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NEW GOVERNANCE, THE INTERNET AND COUNTRY CODE TOP
LEVEL DOMAINS IN EUROPE

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Abstract

Much academic work on governance in recent years has explored responses which states have made to sectors of the economy, usually historically well-rooted nationally, which have been subject to globalizing pressures. Less work exists on responses which are being made to new parts of the economy emerging outside the nation state with inherently global characteristics. The Internet – and specifically its naming and addressing system - provides an example of how the state has aimed to assert public interest governance authority in a system initially absent its influence. This article explores the nature and consequences of this activity, in the process contributing to the study of the Internet and governance. Working within the limitations but also the opportunities created by policy norms developed at the global level, the article finds that the state has been instrumental in the development of novel public-private governance systems for Internet country code Top Level Domains.

Key words: Internet; governance; Europe; Top Level Domains.

Introduction

Electronic network communications - traditionally composed of telecommunication and mass communication media - is the epitome of a fast-moving, dynamic sector of the 21st century international economy. The Internet, arguably the blazon of innovation in communication technologies, services and markets over the last 15 or so years is viewed by many as a communication frontier with radical transformative potential. Most situations of dynamic movement in technologies and markets tend to call forth debates on regulatory governance, often resulting in innovative change. Electronic network communication is a sector in which governance – and regulatory change in particular - have been important issues. Historically, the state in Europe has exercised a strong interventionist role, something which the development of the Internet appeared as a radical challenge to.

The Internet provides a rare example of an economic (sub) sector which developed global credentials without initially having been rooted in nation state contexts in Europe. Whilst the expansion of Internet communication in its early - that is pre-popularisation - years did require functionally some form of coordination in those countries of Europe which adopted it, such activity occurred largely outside the knowledge of the state and was undertaken in a voluntary capacity by private interests. These national and international level technical pioneers liaised with each other in a cooperative manner. However, once the strategic economic and political significance of the Internet became clear to states in the late 1990s, efforts were made to assert what were perceived to be national interests of various kinds in Internet communication. This resulted in what Daniel Drezner (2004) has described as a process of the state bringing itself into Internet governance.

The extent to which, and how, European states have been able to do this is the subject of this article. Its focus is the development in Europe of an under-addressed aspect of the complex governance constellation developing around the Internet: its system of naming and addressing and, specifically, the governance of the nomenclature system around country code Top Level Domains (TLDs). Though techno-functionally arcane, this area is important in public policy terms. The system provides users with access to vital electronic communications facilities. Names and addresses express personal, corporate and even national identity, around which a series of socio-political and commercial-property rights have been expressed and defended. A core problem for the state, however, was that key elements of the global Internet community advocated strongly a diminished, preferably negligible, role for it in TLD governance (Drezner 2007). In what was considered an innately global communitarian environment, many questioned the need for a nationally based nomenclature system at all (see Mueller 1998). The Internet thus presented, potentially, a fertile ground for new governance forms and practices to flourish. This article provides much needed evidence of how states in Europe, have attempted to assert governance influence in global sectors controlled historically almost entirely by private interests. In the process, it makes a two-fold contribution to the study of the Internet and governance.

First, it sheds important explanatory light on the evolving nature of regimes which have developed for the governance of ccTLDs in Europe. Here the state has become an important actor, but what is unusual, even novel, is the relationship between state and non-state actors which has evolved in ccTLD governance. The article shows how the governance of Internet country codes in Europe has diverged from changing patterns of

governance which have been occurring in the wider domain of electronic network communication. Though commercialisation is evident, state-shadowed private interest governance is the order of the day. The article shows through its case studies that private actors maintain a considerable 'operational' and 'regulatory' implementation role in ccTLD management within a non-hierarchical environment, albeit with a strong formal or informal 'framework' presence for the state. Second, the article explores this more deeply through extending existing conceptual work on governance. It shows how, in a globalising sector of the economy where its presence has been initially absent and then, on appearance, greeted with scepticism, the state is positioning itself to address a number of competing and potentially conflicting interests. The article uses the case of the ccTLDs to advance the evidence base for, and understanding of, emerging modes of governance and their implications. More specifically, it aims to advance understanding of relations between public (state) and private interests in globalising sectors within what Treib et al. (2007: 5) have recently described as the 'continuum between public authority and societal self-regulation'.

Structurally, the article proceeds as follows. The next section provides an overview of the main relevant conceptual aspects of the study of governance, placing particular focus on public-private governance interaction as a basis for subsequent examination of the ccTLD sector. Thereafter, the article illustrates briefly how the development of Internet governance differed from that evident in other better established parts of electronic network communication. Focusing on the policy issue of Top Level Domains, it shows how ccTLDs became vehicles for states to establish themselves and assert national interests in Internet governance. The penultimate section of the article provides a specific exploration of the core features of ccTLD governance in Europe through a focus on four national cases: France, Norway, Switzerland and the UK. These serve to illuminate the nature and extent of state involvement in this aspect of Internet governance. In its final section, the paper explores the implications of the findings of the previous sections and the case of ccTLDs for the study of governance.

Modes of Governance and the Changing Role of the State

The transition from the 'corporate' or 'positive' state to the 'regulatory' state driven as a response to the pressures of economic globalisation is a familiar one in European and global governance literature (see Cerny 2000; Jayasuriya 2001; Scharpf 1993, 1994, 1996; Majone 1994, 1996, 1997;) An important idea running throughout this body of work is the shift from 'government to governance' and its implications for the role of the state in globalising sectors. The term governance has been used to refer to and conceptualise a wide variety of structural forms, institutions, actors and practices in and around the recent 'empirical manifestation of state adaptation to its external environment' (Pierre 2000: 3). Here systems, or 'regulatory regimes' (Eberlein and Grande 2005) can possess different degrees of hierarchy, can involve non-state public and private actors as well as the state; and often exist as 'different types of networks and public-private partnerships' (Kohler-Koch and Rittberger 2006: 29; see also Eising and Kohler-Koch 1999). This approach accommodates readily an analysis of the capacities of state and non-state actors to exert influence in emerging socio-economic contexts such as the Internet.

