministries are reshuffled after a change of government and that this also affects agencies. However, this fact does not substitute for an explanation of the concrete cases of change. Most of the interviewees note that the responsibilities for promoting and enforcing an e-government agenda would be better placed within a ministry with greater powers. The Ministry of Financial Affairs is such a strong ministry. Those with a background inside public administration emphasized the practical aspects of the reorganization. When moving e-government to the Ministry of Financial Affairs and security to the Ministry of Defence, NITA would become too small to act as an independent authority.

But it was not only the e-government agenda, which was an issue. According to a couple of the interviewees, the agency had become too weak to push a broadband development agenda. Two different

versions of this issue were presented. One version had to do with competition between the incumbent operator and the operators using the networks of the incumbent. These operators were of the opinion that the regulator did not do enough to limit the market power of the incumbent. As it was expressed by one of the interviewees, the operators competing with the incumbent had an interest in making a regulatory issue into a political one. The other version was that the regulator did not do enough in general to promote the development of broadband – especially fibre access. A change was, therefore, needed in order to strengthen the position of competitors to the incumbent and for promoting fibre access.

Finally, but this was only noted by one of the interviewees regarding the implications of the former regulator, there could be a contradiction between the regulatory functions of the regulator and the promotional functions regarding the e-government agenda. One interviewee went as far as saying that the fact that ICT is in everything has removed the reason for a specialized telecom agency. Another version of this statement was that it seemed natural to place the telecom agency under the general business ministry in order to better coordinate business initiatives involving telecommunications.

Regarding the *implications of dismantling the former regulator*, there were two recurring issues touched upon by the interviewees – however, in different versions. The first issue is concerned with the strength of regulator in its new position as part of the general Business Authority under the Ministry of Business and Growth. One version is that such a strengthening was the intension, but that the opposite has happened, as telecom issues have disappeared from the public policy agenda. Another version is that the intension of strengthening a telecom agenda has actually started becoming successful. At any rate, there is agreement that the potentials for strengthening a telecom agenda and for a better coordination with business policies in general are improved.

The other issue has to do with the possible politization of telecom regulation. There is a general agreement among the interviewees touching on this issue that there is an increased politization – or, at least, that this is the likely outcome. One of the interviewees said that there is an increased sensitivity to the pressures from the operators – and that a strategy of turning a regulatory issue into a political one has been successful. Another interviewee pointed out that it has become easier to influence the regulatory processes. The differences in points of view are, thus, more related to whether an increased politization is a benefit or not. There is agreement that regulation has become more politicized.

An additional question that was discussed with the interviewees was the *political agreement in parliament from 1999*, which still forms the basis for telecom policies and regulation in Denmark. A wide range of organizations have agreed on a petition to the Danish government to abolish the telecom agreement from 1999 and to form a new one. The organizations behind this petition include operators competing with the incumbent TDC, e.g. Telia and Telenor, the fibre deploying energy companies, the organization representing the Danish municipalities, the Consumer Council, and many others. The incumbent TDC, on the other hand, does not favour a change of policy foundation, and it does not seem that the present government is working for a new agreement.

The question discussed with the interviewees was whether it is likely that a new political agreement is on its way announcing a change in Danish telecom policies. The issue is that although a wide range of organizations are in favour of establishing a new policy platform for Danish telecom policies and regulation, there is no agreement as to what such a platform would include. There is thus a wide discontent with the

present political platform for telecom policies and regulation but no agreement as to the alternative. This is probably the strongest argument for foreseeing no change in the immediate future. However, as mentioned by one of the interviewees, the fact that the present political platform does not have a wide support creates a lack of predictability. Some of the recent initiatives regarding funding for local upgrades of the broadband infrastructure could be said to be outside the present political platform. Without an agreement with commitments from the important actors, the future policy becomes more uncertain.

6.2 Analysis and discussion

In relation to the discussion regarding the political telecom agreement from 1999, the interviewees were clearly influenced by their different positions and roles. Some of the interviewees were in favour of a change and others were against. However, there was a general agreement that the call for change is not reflected in any sufficiently precise direction of change. And, the government position seems to be that 'we know what we have and we don't know what will get', and that this will postpone a new political agreement for some time. The analytical conclusion must be that not only does there not seem to be any wide ranging deliberate policy change behind the dismantlement of the former regulatory institution, there is not either any clear direction for creating a new political platform for telecom policies and regulation for the coming years.

This, however, does not mean that the changes in the set-up of the regulatory institutions do not signal any changes in the foundation for policy making. But it means that such changes in the foundation for policy making have not yet resulted in any elaborate coherent policy platform. It could be claimed that Danish telecom policies are presently in a state of flux and that a firm political platform with general support from many different stakeholders is not immediately visible.

The two change drivers in the policy foundation – an increasing attention to the developmental aspects of telecom policies and to the enabling character of ICT – are not clearly reflected in the answers from the interviewees. It is noted by some of the interviewees that regulatory policies seem increasingly to be supplemented by more developmental policies. However, the general agreement is that the present type of regulation is the backbone of Danish telecom policies and there is in reality no support from any major public funding for infrastructures. The expression is that Danish telecom policies should still be centred on a market-based approach and technology neutrality. Apart from a public discussion with, now and then, surprising statements regarding the need for public investments in infrastructure, the actual political initiatives are limited to allowing for and recommending local initiatives from municipalities and a 7-8 million Euro state funding for improving broadband access on the island of Bornholm.

The same applies to the issue of ICTs as enabling technologies for other industries and societal sectors. Only one of the interviewees come out strongly in support for the point of view that the increasingly enabling role of ICTs must lead to changes in the institutional setup of ICT regulations. However, when discussing the possible implications of including telecom regulation under the general Business Authority and the Ministry of Business and Growth, there is among the interviewees a general understanding that this will make it easier to coordinate telecom regulation with other business areas.

The fact, however, that neither stronger developmental policies nor the implications of ICTs as enabling technologies play a central role in the conceptualizations of the interviewees does not mean that these

issues do not play a role in changing institutional setup of regulations. The relationships between the different elements in the policy foundation for telecom policies and regulation constitute a fine-tuned set of conceptualizations, where smaller changes in some of the elements may lead to more substantial changes in other elements. In the years following the liberalization of the telecom area, there was a strong ideology in favour of a purely market-based approach and a strong independent regulatory institution. The strictness of this ideological position has weakened to some extent, and the idea of independent regulation as it was described in the comments to the Act on the telecom authority from 1997, which all along has been seen by some as a 'foreign' element in the Danish administrative tradition, seems to be a first 'victim'. An expression of this could be that one of the interviewees only sees the necessity of independent regulation in relation to the question of state ownership.

On the basis of the strong official comments to the 1997 Act on the telecom authority regarding the uniqueness of the degree of independence of the telecom regulator, it is surprising how little this uniqueness is recognized by the interviewees. A possible explanation could be that there was an overly enthusiastic support for independent telecom regulation at the time, which overstated the independent character. But it could also be that the actual independence of the regulator has decreased and that the present statements just reflect this fact. The importance of independence in relation to the policy makers – as was emphasized e.g. by Melody (1997), who has been an influential figure in Danish telecom regulatory policies – is not seen by all as being as crucial as previously. The potentially increasing politization of telecom regulations is noted by some of the interviewees.

Another issue has to do with the mix of assignments that the former regulatory institution NITA had as work areas. Thatcher (2002) differentiates between two types of regulatory institutions, and NITA could be considered as having both regulatory as well as promotional assignments. The regulatory functions were related to telecommunications, while the promotional functions were related to IT. The question is whether this spread of activities has weakened the telecom regulatory functions. This is noted by one of the interviewees. However, far more important has probably been the general weakening of the telecom and ICT agenda in Denmark during the second part of the first decade of the millennium. This led to a decreasing support for the kind of proactive regulation that the telecom regulator conducted in the period immediately following the 1997 Act on the telecom authority. The real independence of a regulatory institution depends as much on the proactive character of regulation and the accountability of the regulator (Melody, 1997) as it depends on the formal independence of the regulatory institution.