Such definitions provide the backdrop for analytical tools aimed at understanding governance ‘types’ and ‘modes’. Here, an important distinction is often made in the literature between hierarchical and non-hierarchical governance. The former has been identified within both the corporate and regulatory states and is characterised by either direct or delegated intervention and formal regulation through law. The latter, also termed market or plurilateral governance (Zielonka 2007; Cerny, 1993), is characterised in contrast, by informal arrangements, voluntary codes of conduct and ‘soft’ law developed outside primary and secondary legislation. Whilst hierarchical governance is about compliance with clear lines of control and responsibility emanating from governmental authorities or their agents, the latter usually national regulatory authorities, non-hierarchical governance can incorporate governance networks dominated by private actors. It reflects the pursuit of negotiation and persuasion, with incentives - rather than the threat of sanctions – deployed to achieve regulatory outcomes. There is a movement away from pyramidal (top-down) governance to ‘junction box’ (Richardson 2001) governance, with emphasis on ‘gardening’ rather than steering ‘reflecting principles of flexibility, subsidiarity, devolution and differentiation’ (Zielonka 2007: 192). Such non-hierarchical governance chimes with the concept of the ‘post-regulatory state’ (Scott 2004), which emphasises ‘alternative’ policy tools outside state law for influencing regulatory behaviour, and the role of professional community, practice and socialisation in securing compliance. So-called ‘new’ modes of governance developed recently at EU level, notably the Open Method of Coordination (OMC), also reflect the key features of post-regulatory state methods outside formal EU law, including benchmarking, peer-review and standard setting, all couched in voluntarism (Eberlein and Kerwer 2004; Lodge 2007; Treib et al 2007).

Advocates of non-hierarchical forms of governance argue that it provides greater flexibility and efficiency. It forms a context for ‘thick’ learning, allowing states to cope much better with the pressures of globalisation and regionalisation. However, it is by no means uncontested, most notably by states with strong *dirigiste* traditions. It is also open to criticism in terms of the legitimacy and accountability of agents to whom regulatory power has been effectively devolved. Whereas hierarchical governance enjoys legitimacy through its underpinning in a system of majority rule and a common national purpose (Zielonka 2007: 191), this is not so for non-hierarchical systems which can often operate outside public legal frameworks to some extent. Hierarchical governance enjoys a relative degree of transparency and accountability through elections. Private, self-regulated, networks within non-hierarchical governance modes are neither democratically elected nor politically accountable. Non-hierarchical modes of governance also raise questions of compliance and effectiveness, though they may be more responsive to market changes than hierarchical governance modes, to the possible benefit of market players and consumers alike.

However, any strict dichotomy between a hierarchical top-down public regulatory model and a private non-hierarchical model, whilst heuristically useful, tends to belie reality. Whilst new non-hierarchical governance modes aimed at meeting public policy goals in a globalised era (Howlett and Rayner 2006: 170) point to reduction in state involvement - and possibly state capacity - through reliance on private actors, it has also been recognised that the distinction between the public and the private sphere is by no means clear cut (Black 2002: 3; Ronit 2005). Often public and private spheres interact (Zielonka

2007): private governance not only needs recognition by the state but often ‘the state remains a central feature in understanding the governance functions undertaken by private actors in both domestic and international affairs’ (Graz and Nölke 2008: 20). Moreover, ‘governance...sets in motion a logic of action inventing new channels in the relations between formal and informal processes, as well as hierarchical and non-hierarchical mechanisms of interaction’ (Graz and Nölke 2008: 14).

In order to understand better the logics of action in any system exhibiting complexities of this kind, of which we argue ccTLD governance is an example, it is useful to provide typologies which assist in illuminating precisely public-private relationships. Treib *et al.* (2007) have recently referred to three such typological categories: politics (referring to actor constellations), polity (referring to institutional properties) and policy (referring to instruments at the disposal of regulatory actors). Depicted in Table 1 this is a useful starting point for identifying the modes of governance that occur within the three categories outlined. Such a framework typology, however, needs to be supplemented by more specific articulations of various possible kinds of public/private relationship.

Table 1 - Dimensions and Modes of Governance

		Politics Dimension		Polity Dimension		Policy Dimension	
		State intervention	Self regulation	State intervention	Self regulation	State intervention	Self regulation
M o d e s o f G o v e r n a n c e	Public Actors	Private Actors	Hierarchical (coercive)	Market (non-hierarchical)	Legal binding (legislation)	Soft Law (codes of conduct)	
			Central authority	Dispersed loci of authority	Rigid Implementation	Flexible Implementation	
			Institutionalised	Non-institutionalised	Sanctions	No Sanctions (incentives)	
					Material Regulation	Procedural Regulation	
					Fixed norms	Malleable norms (new governance)	

Source: Derived from Treib et al (2007)

Table 2 brings this forward by providing a series of ‘ideal-type’ public-private interactions. The two diametrically opposite types are ‘concerted action’, on the one hand, and ‘voluntary action’, on the other (Verhulst and Price 2005). The latter occurs rarely and is germane to the idea of non-hierarchical governance with entirely self-regulatory, private features and low levels of institutionalisation. The former corresponds to hierarchical governance, whereby the state sets the legal and regulatory backdrop for rule making and enforcement, and where relationships are highly institutionalised. It is important to note the potential overlap at the boundaries of each ideal type and the modes found therein. This is particularly likely in and around the cases of ‘sub-contracting’ and ‘market-based/state shadowed self-regulation’. However, it might also exist at the margins of the classification. For example, within the hierarchical, regulatory state type of ‘concerted action’, some elements of soft law and flexibility through ‘framework

regulation’ can be found, the EU’s Directive on Electronic Commerce being a notable example in the Internet sector (see Christou and Simpson 2007). Another contrasting example is the practice of benchmarking, peer-review and standard setting, which is more usually associated with non-hierarchical governance, but can be found in the activities of public bodies, notably the EU, in recent years in the telecommunications sector.

Table 2 – The governance relationship continuum between the public and private sphere

Hierarchical ◀.....▶ **Non-hierarchical**

Regulatory state.....Post-Regulatory State

‘Concerted action’	‘Subcontracting’	‘Market-based/state shadowed self-regulation’	‘Voluntary Action’
<p>Where the state sets both formal and substantive conditions for rule-making</p> <p>Governance: <u>Actor constellation</u> <u>(Politics):</u> Public interest networks/agencies Delegation of public functions to public actors <u>Polity:</u> Central authority: coercion/bargaining <u>Policy:</u> Legally binding instruments/legal framework, rigid implementation, material regulation, sanctions</p>	<p>Where state involvement is limited to setting formal conditions for rule-making with private actors then shaping the content.</p> <p>Governance: <u>Actor constellation</u> <u>(Politics):</u> Public-private networks Delegation of public functions to private actors <u>Polity:</u> Central/Dispersed loci of authority: bargaining, learning <u>Policy:</u> Legal framework, flexible/rigid implementation, procedural/material regulation, incentives/sanctions</p>	<p>Involves industry-setting, monitoring and enforcing standards in the knowledge that if it fails, state intervention could be imminent, that is, self-regulation in the shadow of the state</p> <p>Governance: <u>Actor constellation</u> <u>(Politics):</u> Public-private networks/communities/associations <u>Polity:</u> Dispersed loci of authority: Persuasion, learning, arguing, <u>Policy:</u> Soft law, flexible implementation, procedural regulation, incentives</p>	<p>Self-regulation can occur in a purely voluntary way with no direct state stimulus or intervention.</p> <p>Governance: <u>Actor constellation</u> <u>(Politics):</u> Private interest networks/communities/associations <u>Polity:</u> Market: Persuasion, learning, arguing, <u>Policy:</u> Soft law, flexible implementation, procedural regulation, incentives</p>