7. Conclusion

The topic discussed in this paper is why the former Danish telecom and IT regulatory institution, NITA, was dismantled by the new incoming government in 2011 and whether this signals a more substantial change in the conception of telecom regulation. It should be noted that the Danish law prescribing the independence of the regulatory institution from 1997 has not been changed. From a formal point of view, it is merely an organizational change. This question is, however, whether there is a real change in the independence of the regulator and the regulatory assignments.

The research hypothesis of the paper is that the formal organizational change indirectly is an expression of the changing telecom and ICT landscape in terms of technology, market, and policy developments. More specifically, there is a greater attention politically to the promotion of broadband, and ICTs increasingly play

the role of a widespread enabling set of technologies putting more emphasis on of a cross-cutting business policy including ICT policies as just one element. The first issue regarding the promotion of broadband could be seen in light of a tendency to downplay competition regulation and to put more focus on developmental policies. The second issue is concerned with placing ICT policies within a broader context of general business policies. Both of these issues can form the basis for changing the conceptualization of telecom regulation as it has been conducted since the liberalization of telecommunications in the 1980s and 1990s.

The focus point of the research has been on the independence of the regulatory institution. Since the liberalization of telecommunications in the 1980-90s, there has internationally, including the European level, been much attention to the independence of telecom regulation. In the Danish context, the independence of the telecom regulator was clearly inscribed in the 1997 Act on the telecom authority prescribing the blocking of rights of instructions from the ministry and of the possibilities for appealing case decisions by the regulator to the ministry. The independence of telecom regulation has been understood to include independence from market actors as well as the policy level. The emphasis of the 1997 Act on rights of instruction and appeal possibilities illustrates that it was the independence from the policy level, which was the crucial thing.

The research methodology used has been to study the establishment and development of an independent regulator in Denmark and to interview 6 key stakeholders in the Danish telecom environment. The results of the round of interviews cannot be said to come forcefully out in support of the two elements of the research hypothesis. There is a realization by the interviewees that ICTs as general enabling technologies will have an impact on the manner in which ICTs will be regulated. This mainly finds an expression in the opinion that it will be easier to coordinate ICT and general business policies with telecom regulation as part of the overall Business Authority and the Ministry of Business and Growth. With respect to the developmental and the regulatory agenda, there is less support for this hypothesis. Denmark is in general terms traditionally a rather liberal country with respect to business policies. And, in spite of a public discussion with unusual statements in favor of state support for infrastructure improvement, there is a widespread consensus in Denmark in favor of not using central public funds for upgrading the telecom infrastructure.

Nevertheless, the discussions around the developmental and regulatory agendas and the enabling character of ICTs may still have affected the conception of the role and assignments of telecom regulation. As is mentioned in the analysis and discussion section, the relationships between the different elements in the policy foundation for telecom policies and regulation constitute a fine-tuned set of conceptualizations, where smaller changes in some of the elements may lead to more substantial changes in other elements.

This is where the independence of the regulator comes into play. The independence of the regulator could be claimed to be the 'touchstone' of the kind of telecom regulation, which was put in place in the 1990s. The independence was seen as a prerequisite for promoting competition and securing consumer rights. Among the interviewees, there is one who does not see the necessity of independence in relation to the policy level. Others recognize that there will probably be a stronger politization of regulation and such a politization will eventually lead to more direct influence of market actors on regulation. The understanding that regulation needs to be independent from market actors is still the general conception, but the

understanding that independent regulation also relates to the independence from the political ‘principals’ has apparently been weakened.

What the concrete reasons for dismantling the former regulatory institutions have formally been has not been clarified by our research. Official reasons or explanations have never been given, and the best concrete explanation provided by some of the interviewees is that assignments regarding the promotion of e-government are better placed with the Ministry of Financial Affairs and its agencies working with digitalization and modernization. However, the end result is likely to be, on the one hand, a better coordination of ICT policies and regulation with broader business policies and regulation and, on the other hand, an increasing politicization of telecom regulation.