Source: Derived from ‘Self-regulation of Digital Media’ (2004); Verhulst and Price (2005); NEWGOV (2004); Treib et al (2007)

The main focus of the analysis of ccTLD governance in this article predominantly concerns the ‘politics’ and ‘polity’ dimensions. The typologies in Table 2 serve as analytical benchmarks, providing a useful point of departure for conceptualisation and cross-comparison of the regulatory governance regimes in the ccTLD sector at the national level in Europe. They also serve to illustrate the complexities of state involvement in the governance of key sectors of the 21st century economy.

Regulatory Governance in Electronic Network Communication and the Internet

The recent governance of the 'traditional' parts of the electronic network communications sector in Europe stands in marked contrast to the Internet, not least its ccTLD system. In telecommunications, a sub-sector historically deeply rooted in the national political economy but which has undergone nothing short of revolutionary transformation since the 1980s, the replacement of direct state control of the monopoly service provider with competition in existing and new markets has been overseen by a series of independent public National Regulatory Authorities created by the state. Here, the traditional positive or corporate state in telecommunications has been replaced by a still very much hierarchical 'regulatory' state (see Humphreys and Simpson 2005). There has also been significant liberalisation and harmonisation activity conducted through the EU, though cross-national market penetration has been modest at best. Moreover, the global trends of liberalisation and (partial) privatisation in telecommunications have been evident in non-EU west-European states as well. Whilst private commercial - and to a much lesser extent civil society - interests have been able to exert influence on the direction of policy through lobbying processes, such parties have been given no formal role in day to day governance. Given the difficulty in engineering competition in telecommunications markets, no substantive self-regulatory elements exist here and seem unlikely to be introduced in the foreseeable future. Instead, competition law frameworks at national and EU levels may become more important.

In broadcasting in the EU - like telecommunications deeply rooted in the national political economy of its nation states - neither the state nor private interests have played key regulatory roles historically. Instead, state-funded, though independent and self-regulating, public service broadcasters (PSBs) dominated. As the 1980s and 1990s proceeded, broadcast networks became increasingly marketised, new commercial broadcasters operating alongside PSBs, many of whom began to adopt more commercial perspectives and practices themselves. Regulation of commercial broadcasters has occurred in classic hierarchical fashion through independent public national regulatory authorities.

All of this differed markedly to the burgeoning Internet sector as the 1990s progressed. The nature of state involvement in Internet governance can be understood in the context of changing state functions of governance in a globalising world referred to in the previous section, on the one hand, and the peculiarities that underpinned the commercialisation of the Internet from its communitarian origins, on the other. Through the 1990s, a clamour to marketise the Internet as its commercial potential became apparent occurred. Philosophically and pragmatically, the inevitable ensuing move to proprietisation and profit seeking juxtaposed starkly with the views of those from the computer science technical community, mostly in North America, who pioneered the Internet's development. The Internet's emergence as a strategic economic and communications asset also soon gained the interest of states, a debate arising around how, if at all, it should be governed. Parè (2003; 47) defines two main schools of thought which developed as a consequence. Decentralists argued that 'that the institutional norms that developed in tandem with the evolution of internetworking preclude the need for any external regulation or coordination of the modalities of cyberspace...the only policy

required is that of *laissez-faire*' (p 47). Here, Internet community self-governance and private sector initiative (voluntary action) was advocated with a clear rejection of any state regulation of the Internet. By contrast, the Commons School viewed the Internet as numerous elements which taken together might be considered as some form of socio-economic commons. This holistic approach considered the constituent elements as interdependent leading to the view that various top-down regulatory frameworks should be created to 'ensure the well-being of the conceptual whole' (p 45). Elsewhere, academic work from a global governance system perspective has considered the Internet as an emerging regime (Franda 2001) and a more fluid Grand Collaboration (MacClean 2004).

The governance of the Internet's system of naming and addressing developed from its *ad hoc* origins in the midst of this debate. There are two main identifiable forms of Top Level Domain in cyberspace: generic (gTLDs) - relating to companies, organisations, and other generally recognisable organisational forms - of which there are now 19 and country code (ccTLDs) - referring to states - of which there are 245. The number of registrations under ccTLDs has tripled from 12 million in 2000 to 33 million in 2005 (OECD 2006: 10). In techno-functional terms, the domain name system is hierarchically ordered, the main purpose of which is to provide a mechanism for matching numerical Internet Protocol (IP) addresses that identify individual host computers on the Internet, with user-friendly, mnemonic, domain names on to which these map. At the core of the DNS, at the top of the hierarchy, is the authoritative 'root' computer server, holding the data which all other root servers copy in order to enable identification of information in the Top Level Domain, and subsequent levels below this (Second Level Domain, Third Level Domain etc).

From the perspective of the Internet as a global communications system, this techno-functional order is at least more accommodative - and may even point towards a deterministic logic - of gTLDs which have a 'universality' attached to them since they refer to generic socio-economic constituents. The situation is rather different for ccTLDs whose gravitational pull in governance terms tends to be towards the national, in considerable part, even though techno-functional authority from an internationally constituted centre is necessary to exist on the Internet. With the growth of the Internet, ccTLDs became strategic assets and thus have assumed political-economic significance: they provide identity and a platform for socio-economic development. This, plus the corollary that abuses of the system has led to increased concerns over user and system security, catalysed a greater interest from governments wishing to gain a stake in DNS governance.

The Internet Corporation for Assigned Names and Numbers (ICANN), a private, not-for-profit, self-regulatory body, in 1999 assumed global governance responsibility for the critical technical and organisational resources required to regulate the DNS as a result of an at times fractious process of political-economic negotiation dominated by US commercial, technical and political interests (see Mueller 2004). Unusually for a global governance body, states were excluded from the decision-making process of ICANN, instead given only an advisory role its Governmental Advisory Committee (GAC). Whilst some movement has been made towards a more co-regulatory environment, this continues to remain the case. As a consequence, ICANN's legitimacy for formulating and implementing the rules for non-territorial and less politically sensitive gTLDs has been

gradually and broadly accepted. Along the way, there have nonetheless been numerous points at which its operational structure and procedures have been criticised, not least in respect of the creation of new gTLDs. The situation has been much more controversial in respect of ccTLDs which must be recognised by ICANN to exist in the Internet's nomenclature system. Whilst emanating from the same 'decentralist' philosophy highlighted above, they have evolved within a 'territorial' milieu within which states have been more easily able to exert a 'national interest'.

This has meant that from the outset, the relationship between ICANN, at the global level of Internet addressing, country code TLD registries, and states, at the national level, has often been fractious. Control over ccTLDs has been a particular issue of contestation, with territorial interest, national symbolism and access to the global electronic economy being key issues that underpinned deliberations. The initial informal, plurilateral model for ccTLD administration and delegation developed by the US Internet pioneer, Jon Postel, in the mid 1980s - underpinned by the RFC 1591 document¹ and delivered through IANA - had become unsustainable once governments awoke to the strategic importance of the Internet. ICANN's attempt to formalise its relationship with governments through its Corporate Policy (ICANN 1999) and GAC principles (ICANN 2000), the latter recognising the sovereignty of national governments over their domain names, led initially only to protracted disagreement between ICANN and certain ccTLD managers and governments over its authority and legitimacy in terms of the delegation/re-delegation of domain names in particular (Christou and Simpson 2008).

In order to remedy this situation, the country code Name Supporting Organization (ccNSO) was established in 2002 to provide a voice to ccTLD administrations within the ICANN process, and to enable ICANN to provide better support to ccTLD managers in delivering its name delegation function; to develop proposals for best practice for ccTLDs; and to coordinate with other ICANN committees and bodies on ccTLD issues. New non-hierarchical 'contractual' structures were also agreed providing more flexibility and choice for ccTLD administrations in terms of the engagement frame and relationship they wished to pursue with ICANN. For those that sought to establish a formal relationship, an 'Accountability Framework' was elaborated setting out clearly the responsibilities of both ICANN and ccTLDs. Alternatively, a system of 'letter exchange' was designed for ccTLDs that desired a more informal arrangement with ICANN, whereby there was agreement on broad guidelines for the respective responsibilities of each party (<http://ccnso.icann.org/>).

In addition voluntary guidelines setting out a rationale for ccTLD fee contributions to the ICANN budget (a source of great contestation for many ccTLD administrations) were established in order to provide an equitable distribution of cost across the ccTLD community based on size and revenue (<http://ccnso.icann.org/>)². The relationship between the national and global level, however, despite these changes, has merely improved at the margins, and can still only best be described as in flux, reflective of the Internet governance regime more broadly (confirmed by authors' interviews 2008³). There still remain tensions which have culminated, on the one hand, in some ccTLD administrations advocating a stronger and more direct policy role for themselves within ICANN, and on the other, with the majority of ccTLDs still not ccNSO members (only 55 out of the 264 that exist, and only 8 of the 55 are from Europe) and without having signed a formal contract with ICANN⁴. The reasons for this are related to imprecise and

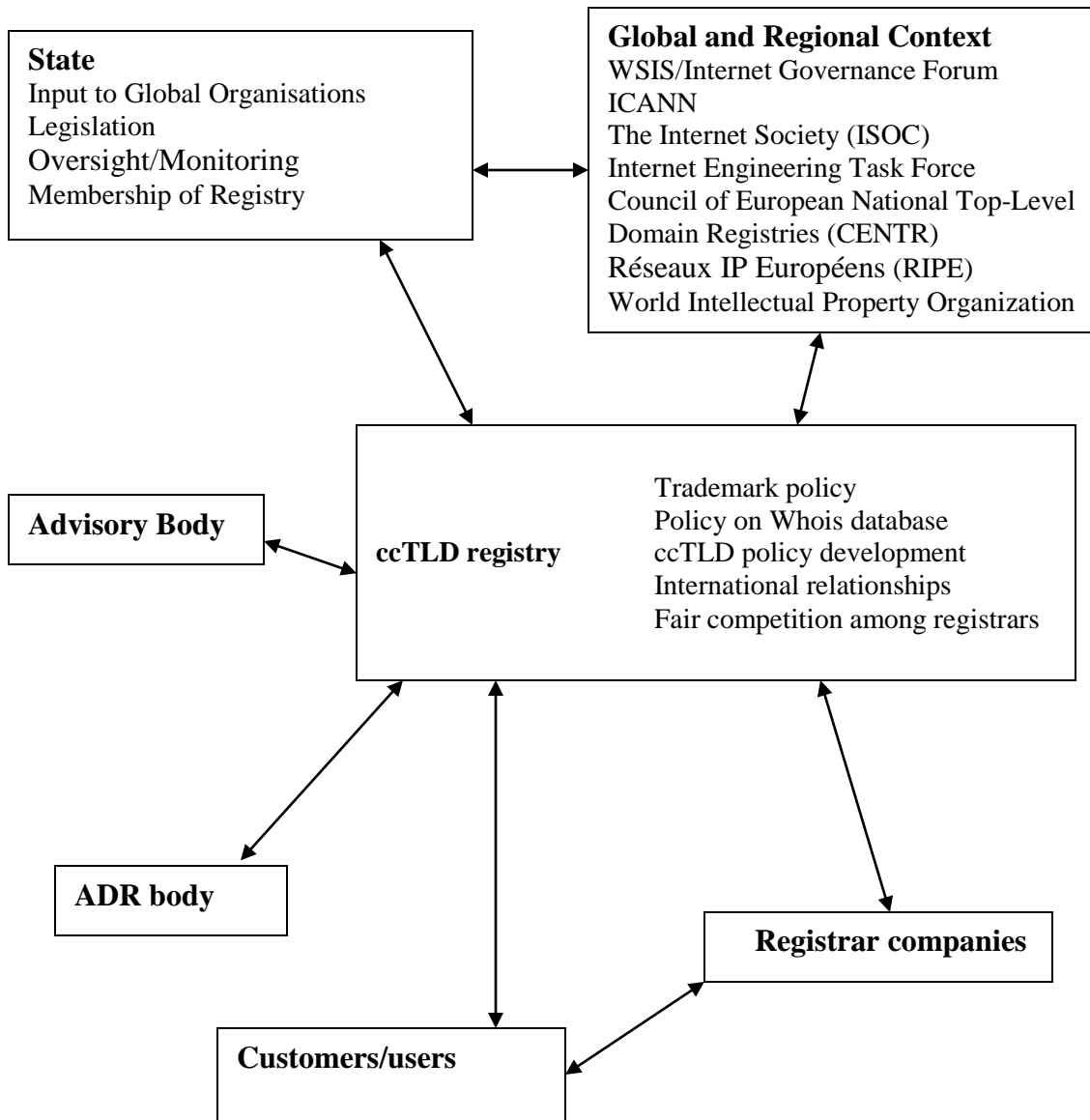
still contested ccTLD governance responsibility and also the normative dimensions of domain name governance. First, there is dispute over the meaning of ‘subsidiarity’ as a governance tool – and the question of precisely which ccTLD policy matters should be addressed globally rather than locally. Second, there is an ongoing questioning of the legitimacy of ICANN to govern the DNS (OECD 2006: 37).⁵

It is clear that to create a commercially efficient and public policy protective ccTLD at the national level requires some degree of consensus and convergence on guiding principles and practical rules for ccTLD governance between the global and national levels, and between public and private actors within the policy process. The evidence suggests that there is a more positive relationship evolving between ccTLDs and ICANN in Europe but that many registries do not advocate a policy or governance role for ICANN in the ccTLD domain (authors’ interviews 2008). Moreover, governance of ccTLDs in Europe, whilst reflective of voluntary governance principles established historically, and observable for gTLDs, has evolved in a markedly different way, with increasing opportunity for the politicisation of the governance process through government involvement. How this has happened and the precise nature of this involvement will be addressed in the remainder of this article.

Patterns of ccTLD Governance in Europe

In Europe, the core governance functions of ccTLD systems are undertaken by a series of registries which are the central nodes in a ccTLD governance network (see Fig 1). Registries have been established predominantly as independent, commercially oriented entities, though operational on a not-for-profit basis (that is, cost recovery with some provision for financial contingency (OECD 2006: 19). The registry is the guardian of information, through stewardship of the ‘Whois’ database, on users who have registered names under a typical ccTLD and makes decisions on how much, and what kind, of information on users is made publicly available. It is responsible for regulating the behaviour of the ccTLD registrar industry, comprised of companies competing, often aggressively, to register a name for a user under the ccTLD. The registry has been responsible for setting the price of registrations per name and, in many cases, establishing a code of conduct for registrar companies to comply with. The registry is also responsible for hearing complaints from commercial players and customers involved in the ccTLD business. This has involved matters such as receiving submissions about commercial mal-practice and infringement of claimed legitimate rights to a name, principally trademark but also public sector. The registry, in many cases, is responsible for overseeing the system which has been set up to adjudicate on disputes between parties regarding domain names. Here, Alternative Dispute Resolution (ADR) services are offered where (often online) hearings are held to resolve conflicts without recourse to the formal legal system. Occasionally, registries have aimed to settle disputes on a more informal basis prior to ADR being operationalised, a clear example of sectoral self-regulation.

Figure 1: Core Features of ccTLD Governance in Europe



However, despite the prevalence of private governance in ccTLDs the state has developed a formal relationship with its ccTLD registry as often as it has an informal one (OECD 2006). Formal relationships vary in their degree of hierarchy and can comprise input to the management of the ccTLD registry or the creation of directly applicable framework legislation. Informal relations range from observer status to working in an advisory capacity. The cases of Switzerland, Norway, France and the UK provide useful examples of the range of state and public interest involvement in the governance of the sector and its relationship to actors with private governance responsibility, an analysis illuminated by the constituent features of typology developed in Table 2 above.

In Switzerland, the Swiss Education and Research Network (SWITCH) as the registry for dot ch plays the pivotal role in ccTLD governance. It is something of a hybrid

governance body since it was established in 1987 by the Swiss state and the university sector as a foundation of the private sector. It provides a clear example of a delegated (by the state) public-private governance system. It is important to note that in the late 1980s, there was no direct government involvement in the Swiss domain name system due in part to a lack of understanding of its significance and potential future strategic importance. The Internet had not reached the developmental stage of being a mass medium and because of the relative lack of demand for names, SWITCH was able to delegate them free of charge to those pioneer users requesting them (authors' interview, July 2008). An important change occurred in 1996, when the Swiss state introduced the idea of 'holdership', that is the right of use only of a domain name. Here names are not sold to customers but instead a fee is charged for services around their usage (Schneider 2005). The aim of this move was nothing short of asserting ultimate state ownership of domain names under the Swiss TLD (authors' interview, 2008). Another significant venture by the state into the TLD domain occurred in 2002 when the Swiss government decided to take over responsibility for oversight of its ccTLD. This occurred for a number of reasons. By the early part of the decade, the importance of the ccTLD as a means of demonstrating national identity had become clear and, beyond this, dot ch was considered to be an important means of securing a Swiss presence in cyberspace. The other main reason for this development was more pragmatic and reflective of the commercial aspects of ccTLDs. By 2002, domain names had become commodified and were viewed by the state as something of a scarce resource, which was in need of regulation to ensure a fair distribution. These two main reasons were underpinned by ideological preferences of the Swiss government of the time, which tended to favour a more interventionist stance when considered necessary (authors' interview, 2008). Thus, in 2003, a set of regulations for dot ch were laid out in law in the Federal Constitution through the Telecommunications Act. An administrative contract between the Swiss telecommunications national regulatory authority, OFCOM, which plays a public oversight role, and SWITCH was established.

The Swiss consider the governance of their ccTLD to be a public-private partnership with shared responsibilities between the state and the ccTLD registry to deliver the public policy and operational aspects of dot ch. Theoretically the system is predominantly, though not exclusively, 'hierarchical' in nature, involving elements of 'concerted action' and 'subcontracting', in our terms. The governance mechanics of dot ch are conducted according to a 'business-like' modus operandi, something which private sector Swiss Internet Service Providers pressed hard for around the time of the proposed government stewardship of dot ch. From a SWITCH perspective, initial skepticism about government intervention was assuaged by the expectation that state backstop protective powers could reduce possible liability of the registry in a situation where the volume of registration activity was increasing significantly. The registry was also closely involved in the drafting process of the regulatory framework administered by OFCOM on the state's behalf (authors' interview, 2008). Unlike in most other European cases, SWITCH undertakes registration functions from domain name applicants which apply directly to it (OFCOM and SWITCH 2003). There are, however, a range of support organizations in the system whose function is 'registrar-like' in that they provide customer support and ensure that accurate data is supplied to the dot ch Whois database (authors' interview, 2008), guardianship of which is the responsibility of SWITCH. A system of ADR exists

whose first phase, mediation, is mandatory (Schneider 2005) and is carried out by the WIPO Arbitration and Mediation Center which provides a list of experts for approval by OFCOM. The underpinning goals of the Swiss system are to ensure credibility for the registry, transparency in the system of registration, and shared responsibilities between the registry (functional and operational mostly) and government (representational in international fora mostly) (Schneider 2005). The system of governance for dot ch has been described as '*a very uncommon and special case*' (authors' interview, 2008) within the broader Swiss communications milieu, and provides an indication of how the state has tried to develop novel governance responses to a new area of electronic network communication with global characteristics.

The Norwegian registry for dot no, Norid, claims that it is a 'neutral actor', 'anchored in a strong social responsibility' (Norid 2007a). Norid is regulated by the Domain Name Regulation which is part of the 2003 Electronic Communications Act and, like the Swiss case, is under the aegis of its national telecommunications regulatory authority. Norid is part of UNINETT AS, the National Academic Research Network, which was delegated responsibility for dot no by the state in 1987. This is a parent company containing four subsidiaries which supply universities and research institutions with ICT services, as well as undertaking what are described as 'national ICT tasks' under which the dot no registry function falls. Since UNINETT is owned by the Norwegian state through its Ministry of Education and Research, the system is overwhelmingly characterized by 'sub-contracting' though there are also elements of 'concerted action' due to the backstop regulatory role played by the Norwegian telecommunications regulator. Norid is an unusual organization to have been devolved regulatory responsibility – it is a novel example of a publicly owned (but private) company undertaking a number of key governance functions. Like most ccTLDs, the administration of dot no at its inception in 1983 occurred on an ad hoc voluntary basis – governance through 'voluntary action' - from within the research arm of the then state run telecommunications service provider. Like the Swiss case, Norid operates as a not-for-profit company. The rationale for giving responsibility for the running of dot no to UNINETT (through Norid) was technocratic - it possessed the necessary technical expertise, on the one hand, and operational neutrality, on the other (author's email 2008).

Norid's main tasks concern processing applications for registration under dot no, which it receives from companies in the competitively ordered domain name registration business, begun in 1999, with now more than 400 firms in it. A detailed set of operational guidelines has been produced for registrars which must enter into an agreement with Norid. The system contains an ADR function in which Norid acts as a secretariat in collating necessary statements from parties to a dispute. There is an independent ADR body which adjudicates disputes, having handled 82 cases (Norid 2007a) at the time of writing. From 2001, it became possible to register multiple names under dot no and from 2003 Norid's status changed into a separate limited-liability company (Norid 2007b). An official at Norid has commented that 'the administrative model for the .no domain...combines a domain name policy set by the registry (in consultation with the Norwegian community) with a high-level administrative framework set by the Norwegian government through regulation. Added to this mix is a private sector registry that is owned by the Norwegian state' (authors' interview, 2008). Conceptually, Norid reflects a form of 'subcontracting', but it is also novel in the overlap between modes, within what

is essentially a 'hierarchical' regime. Whilst there is strong framework legislation on domain names embedded within the Electronic Communications Act (2003), the operational aspect of the business is delegated to a private sector registry, which operates with a network of other dispersed public and private actors, with some flexibility in terms of policy development. Importantly, whilst the Domain Name Regulation sets out general principles, domain name policy is a contract governed by private law (authors' interview, 2008).

From 1986-1997, the ccTLD in France was under the control of the French National Institute for Information Technology and Automation research (INRIA). Dot fr was initially used mostly by INRIA researchers and later the French Research and Development community (authors' interview, 2008) before the popularization of the Internet. Its expansion in France in the mid 1990s, as elsewhere in Europe, witnessed the emergence of a series of ISPs, whose increasing presence led to the setting up of an NIC (Network Information Centre) Consultative Committee in 1994 composed of a representative of INRIA and ISPs with international commercial presence. This was followed, in 1995, by the creation of a Naming Charter of rules for domain name assignment (authors' interview, 2008). Until this point, the system bore many of the hallmarks of 'voluntary action', though in 1997 the French state intervened to change the nature of dot fr governance very considerably. The system was made a part of French law, accompanied by the establishment of the registry AFNIC by INRIA and the French government. AFNIC operates as a not-for-profit association without shareholders (Gorichon 2005). AFNIC has an ADR procedure which draws on the World Intellectual Property Organization's Universal Disputes Resolution Policy. Since 2006, AFNIC and the Internet Rights Forum have operated the 'Mediateur du Net' service (AFNIC 2007), though disputes have also been dealt with in the French courts.

AFNIC's management structure is a reflection of the dilemma of a traditionally mercantilist state such as France in the governance of a communications asset with both social and commercial imperatives. On the one hand, the presence of the state is very much in evidence in the management structure of the registry, the aim being to secure 'co-development'. Here, as much as half the board of management of AFNIC come from the public sector, or 'founder members', as they are described: two representatives from INRIA and three from French government through, respectively, the Ministries for Telecommunications, Industry, and Research. Article 22 of AFNIC's *Articles of Association* states that it 'may be dissolved at the request of the founder members of the association in order to entrust the continuation of the Association's activity to a general interest legal entity with a similar purpose'. Whilst it was undoubtedly the case that the changes of the late 1990s were a response to increased demand for domain names in France as the Internet grew commercially (authors' interview 2008), the French government (2003: 2) has also stated unequivocally that in France, 'the ccTLD is held to be a public or collective resource that cannot come under the heading of private property and must be managed in the general interest...governments' in the final instance have authority over the ccTLDs pertaining to their territory'.

It is paradoxical therefore that there has been a very significant move in the direction of liberalisation in the ccTLD market in France since approximately 2000. Once one of the most restrictive ccTLDs in Europe, in May 2004, through the current French postal and electronic communications law, it was made bureaucratically less burdensome (more

flexible) for companies to register under dot fr, which resulted in an 88% growth in registrations in the following year (OECD 2006: 17). In June 2005, a further liberalisation occurred when the AFNIC board decided to open up dot fr to private individuals to register third level domains (that is a domain sold under the second level) under dot fr (ibid). This liberalisation was driven by belief that ‘the market was mature enough to address potential litigation’ arising from disputes around dot fr usage. By contrast, the French government also became concerned about the need to liberalize access for individual citizens to dot fr (authors’ interview, 2008).

It is also clear that a much more market-oriented approach is being developed by AFNIC. In 2005, it launched a brand image survey, a procedure for the selection of publicity agencies and began to draft a new communications plan. It also created a series of relations support measures with the French registrar business, involving meeting them, consultation to determine their expectations and assembling a network of AFNIC correspondents in them to deal with information dissemination and feedback (AFNIC 2005: 12-13). AFNIC has also set up ‘technical, marketing and communications working groups and legal workshops’ (Weill 2005: 7). In this case, clear evidence exists of a mix of commercialisation and non-hierarchical governance measures. It suggests a strong stimulus to ensure that the French ccTLD develops into an internationally leading system, something which is only realistically achievable in the global TLD industry through adhering to key norms of the sector as they developed outside France. However, the significant presence of the state in AFNIC suggests that the French system contains important elements of ‘concerted action’ and ‘sub-contracting’. The French government has promoted the public-private hybrid nature of the dot fr governance system as an innovative model, stemming from a pragmatic realization that the French ccTLD could not be managed through a public institution given the evolutionary history of the Internet (authors’ interview 2008). However, this had led to tensions within AFNIC where market players have been frustrated by the state’s presence where this is perceived not to take account of market realities (authors’ interview 2008).

An important further move in the direction of liberalisation occurred in 2007 with a proposed modification to the French Telecommunications Regulation, which sets out the basic principles relating to domain name governance. Here, a selection procedure for the dot fr registry, involving the French minister for electronic communications choosing the company to act as the registry for dot fr was proposed as well as a series of public policy rules related to the protection of public names (authors’ interview 2008). This suggests the creation of periodic competition to become the registry and was described as a profound change to the French ccTLD regulatory environment by the AFNIC president (Gorichon 2007: 6). It also is clearly illustrative of the way in which the French are developing *state-sanctioned liberalisation* that aims to reconcile French interventionist public policy tendencies with the established liberal modus operandi of the global Internet TLD sector.

The UK ccTLD provides an example of a very liberalised and commercially successful system. By July 2007, there were six million registered domain name holders under dot uk and it was reported that UK users were six times more likely to opt for the dot uk TLD than the dot com generic TLD (Nominet 2007a). Like most ccTLDs, the governance of dot uk occurred initially through classic ‘voluntary action’ administered in the 1980s by an organization known as the Naming Committee. As the 1990s proceeded, in line with

global trends in the development of the domain name industry, domain names management was formalised through the creation in 1996 of Nominet, the dot uk registry, as a private not-for-profit concern (Nominet 2007b) over which its private members have ultimate control. However, unlike the other cases, formalisation did not signal politicization, or more precisely, 'hierarchical' state intervention in the governance of dot uk. The initiative to establish Nominet was industry based, and emanated from dissatisfaction with the operational and administrative mechanics and procedures of the Naming Committee. This accorded it legitimacy within industry circles but also impacted positively on the UK government's perception of Nominet and the regulatory principles that underpinned it. The UK government was not concerned with Nominet's monopoly control over dot UK as it firmly believed that any potential abuse of this situation could be dealt with through existing regulatory legislation and bodies. The only issue for the UK government, therefore, was whether the proposed regulatory model for Nominet – underpinned by openness, transparency, inclusiveness, flexibility, and objectivity – was congruent with the direction of UK public policy (see Paré 2003: 87-95). This was underpinned by the notion in relation to Internet governance that 'existing legal and administrative frameworks for consumer protection and fair trading were in place that were on the whole adequate and applied equally well online as they did offline' (authors' interview 2004).

Nominet recently initiated steps to create a voluntary independent code of practice in which it aimed to act as a facilitator of discussions between different parties involved in the domain name business (Nominet 2006). It adopts a highly commercial approach to its activities. For example, in 2005, it undertook a 'brand' re-launch involving an attempt to improve its commercial image and, in 2006, appointed a director of marketing and communications with the aim of analyzing its current and future market to develop a better knowledge of 'purchasing and renewal behaviours'. An interesting goal is the pursuit of 'thought leadership', where the registry aims to express views on key issues. Nominet has declared itself interested in 'bring[ing] together different stakeholders to encourage solutions, debate and discussion through dialogue and information sharing' (Nominet 2006: 7), classic non-hierarchical policy activity. Nominet has recognized the tension existing in its governance role between balancing 'the requirements of stakeholder participation with the need to make decisions within acceptable timescales'. It has declared a wish to be an 'informed and sensible commentator...promoting self-regulation and an enabling environment for innovation and growth' (Nominet 2006: 9). It has argued that its 'unique position in the Internet industry in the UK means that it has to liaise frequently with, and attempt to influence, government' (Nominet Council of Management 2002a: 1).

Thus dot UK functions in operational and regulatory terms predominantly as a system of 'voluntary action', although there is nevertheless the shadowing presence of the UK state in evidence. Nominet also has a Policy Advisory Board (Nominet Policy Advisory Board 2007a: 1) which at the time of writing contains a member of the UK government Information Commissioner's office, the UK Department of Trade and Industry and the UK All Party Internet Group (Nominet Policy Advisory Board Reports, 2007a and b). Its own recently created Code of Conduct defines the PAB's role as 'assist[ing] with policy decision-making at Nominet' where the PAB is seen as a representative body for interests 'who include Nominet and its staff, its members, .uk domain name registrants, internet

users, the PAB members' employers, or the organizations they represent, fellow PAB members...civil society, industry and the government' (Nominet Policy Advisory Board 2007c: 1). Clearly government is only one actor among a wide miscellany in this 'inclusive' advisory body.

Conclusions

Much academic work on governance in recent years has explored the responses which states have made to sectors of the economy, usually historically well-rooted nationally, which have been subject to globalizing pressures. Very little work exists, however, on the responses which are being made to new parts of the economy which emerge outside the nation state with inherently global characteristics. The Internet, and specifically its ccTLD sub-sector, provides one such example. It stands out, not least, because of the deep national centrality of older parts of electronic network communication. Equally striking is the different approaches taken by states to recent globalizing trends evident in these sub-sectors of communications, such as telecommunication, when compared to ccTLD governance.

The ccTLD sector provides an interesting example of where governance was initially in the form of 'voluntary action' before the Internet's strategic importance and mass communication potential were realized. Thereafter, evidence from Europe suggests that states have taken considerable pains to organise its governance to negotiate a position between different national public interest priorities and the features of Internet governance developed at the global institutional level. The case study provides evidence of the ways in which states can develop a presence in sectors which did not grow up in their national territories and which rely on the global institutional level for techno-functional coordination. Unlike the case of its sister gTLDs, the 'territorial' nature of ccTLDs has led the state and its representatives in ccTLD governance, to attempt to assert perceived interests at the global level, with often disharmonious consequences. Some evidence of this kind of approach has already been found in TLD governance at the EU institutional level (see Christou and Simpson 2006), though this article suggests the phenomenon to be much more widespread across Europe.

In the consequent governance models, (quasi) private actors play the key roles. On the one hand, a form of private interest 'management' and 'stewardship' is evident where the pursuit of public interest goals is important. The protection of information and intellectual property rights of individuals and corporate public and private entities; promotion of 'national' Internet presence; the attempt to preserve a ccTLD as some form of collective 'resource' to be used by the so-called 'Internet community', all feature significantly. On the other hand, the ccTLD in Europe is a commercial phenomenon in which image and marketing, growth in terms of the number of registrations, issues like customer service, efficiency, corporate accountability and accrual of capital through enterprise for future investment are considered to be measures of success.

Within each of these 'public interest' and 'liberal-commercial' dimensions, the state clearly has a vested interest in creating a successful, robust and efficient environment. Unlike in other states of the world which have asserted a much more hierarchical control of their ccTLD, for example China, in Europe states have devolved the mechanics of activity related to governance to the commercial, though non-profit-making, domain occupied by the ccTLD registry, which in turn governs activities of registrar companies

and ADR providers. The article's case studies also illustrate the variety which exists at the national level. It is important to note that elements of the four different typological categories in Table 2 exist in each case study, though the degree to which each is present differs. The UK has been a forerunner in liberalising communications governance in recent decades and it is therefore unsurprising that its system is the closest to 'voluntary action'. The other three cases examined provide examples of differing degrees of more hierarchical state-sanctioned (quasi) private interest governance. A hybrid public-private entity in the Norwegian case - that is, state owned, independent non-profit-making and market-based - undertakes key governance functions. In Switzerland, a private foundation of the university sector undertakes ccTLD governance. In both cases, the telecommunications regulator plays an oversight role. In France too, an independent commercially conscious registry has, nevertheless, strong representation of the French state on its governing board. These cases illustrate examples in the electronic communications sector of compromise between national public policy concerns and sectoral characteristics developed at the global level. Further research could explore the extent to which this phenomenon exists elsewhere in the international political economy. An important research question raised by the modes of regulatory governance identified in the case studies is the extent to which the evolving systems have proven efficacious. Thus far, it does appear that they have functioned with sound practical policy efficacy. However, whilst our case studies have generally not illustrated any significant disadvantages at the operational level, it is clear that *potential* problems do exist. For example, in the Norwegian case it is acknowledged that 'the somewhat complex procedures required of all public sector bodies (especially if they want to change a law/regulation) can make it a challenge for such registries to keep up with the demands of speed and flexibility from the ever-changing world of the Internet' (e-mail communication, Norid 2008). Moreover, the French case demonstrated this problem clearly, particularly the paradox between liberalising the operational and policy dimensions of ccTLD governance, within an environment where there is *increasing* state involvement through public policy rules. This has not only led to uncertainty in the ccTLD market in France, but also a situation where 'strong participation of publicly appointed members makes it difficult to take into account the reality of the market' (authors' interview 2008). Conversely, there are also advantages through having the 'state' involved in ccTLD governance within our case study countries, most importantly ensuring legal protection through public policy frameworks. The evidence in terms of our 'voluntary action' or, more precisely, UK market-based model, suggests a responsible and inclusive approach in the service of society, with no specific disadvantages alluded to. However, within such models the question often arises of how to ensure that this remains so in the future.

On a broader note Wigger and Nolke (2007: 506) argue that the professional and technical character of private interest regulation makes it more difficult to criticize whilst, in such systems, 'the use of an apolitical image serves to hide the wider consequences of new regulation, thereby preventing the mobilization of negatively affected groups'. There have been cases of attempts to abuse ccTLDs where the registry has had to resort to the formal legal system. Elsewhere, registries have documented cases where the ADR process has settled disputes between parties satisfactorily and others still, notably in France, where agreement has been reached in cases of conflict before convening an ADR

panel was considered necessary. On a pragmatic level then, the system has functioned effectively and efficiently. Zielonka (2007: 204-05) argues that non-hierarchical, decentralized systems of governance may promote enhanced deliberation reducing the likelihood of abuses of power and delivering accountability where 'different centres watch each other's moves and publicize abuses of power. Enhanced deliberation also contributes to accountability because issues are considered in more depth by a variety of actors'. Nonetheless, in the case of ccTLDs, the more commercialization proceeds, the greater is the prospect that public interest issues will struggle to maintain a presence. For example, whilst a reduction in requirements for registration may reduce red tape and bring the costs, and thus the price, to users of registering under a domain name down, this may also reduce the ability to curb the kinds of crime related to ccTLDs which may make them unattractive to users. There have also been examples of unfair commercial behaviour on behalf of registrars, where those with direct access to databases have been able to determine names whose renewal date is close with a view to acquiring them immediately on expiry because of their commercial potential (OECD 2006: 7). Another practice is to use the ability to query the system to buy up valuable names when a new second level domain is introduced. This then increases the cost to those wishing to purchase the domain in the secondary market (ibid: 22).

In any event, it is clear that ccTLDs provide an interesting example of a novel form of governance in which the presence of the state has been far from abandoned. Rather, in Europe, the state sits within a network of a series of decentralized systems which, in operational and managerial terms, vary in their degree of hierarchy. This is distinctly different from merely creating a free market governed by competition law. Instead, the ccTLD registry plays the key governance role in the functioning, but also the policy evolution, of its TLD. The system relies on a balance between the functional dynamism and managerial efficacy of the registry, on the one hand, and its willingness to listen to the advice given by the pluri-interest characterized advisory boards which often monitor sectoral activity. Much will hinge on the extent to which the pluri- and multi- stakeholder governance characteristic of the Internet's recent development can survive in an increasingly commercial and competitive domain name market.

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ENDNOTES

¹ The established International Organization for Standardization codification (ISO 3166-1) was utilized to define what could and could not be a ccTLD, even though this later proved to be politically controversial.

² According to the OECD (2006) the issue of financial contributions of certain ccTLDs to ICANN's budget is still unresolved, despite this. A budget working group within the ccNSO is therefore still working on 'providing ccTLDs with costs associated to ICANN in performing IANA functions that are in the interest of ccTLDs'.

³ Some of the empirical evidence gathered in the research on which this article is based comes from interviews conducted with representatives from ccTLD registries. The authors would like to express their gratitude those who agreed to be interviewed as part of the project.

⁴ Details of those ccTLDs that have signed an agreement with ICANN can be found at:
<http://www.icann.org/cctlds/agreements.html>

⁵ Here, ccTLDs within Europe have developed a collective regional voice within and outside ICANN through the privately constituted Council of European National Top-Level Domain Name Registries (CENTR). CENTR has also been proactive in coordinating ccTLD policy, developing best practice, and undertaking projects on important organisational and policy issues impacting on ccTLDs in Europe (see <http://www.centri.org/>), and provides an example of a European transnational body involved in 'new' governance activities in the ccTLD sector.