What this signals in terms of broader European regulatory developments is not clear. Although there has been a general and at times very strong EU-wide agenda for having independent regulatory institutions, there is a significant variety between the different European countries. However, the developmental agenda is generally stronger in other EU countries as compared to Denmark, and if the understanding weakens that regulatory independence also includes independence in relation to the policy level, there can be other examples of institutional regulatory changes in other European countries in the coming years.

8. List of references

CEC (1987) *Towards a dynamic European economy, Green Paper on the development of the common market for telecommunications services and equipment*, COM(87) 290 final, 30 June.

Dosi, G. (1982) Technological paradigms and technological trajectories: as suggested interpretation of the determinants and directions of technical change, *Research Policy*, 11(3), pp. 147–162.

European Commission (2012) *A European strategy for Key Enabling Technologies – A bridge to growth and jobs*, COM(2012) 341 final.

European Communities (1993) *Growth, competitiveness and employment: The challenges and ways forward*, COM(93) 700.

Falch, M. (2008) Adoption of broadband services: the role of national policies. *Handbook of research on global diffusion of broadband data transmission*, 2, pp. 671-88.

Falch, M. and Henten, A. (2010) Public private partnerships as a tool for stimulating investments in broadband. *Telecommunications Policy*, 34(9), pp. 496-504.

Finansministeriet (2006) *Centraladministrationens organisering – status of perspektiver*, Copenhagen: Schultz.

Forskningsministeriet (1994) *Informationssamfundet år 2000*, Copenhagen: Forskningsministeriet.

Forskningsministeriet (1995) *Bedst og billigst gennem reel konkurrence - Temaoplæg om dansk telepolitik*, Copenhagen: Schultz.

Forskningsministeren (1995) *Principaftale om totalliberalisering af telesektoren i Danmark medio 1996*.

- Freeman, C. (1982), *The economics of industrial innovation*, 2nd edition, London: Pinter.
- Greve, C. (2002) *Privatisering, regulering og demokrati – Telestyrelsens funktion som uafhængig reguleringsmyndighed*, Århus: Århus Universitetsforlag.
- Henten, A. (2005) *Dansk telefonhistorie – en kort tematiseret oversigt*, CTI Working Paper no. 98, Lyngby: Center for Tele-Information.
- IT- of Forskningsministeriet (1997) *Lov om Telestyrelsen*, Copenhagen: Forskningsministeriet.
- Johnson, C. (1982) *MITI and the Japanese miracle: the growth of industrial policy: 1925-1975*, Stanford University Press.
- Johnson, C. (1999) The developmental state: Odyssey of a concept. The developmental state, in Woo-Cumings, M. (1999) Introduction: Chalmers Johnson and the politics of nationalism and development, *The developmental state*, pp. 1-31.
- Lemstra, W. and Melody, W. H. (2014) Cross-case analysis, in Lemstra, W. and Melody, W.H. (eds.). *The dynamics of broadband market*, Cambridge University Press
- Majone, G. (1997) From the positive to the regulatory state: Causes and consequences of changes in the mode of governance, *Journal of public policy*, 17(02), pp. 139-167.
- Melody, W.H. (1997) On the meaning and importance of 'independence' in telecom reform, *Telecommunications Policy*, 21(3), pp. 195-199.
- Melody, W. H. (2013) Moving beyond liberalization: stumbling toward a new European ICT policy framework, *info*, 15(2), pp. 25-38.
- OECD (2000) *Regulatory reform in Denmark*, Paris: OECD.
- Perez, C. (2010) Technological revolutions and techno-economic paradigms, *Cambridge Journal of Economics*, 34(1), pp. 185-202.
- Thatcher, M. (2002) Delegation to independent regulatory agencies: Pressures, functions and contextual mediation, *West European Politics*, 25(1), pp. 125-147.
- Videnskabsministeriet (2002) *Principaftale om sigtelinier for telepolitikken – danskernes adgang til netværkssamfundet*.
- WTO (1996) *Telecommunications services: Reference paper*, http://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm