The New Economic Context of Internet Governance

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Foreword

An international forum entitled *The New Economic Context of Internet Governance* was held at the Royal Society, London on 27 April 2009 to explore the impacts and challenges created by the global economic downturn for issues and processes of Internet governance. It included knowledgeable and experienced participants and stakeholders representing a broad range of relevant perspectives.

The forum was organized by Oxford University's Oxford Internet Institute (OII) with support from Afilias Limited. This report summarizes the main points of view expressed in discussions on the implications for Internet governance of the new economic climate, taking account of position papers on the subject specially written for the forum.[1]

A key focus was the degree to which the new economic context is likely to alter the dynamics of debate and policy making concerning the ways in which the Internet is governed. For instance, changing perspectives on regulation in the financial sector could spill over to the Internet to reshape views on the role of institutions, such as the Internet Corporation for Assigned Names and Numbers (ICANN) which is responsible for critical Internet resources (e.g. the "domain names" used in Internet addresses). Further economic constraints could also pose a risk to meaningful participation by civil society in multi-stakeholder Internet governance institutions and processes, for which funding has always been difficult.

As neither the discussion nor the report was based on a consensus-reaching model, all participants were given an opportunity to provide final comments on this report. Additionally, the report includes authors' updates on the relevant topics.

Forum discussions were subject to Chatham House rules, so this report does not to attribute comments to individuals unless they granted specific permission to do so.

Acknowledgements

We are indebted to all forum participants (see Appendix I). Their expert, lively and questioning contributions provided a rich source for the paper, even where specific individuals could not be credited. The authors take sole responsibility for the interpretation of this material, while acknowledging the invaluable expert contribution from many participants in helping to produce this analysis. The OII is grateful to Afilias Limited for their kind support of the forum and to Desiree Miloshevic, Visiting Associate at the OII, for chairing and co-organizing the forum.

The authors thank Malcolm Peltu for his editorial work on this paper. Special credit is also due to the team at the OII who made the arrangements work so smoothly, including Ida Persson, Adham Tamer and Arthur Bullard.

[1] The position papers are available at the forum's blog (http://people.oii.ox.ac.uk/dutton/2009/04/09/the-new-economic-context-of-internet-governance/).

Executive Summary

In light of the growing centrality of the Internet to social and economic life globally, the forum on which this report is based focused on possible regulatory spill-overs from the financial sector to the Internet in its exploration of how the current global economic crisis could influence the development of Internet governance processes. Although it was felt too early after the credit crunch had struck to draw firm conclusions, many valuable insights were provided to help prevent—or at least minimize and alleviate the effects of—an end to the Internet's "golden era", similar to that which had seen the halting of a long period of financial growth. These insights were based around the following main themes, which are discussed in more detail in the body of this paper.

No immediate evidence had yet emerged of the economic downturn causing, or calling for, a change in the roles of stakeholders in Internet governance. However, some felt perceived failures of governance in financial markets could lead to a demand for more governmental involvement and oversight, together with other changes of stakeholders' roles and responsibilities. In the longer term, a preference for building on existing multi-stakeholder governance models and mechanisms was acknowledged by most participants. There was no general support for Internet regulation led by the public rather than private sector, or for stronger governmental involvement in Internet governance in general.

Government support around the world for Internet developments was not seen to have generally diminished. On the contrary, there were signs that a stronger Internet sector was perceived by policy makers as a key facilitator of solutions to the economic downturn (e.g. in a number of major government investments and initiatives, such as a $7.2 billion US broadband stimulus bill). Together with rescue packages for financial institutions, this indicates that many national governments recognize how much both the financial and Internet sectors are necessary to their core infrastructure requirements.

Concern was expressed that the trend for governments to focus on national Internet infrastructures could divert attention and resources from vital global financial mechanisms and infrastructure needs. Investment from the private sector and other entities was still necessary to prevent the gap between developed and the developing countries from growing.

A fruitful exchange on various regulatory arrangements was triggered by debates on the potential impacts on Internet governance processes of new investments. For example, it could lead to national governments asking for the new infrastructure to be deployed within a newly prescribed regulatory framework—or that these investments could be passed on to the network operators with no rules and "no strings" attached.

Analogies between the Internet and financial sectors, including their vulnerabilities and governance complexity, were highlighted as a means of throwing light on current and future Internet governance dynamics. A key question this raised was whether the Internet sector might be on the verge of facing a similar crisis to financial markets. For example, the possibility that the Internet could soon run out of address space using the original, and still used, Internet Protocol version 4 (IPv4) could contribute to the cyberspace equivalent of financial "liquidity" and "stagflation" problems. The technical financial complexities that are widely seen to have obscured underlying financial faults point to the important need for Internet governance to promote greater transparency among a wider stakeholder community.

The growing centrality of the Internet to social and economic activities around the globe increases the need for strengthening an Internet governance model that remains flexible and

builds necessary capacity to accommodate new and informed actors, particularly end-users. Appropriate evolution of the multi-stakeholder models of the existing Internet Governance Forum (IGF) and Internet Corporation for Names and Numbers (ICANN) were seen to offer a sound basis for such a model. Understanding relevant insights from the financial crisis could help the IGF clarify how best it could resolve a current lack of consensus about whether it should continue as a dialogue-only forum or move towards becoming a more action-orientated entity. In ICANN's ongoing search for global acceptance, finding an appropriate means of incorporating an effective model for end-user participation was seen as an important step towards avoiding the opacity that affected the financial world. A new model for a non-governmental, multi-stakeholder international body—with no ties to a single jurisdiction—could also arise in future to address various important Internet governance issues.

Forum participants generally agreed that, despite the economic crisis, funding for activities related to Internet governance should be strengthened and diversified in order to keep governance activities alive and to engage broader participation, with the aim of ensuring the Internet keeps pace with changing user requirements. Institutions engaged in non-duplicative Internet governance activities could consider possible collaborative mechanisms for mitigating temporary funding-related risks. Lastly, a lesson learnt from the financial sector is that lack of multi-stakeholder environment for input and dialogue as a transparency mechanism was the missing link that can improve market self-regulation and evaluation processes.

Contents

Introduction

The forum on which this discussion paper is based was animated by a need to understand the likely impact of the current global economic crisis on issues that significantly influence the development of Internet governance.[2] This discussion has both a pragmatic and academic value.

The pragmatic dimension includes strategic thinking about the range of consequences and the impact of the emerging new economy. This includes discovering effective ways of determining how different players, with different roles, should respond to sustain the vitality and quality of the Internet and the manner in which it is governed.

The academic dimension relates to research that offers insights into social processes in general, and governance processes in particular (e.g. see Dutton and Peltu 2005; Dutton et al. 2007; Rasmussen 2007). Social scientists can facilitate innovation by asking questions that illuminate processes of Internet governance to indicate how it might be modified to respond to the aftermath of the economic crisis that almost paralyzed financial markets in 2008.

In analysing correlations between the financial sector and Internet regulations, the forum revealed some novel approaches to Internet governance. Box 1 summarizes typical questions that provided a framework for these discussions.

Box 1. Key question on the impact of the economic climate on Internet governance

How will the new economic context change the dynamics of debate over governing the Internet (e.g. will it stimulate further development and use of the Internet - or handicap it)?

Does the economic crisis provide any practical guidance for sustaining the effective delivery of Internet services or the conduct of Internet governance and coordination (e.g. whether there will be knock-on impacts with regulations in other areas)?

Will the economic crisis lead policy-makers to view the structures and processes of Internet governance as more or less of a barrier or facilitator of initiatives to promote Internet growth (e.g. if policy makers who are generally sceptical about market regulations point to the financial market as an example for suggesting new regulatory controls on the Internet)?

How will the downturn affect national and international initiatives to build and strengthen Internet infrastructures and user bases?

In what ways can economic development be stimulated by Internet governance initiatives that foster worldwide diffusion and use of the Internet, and the diversity of its production?

How could the changing perspectives on regulation in the financial sector spill over to the Internet (e.g. views on the role of ICANN)?

Will economic constraints pose a risk to meaningful participation by civil society in Internet governance institutions and processes?

What strategies should different actors consider?

[2] In this report, "Internet governance" relates to the national and trans-national regulation of the Internet, encompassing all ongoing activities, mechanisms, arrangements and developments amongst the relevant stakeholders and participating entities. This includes, for example, strict and soft laws, and formal and informal codes of practice). Such governance is increasingly—but not solely—governmental (see also post on behalf on A. Michael Froomkin, Professor, University of Miami School of Law, at: http://people.oii.ox.ac.uk/dutton/2009/04/09/the-new-economic-context-of-internet-governance/

The Impact of the New Economic Context on the Internet and its Governance

It is likely that the new economic context will change the dynamics of debates about how to govern the Internet and how to optimize returns on investments in related infrastructure components and new developments. Key issues include how the economic downturn can be best addressed by Internet innovation and broadband deployment and whether initiatives such as "Digital Britain"[3] will falter or flourish in this new climate.

The Internet as an infrastructure for innovation?

Discussions at the forum highlighted a key important difference between the financial sector and the Internet: their respective abilities to innovate in ways that improve welfare (as something that aids well-being "for the benefit of all"). While Internet innovation seems to improve access to information, it was pointed out that financial innovation seems to make for less transparency. These levels of innovation can be seen as key differences between the financial sector and the Internet, for example with financial innovation possibly making information flows more asymmetric.

There is the need to nurture the Internet's innovation and openness because it is critical to economic and social development, for example as indicated by the importance of the Internet for information compared to different media found by studies of Internet users in the UK in the OII's Oxford Internet Surveys (OxIS).[4]

One participant referred to the belief that, "99 percent of the Internet's applications have yet to be invented" (Grimes 2006), and fears that Internet innovation could be stifled have always been a key reason for avoiding a traditional international governance model, such as through the International Telecommunication Union (ITU)—the UN body with strong governmental representation that coordinates telecommunications standards and policy. The fostering of innovation leads to a need for governance transparency and openness. In the financial field, in contrast, Galbraith (1994) argued: "Financial operations do not lend themselves to innovation. What is recurrently so described and celebrated is, without exception, a small variation on an established design … The world of finance hails the invention of the wheel over and over again, often in a slightly more unstable version."

The Internet emerged into the mainstream after the end of cold war, amidst the emergence of telecoms liberalization. A different "pay per click" model might have emerged in a different context, as rule making generally reflects the interests of those who are in the "rule-making room". For example, the ITU's traditional government-influenced model did not map well against the Internet's "network of networks" approach. Such disruptive innovation is not necessarily welcomed, including the increased competition it brings.

That does not mean that there is no need for Internet governance. There will always be a requirement for some regulatory safeguards to ensure the Internet's security and stability for its users. For instance, Internet fraud is as commonplace—and often as large—as fraud in financial markets. The Internet community has been generally effective in reacting to

3 The Digital Britain project was launched in October 2008 as an attempt to secure a leading position for the UK in digital and telecommunications innovation and quality. To do this, the steering board for Digital Britain has consulted with experts within and outside of government and broadband industry regulators. The government announced on 29 January 2009 that it plans to have 100% broadband coverage in the UK by 2012, with a minimum speed of 2 Mbit/s. Details of its three year plan to boost digital participation are provided at: http://www.culture.gov.uk/what_we_do/broadcasting/5631.aspx/

4 For more on OxIS see: http://www.oii.ox.ac.uk/microsites/oxis/

technical crises, but less so at dealing with issues with an economic dimension (e.g. see Box 2).

Box 2. Examples of issues with an economic dimension

Restoring access to YouTube in Pakistan. In February 2008 the Pakistan Telecommunications Authority told Internet service providers (ISPs) to restore access to the YouTube social networking website. This followed attempts to block the site because of what was claimed to be a 'blasphemous' video clip, causing a near global blackout of the site (see: http://news.bbc.co.uk/1/hi/technology/7262071.stm).

Fast flux is a technique used to paralyse Websites by bombarding them with messages generated by multiple user sites which have been infiltrated, and are coordinated by, those carrying such "Denial of Service" attacks. It can also be used to make such malicious networks more resistant to discovery and counter-measures (e.g. the recent Storm Worm uses this technique, see: http://en.wikipedia.org/wiki/Fast_flux. Fast-flux service networks are therefore an example of the evolution towards online crime operations using the Internet becoming a highly lucrative activity (see: http://www.honeynet.org/book/export/html/130).

Reasons for governance mechanisms also include trying to mitigate anti-competitive behaviour, since not all countries have competitive markets. Innovation thrives where there is competitive access to customers, such as in Sweden's Open Access Model, in which users can change service provider at home on their screens.[5] The longer-term implications for innovation in digital transmission go beyond improved or cheaper communication services to encompass broader economic and social development.

OECD Governments have accepted the Internet and related ICTs as core infrastructures and technologies, in the same way as energy and transport (OECD 2008).

For instance, the roll out of broadband Internet is being generally viewed in the same way as the building up of other core infrastructure components.

Box 3. National governments realizing the importance of broadband access for their citizens

The internet is as vital as water and gas

National governments start to understand broadband access as an essential aspect to participate in the information society. E.g. the Finnish government has just introduced laws guaranteeing broadband access to every person living in Finland. See: Applause For Finland: First Country To Make Broadband Access A Legal Right, see: http://www.techcrunch.com/2009/10/14/applause-for-finland-first-country-to-make-broadband-access-a-legal-right/

Referring to Digital Britain Gordon Brown announces, "The digital revolution is changing all our lives beyond recognition and today we shall set out how Britain must change with it. Whether it is to work online, study, learn new skills, pay bills or simply stay in touch with friends and family, a fast internet connection is now seen by most of the public as an essential service, as indispensable as electricity, gas and water". See: http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article6506136.ece

Yet, broadband may not be enough, as no technology by itself can drive economic growth. One participant mentioned that "(...) even the best study of the effects broadband has had

[5] Sweden's model is based on short three-month contracts involving about twenty retail service providers and over eighty services, including Internet Access, TV, Voice, Video on Demand, eLearning, Home Security.

on productivity showed that while all firms' benefited, US firms seemed to have greater gains.(...)" However, improved communications will undoubtedly benefit many firms and sectors, as well as the broader economy, in both developed and developing economies. For instance, according to one study (Muto 2008), the proportion of banana farmers who sold their produce increased from 50 to 69 percent in the communities more than 20 miles away from district centers after the expansion of the mobile phone coverage. The World Bank has also commented that "broadband's benefits are major and robust for both developed and developing countries, although the significance is higher for the former which have a longer track record of broadband diffusion" (Qiang and Rossotto 2009).

The need to fund broadband infrastructure and promote innovation and growth

There is a continuing need to fund Internet infrastructure roll out and promote related innovation. At times of financial crisis this has special resonances as, when applied in appropriate ways, the Internet can help greatly to address the fallout from the crisis. However, such downturns also create a tendency for investment and innovations to also diminish.

Infrastructure has been financed in various ways throughout the centuries. The 19th Century was shaped by competition, private capital and co-operatives, together with interconnection (i.e. governance) challenges. During the 20th Century there were a variety of state or private monopolies, high prices and supply innovation, combined with liberalization measures formed by competition, lower prices and unprecedented innovation, which included the Internet itself. In the 21st Century, Internet governance will need to address the new challenge by finding suitable answers to questions like: Who invests? Who pays what for services delivered? Who is held responsible for failure?

Changes in the proportion of households' expenditure by category in the OECD between 1995 and 2007, as presented at the forum, showed that users have increased their expenditure on communications in the recent past, but the drive for that has primary been through wireless technologies. One question arising is whether the private sector will invest if the demand is uncertain—or if it will be governments who need to take over that role. Box 4 indicates the private sector's view on infrastructure development.

Box 4. Potential role of the private sector in infrastructure developments

The following is an extract from a letter to the G20 global economic summit in London in April 2009 by 25 top executives from leading communication services and equipment companies:

"We … urge you to endorse an ambitious private sector initiative to build new infrastructure for the digital economy, which will have measurable benefits to societies across the world. In particular, the deployment of mobile broadband could create 25 million jobs around the globe and be financed by private capital. This boost to the global economy at this critical time will also enable widespread Internet access, stimulating significant productivity enhancements and social benefits …. The mobile industry is forecast to invest $800 billion during the next five years …. $550 billion of this is earmarked for mobile broadband, with an expectation of connecting 2.4 billion people to the Internet, many for the first time. …Allocate to the mobile industry the radio spectrum it needs over time to build these new networks. Deliver a stable, predictable and minimally intrusive regulatory environment."

(Global Telecoms Business 2009)

Two basic perspectives on private-sector infrastructure investment can be identified. On one hand, telecommunication companies are seen as of the largest investors in infrastructure. On the other, critics fear that, left on its own, the private sector will "milk" from existing

assets and not invest in infrastructure sufficiently in time. However, incremental improvements are possible over time, although existing broadband and cable technologies seem to be approaching their limits. Since the levels of investment are supposed to be low in times of a financial downturn, the following questions have to be addressed: Are we at the point where markets break down and therefore governments get involved? Do governments have to think about investing in the infrastructure?

Mostly, infrastructure providers are expected to deal with growing demand. For instance, the launch by the BBC of online video broadcasts in the UK led to enormous traffic demand that providers had to deal with, and at least one mobile phone company blocked that service. Another way could be through new charging structures to users who want to access the services. For instance, each network could charge their customers for using facilities such as search engines.

The strategic decision to invest tax payers' money in infrastructure should also take account of timing considerations. Most recent initiatives (e.g. Digital Britain) can be seen as belonging to industrial strategies emerging from a healthy economic background. Now, infrastructure investment should not address only short-term outcomes of the credit crunch but also have a strategy for targeting longer-term issues.

Most participants underlined that the Internet should continue to be seen as "an infrastructure that enables bottom-up innovation". In addition to a focus on technology issues, this also requires taking a global perspective on how to raise the Internet's quality and to maintain its underlying principles and values. A large number of initiatives have a national or more local scope (e.g. a national broadband strategy complemented by action plans for specific regions or industrial sectors).

Analogies Between Internet and Financial Markets

Discussion of the ongoing credit crunch (or "liquidity trap" as it is known in economics) raises questions about whether the Internet sector might be on the verge of facing a similar crisis in the near future, with the possible end of the Internet's "Golden Era":

- What changes will emerge in the management of critical Internet resources as institutions seek to adapt to the new economic environment?
- How could the international push towards greater regulation of the financial sector spill over into the arena of the Internet?
- Are any lessons hidden in past or current economic crises that might help Internet stakeholders in facing future uncertainties?

Significant analogies were drawn between financial and Internet arenas to help understand whether insights from the financial crisis could illuminate appropriate responses to the current challenges faced in Internet governance.[6]

The old economic context

As a background to the current crisis, the forum first focused on the "old economic context" to explore possible connections relevant to Internet governance between Internet functions

[6] The discussion of analogies built on the contribution to the forum of Tom Vest, who the authors thank for his assistance in prepare this part of the report.

and the financial sector. For instance, both the monetary and Internet/ICT sectors have been seen as central to a productive and flourishing economy, and both enable the exchange of products (including information products) that are not financial or ICT itself but make people more productive.

The Internet was a research project that grew well beyond the designers' expectations. Key elements were not designed to support a global ICT infrastructure and network of the current scale—let alone with a future expanded scope. Yet it has become a remarkably stable network of networks. This has made it difficult to establish a rival system in the face of competition. These emergent properties have made the Internet difficult—if not impossible—to control. This is also a central feature of the financial system.

This ability to support a nearly limitless variety of innovations to produce other functions and services is, as Tom Vest explained at the forum, best understood as a consequence of its capability to provide "liquidity" in facilitating novel, open-ended exchanges of almost any imaginable kind between any two or more willing parties—provided that each possesses the means to send and receive IP packets. This requires some form of direct or indirect association with a unique IP address.

The relationship between an individual's access, and willingness, to make use of an IP-addressed device and their ability to participate in the creation, development and/or exchange of information, online content, or services effectively invests IP addresses with the same kind of role and importance played in the conventional economy by money—the first liquidity technology to be widely adopted by human societies.

According to one speaker, the Internet's now globally ubiquitous IPv4 addressing standard will soon be exhausted, when all unique IP addresses that can be consistently supported by currently deployed Internet hardware will have been distributed to current or former Internet Service Providers (ISPs). To date, that standard has provided successive generations of newly emerging ISPs and online content providers with an open and reliable means of being integrated into the existing jumble of Internet networks. It also offers a "level playing field" on which to compete with incumbent ISPs in the provision of Internet access or online content and services

The parallels between these distinct Internet and financial liquidity systems also extend to the existential risk posed by the vulnerability that each has to disruption, or even total failure, caused by systemic imbalances. Depending on how it is used, Internet addressing (in the TCP/IP Internet Protocol Suite) can contribute to general price inflation because inflationary pressures manifest as the escalating cost of supporting too many mutually independent routing service demands. The Internet equivalent of a deflationary risk also exists, for example when aspiring Internet users are unable to secure the optimal level of access to IP address resources, and as a result are unable to contribute to either the demand for, or the supply of, value-creating Internet exchanges. Finally, the importance of "anticipatory production" and "indirect exchanges" (e.g. investing time and effort in online products or services with the expectation of being able to make them available to others who are separated by time and/or distance) also makes the stability, predictability and consistency of Internet addressing and routing functions essential to avoiding the Internet version of economic "stagnation". This can also be caused by people whose general loss of confidence inhibits their investments in anything they do not feel certain about. These shared systematic risks could be viewed as their "liquidity function": making it easier for people who produce (e.g. information or content) to collaborate with a global audience.

The stagflation challenge posed by coming off the Internet's "gold standard"

Another illuminating factor between the sectors examined at the forum is the way the monitory sector was managed historically through industry self-regulating governance (e.g. decentralized "Bankers-Clubs"). This mechanism is quite similar to the one that was introduced in the 1990s for the allocation of IP addresses, which became the Regional Internet Registries (RIRs).

The source of risks in both systems is symmetrical: banks are important to the economy, especially in their lending function. Critics fear that in the absence of regulations, banks might operate in a bad way ("loans for everybody") and the economy would collapse. In this context, a particular concern highlighted at the forum concerns the possible exhaustion of the now globally ubiquitous IPv4 address pool. For more than two decades, the controlled, industry-level management of IPv4 address distribution mechanisms has provided a stable, predictable and open environment for Internet growth and evolution. Vest compared the period to date of rapid Internet growth and diversification combined with high levels of stability and a general absence of major economic or technical disruptions with the economic period between the end of World War Two and 1971, sometimes known as the "Bretton Woods" or "gold standard" era.

In both cases, the foundations for orderly and predictable commercial interactions between major economic actors were built on a foundation of quantity-constrained resources—monetary gold in the conventional economy, IPv4 addresses in the "information economy". The gold-backed monetary regime was abandoned in the early 1970s, when the US experienced what was considered to be an unsustainable outflow of gold reserves. That event, coupled with the external shock caused by the sudden increase in the price of oil, hit the economies of many countries fiercely, creating a combination of rapidly rising prices with persistently high unemployment "stagflation".

Although some analogies can be drawn, the IPv4 addresses are not being backed up like money with gold, but there is a risk in managing them, as they are a scarce resource. In order to try to avoid a similar occurrence if the Internet's Golden Era is coming to an end, or at least diminishing, forum participants pointed to a lesson from economics that could be of relevance. During the conventional gold standard era, it was illegal in most countries for private interests to buy, sell, or own monetary gold. This restriction was borne of the concern among monetary policy authorities that exposing the scarce resource at the heart of the international liquidity mechanism to direct market forces would create intolerable risks of speculation and volatility, and might precipitate the premature obsolescence, abandonment, or collapse of the global monetary system. The liberalization of the gold market in the US did not take place until several years after gold's role in the monetary system had been eliminated. In the Internet, by contrast, policies have already been adopted in several Internet Registry regions that would allow buying and selling IPv4 addresses—despite the fact that IPv4 addresses is likely to continue to represent the only globally interoperable foundation for exchanging Internet traffic or incorporating new entrants into the Internet for many years to come, since there has been a slow take up of the next-generation Internet Protocol version 6 (IPv6).

Summary: Similarities between economic and Internet sectors

The key comparisons and similarities between economic and Internet sectors made in discussions above can be summarized as follows:

Box 5. Shared characteristics between financial and Internet arenas

Financial and Internet sectors both:

play a central role in fostering growth and innovation by providing "liquidity", or greatly simplifying the exchange of diverse goods and services between independent economic agents;

were "runaway successes", in part due to their capacity to support vast diversification and specialization of participants, goods and services in almost every sector of the economy;

are largely organized around "industry self-governance" principles and institutions, in part out of necessity due to requirements for specialized technical expertise;

demand some well managed method of coordination in order to avoid similar potential existential systemic risks: inflation, deflation and stagnation; and

ultimately had to outgrow their original foundations, which were based on some absolutely scarce, finite resource (e.g., gold, IPv4 addresses)

The Impact of the New Economic Context on Internet Governance

There is some difficulty in defining the term "Internet governance" (e.g. see Dutton and Peltu 2005; Dutton et al. 2007), even before discussion begins on the complexities of maintaining and enhancing its vitality. The UN's Working Group of Internet Governance (WGIG) described Internet governance as the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures and programmes that shape the evolution and use of the Internet" (WGIG 2005; WSIS 2005: §34). However, as "governance" equals "administration" in many languages, the question has to be whether to take narrow or wide scope of Internet governance.[7] Critical resources like IP addresses and the Domain Name System (DNS) make it even more difficult to narrow the term further. Who belongs to "the governments", "the private sector" and "the civil society", and what are their roles in developing principles and norms? For example, the term "Internet co-ordination" is still used by Internet standards-setting organizations like the Internet Engineering Tasks Force (IETF). This term is preferred as it includes the notion that there is an existing co-ordination among different stakeholders in their respective roles and their administrative tasks.

At the forum, it was suggested that Internet governance could be seen as "everything the Internet affects in society" but that more work should be done to clarify the concept, through discussions involving different stakeholder groups in an international context.

The state of Internet governance

The current state of Internet governance structures and processes, such as the UN's Internet Governance Forum (IGF), provides vital background to understanding of how the future structure of possible regulatory institutions that could best deal with questions raised by the new economic context, such as: What pressures have been felt from the changing economic and regulatory climate? Is private sector leadership sustainable in this context? Is Civil Society represented meaningfully, and can wide participation be sustained?

The initial moves in the process of developing global Internet governance were taken through the World Summits on the Information Society (WSIS) in Geneva in 2003 (WSIS

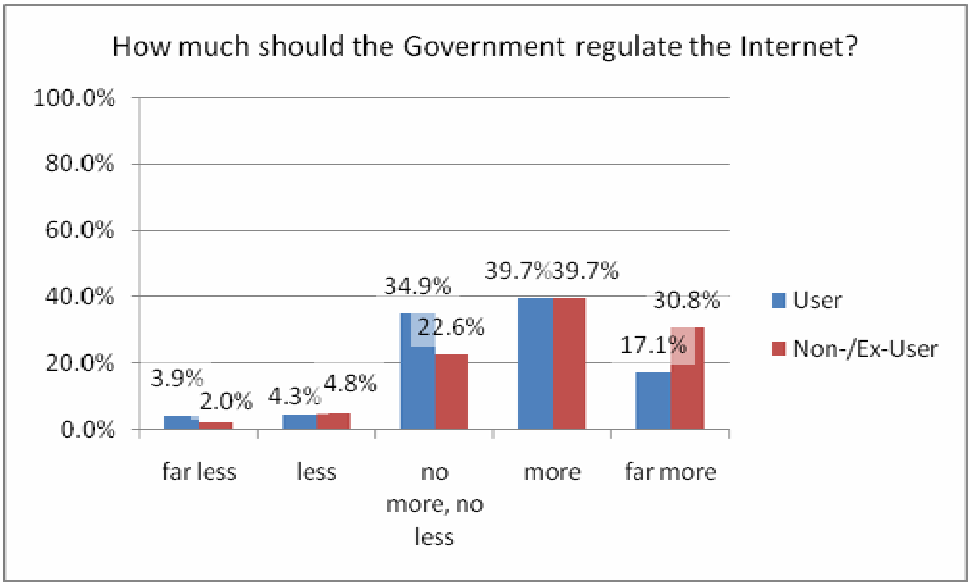
[7] Based on a presentation at the forum by Yrjö Länsipuro.

2003). They dealt primarily with the role of governments and other stakeholders in the promotion of ICTs for development, including how a digital infrastructure is an essential foundation for the Information Society. The working definition of Internet governance developed by WGIG, discussed above, was criticized as being too broad. However, it was also recognized that "(…) Internet governance includes more than Internet naming and addressing. It also includes other significant public policy issues such as, inter alia, critical Internet resources, the security and safety of the Internet, and developmental aspects and issues pertaining to the use of the Internet. (…)" and it "(…) includes social, economic and technical issues including affordability, reliability and quality of service (…)" (WSIS 2005: §§58, 59).

Nevertheless, one of the weaknesses of the Tunis summit can be seen as the relationship between the WSIS Action Lines (WSIS 2003) and the definition of Internet governance. When the IGF was set up, there was no discussion on how the definition was related to the action lines. It was seen as a forum purely for multi-stakeholder dialogue and does not have the right to take action. However, as was recognized in Tunis, "(…) there are many cross-cutting international public policy issues that require attention and are not adequately addressed by the current mechanisms. (…)" (WSIS 2005: §60). Therefore, the IGF may discuss all the issues that were touched by the action lines, but the Action Lines called for a different purpose—to take action.

Beyond such definitions and IGF responsibilities, a second Internet governance thread coming out of WSIS was "Enhanced Cooperation". The need for this was recognized for the future "(…) to enable governments, on an equal footing, to carry out their roles and responsibilities, in international public policy issues pertaining to the Internet, but not in the day-to-day technical and operational matters, that do not impact on international public policy issues (…)". (WSIS 2005: §69). In this context, the key impact of the changing economic climate could relate to the effects on different perspectives of those actors who trust the traditional governance mechanisms and the ones who trust self-regulation mechanisms and market-led regulation. However, OxIS findings among UK Internet users indicate that the users who have been affected by the current economic crisis do not see a greater need for government's regulation of the Internet than users who have not been affected (see figure 1).

Figure 1. Users' being affected by the economic crisis and their attitude towards more government regulation (Based on OxIS and Dutton et al. 2009)



In the absence of a proper definition of the term Enhanced Cooperation in the WSIS in Tunis in 2005, the process was "(…) to be started by the UN Secretary-General, involving all relevant organizations by the end of the first quarter of 2006, will involve all stakeholders in their respective roles, will proceed as quickly as possible consistent with legal process, and will be responsive to innovation. Relevant organizations should commence a process towards Enhanced Cooperation involving all stakeholders, proceeding as quickly as possible and responsive to innovation. The same relevant organizations shall be requested to provide annual performance reports. (…)" (WSIS 2005: §71). Although difficulties are caused by "missing" guidelines that could be of value, the responses received generally indicate acknowledgement of the IGF's role in offering multi-stakeholder dialogue built on information sharing, cooperation, technical knowledge transfer and capacity building. Several organizations referred to the IGF helping to enhance such cooperation among relevant stakeholders.

As Markus Kummer, Executive Coordinator of the IGF Secretariat, told the forum: "in its current fourth year, although it is not here to make decisions the IGF can be seen as fairly accepted as a governmental arrangement to promote dialogue and to inform those who may take decisions in other areas, in so-called "decision-shaping"." The IGF mandate had been provisional, but there is a generally favourable climate in favour of continuing. But that leaves the important open question of what shape it should take if a future go-ahead is given, for example whether the present extremely light, dialogue-oriented framework should be modified. Even more important and urgent is the so far unsolved question of financing, as it is not covered by the regular budget.

In the IGF itself, there are two basic positions about continuing its mandate: on one hand there are members who are "married to the dialogue only concept" as such, while others would like it to become more oriented towards output and action. A common approach is also emerging in a new concept that aims to lead to more action from the IGF on issues where stakeholders might be ready to consider what can be done about certain issues they wish to promote (e.g. diversity, multilingualism). However, such actions might not be done in a classical intergovernmental way.

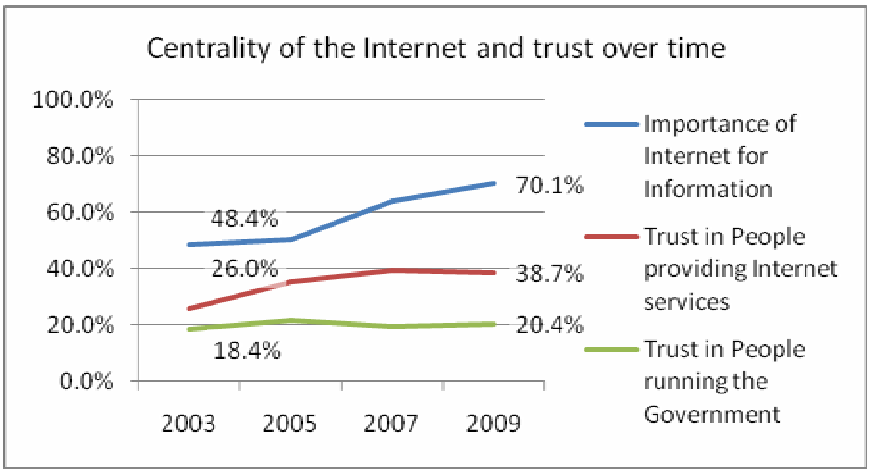
One participant pointed out the paradox of the relationship between the action lines and the IGF: where the IGF seems to move slowly towards more action lines, the action lines themselves seem to have a distinctive IGF character. An important aim of the organizers of any future efforts should be to pay attention to these opposing tendencies

The return to an analogy in forms of regulation

Governance is often not just about new regulations for the Internet, but also finding appropriate analogies to other sectors (e.g. trade regulations). There are already many international trade regulations that do not regulate aspects of Internet governance. As one participant pointed out, the discussion should not lead back to the Seventies, where the debate about Internet governance focused on figuring out a "regulation model" for different areas such as telecommunication, post and TV. Instead, it should search for new forms of governance.

The discussion should first focus on policies that are wanted and necessary in the future. Spam regulation was highlighted as an example. Many countries try to regulate spam, but that regulation is often ineffective because it is national, whereas the Internet is global. It was suggested that most people trust the email operator (usually an ISP) instead of their government in regulating spam. OxIS findings among UK Internet users indicate the growing trust in ISPs in comparison to trust in people running the government (see figure 2).

Figure 2. Trust in possible regulators over time (Based on OxIS and Dutton et al. 2009)



The discussion on regulations ranged between elements of self-regulation and government regulation, and how the relation between the two could evolve. For instance, the mechanism to allocate IP-address resources is currently neutral, transparent, community-defined and eligibility-based. Eligibility criteria are satisfied if somebody possesses the physical and material means to be a potentially constructive contributor to the universe of Internet resources.

The ability to have a global distribution of Internet Protocol (IP) resources is a byproduct of its distribution mechanism. Its high level of transparency could be considered in relation to distribution mechanisms in the monetary sector. If people could see that credit is being created, the kind of financial crisis we are now facing might still be possible, but at least the risk of it happening could be lessened because of the extra transparency.[8]

The analogy between the monetary system and the Internet can be turned around as well. In the financial sector, the value of mortgages, homes or loans became hidden, which contributed to some gross overvaluing that led to the collapse of the global financial system. In contrast, the Internet may be worth more than is thought. Furthermore, the credit crunch may help to trigger a better discussion and a broader debate about changes needed to deal with any kind of regulation, for example to address and issue raised by one forum participant: that we may not be very good in measuring what it is valuable at all, across industries and, as a result, we might undercount the costs and over-count the risks, or vice-versa.

In the financial sector, some players did not understand the risks and instruments. This has led to some dramatic rethinking of certain market tenets. For example, former Chairman of the US Federal Reserve Alan Greenspan has commented (Huffington Post 2009): “Those of us who have looked to the self-interest of lending institutions to protect shareholder’s equity (myself especially) are in a state of shocked disbelief. Such counterparty surveillance is a central pillar of our financial markets’ state of balance. … If counterparty surveillance is abandoned or significantly weakened, we are left with regulation by the less informed. Counterparty surveillance needs to be repaired, not abandoned.”

Most people using or talking about the Internet and its need for governance do not know how its technology works. For instance, in Internet governance discussions stakeholders often deal with aspects they do not understand, such as the difference between the Internet versions IPv4 and IPv6. However, these apparently technical issues have much deeper

[8] See http://uk.zopa.com for a novel and more transparent lending model.

social and economic consequences for users (e.g. the way in which IPv6 increases the address space from 32 to 128 bits, thereby providing for a virtually unlimited number of networks and systems).[9] That has a parallel in the recent financial market, where many financial instruments became so complex that most people—even many of those handling the instruments directly—did not fully understand how they worked. Efforts to avoid jargon and explain the broader implications of apparently "technical" developments are therefore crucial to good Internet and financial governance.

This need to gain a broader perspective on all aspects of financial and Internet ecologies is vital for better cross-coordination in the future, particularly bearing the global scope in mind. Such a broad view will help to develop the most appropriate way of dealing with critical resources for economies and societies, for instance in deciding the extent to which markets, stakeholders or governments should be responsible for the regulations. Even if, say, market rules are adopted, governments and other stakeholders could play important governance roles. The key issue is not whether or not some rules are needed, but what are the most relevant governance processes and structures needed to define, introduce and monitor their implementation

The Impact of the New Economic Context on Institutions and their Policy Moves

The forum made clear that the discussion on Internet governance includes almost everything between "traditional regulations" (e.g. global telecommunications or trade regulations) and more specific topics (e.g. regulation institutions like ICANN).

The state of ICANN

The forum session on initiatives for the new context started by looking at the mandate and current state of ICANN, one of the main Internet governance institutions, and the role of the US government in its management and operation. ICANN's mandate was defined in the Memorandum of Understanding (MoU) covering 1998 to 2006, an agreement between the US Department of Commerce (DOC) and ICANN (see Box 6).

Box 6. ICANN Memorandum of Understanding[10]

> The MoU is an agreement between the DOC and ICANN, a not-for-profit corporation. Its main purpose was to ensure that, before making a transition to private sector Domain Name System (DNS) management, the DOC would require "assurances that the private sector has the capability and resources to assume the important responsibilities related to the technical management of the DNS" and that, therefore "the Parties will jointly design, develop, and test the mechanisms, methods, and procedures that should be in place and the steps necessary to transition management responsibility for DNS functions now performed by, or on behalf of, the US Government to a private-sector not-for-profit entity."

More than nine years and seven versions after the initial Memorandum, ICANN and the DOC are assessing ICANN's performance with regard to 10 responsibilities, as set out in a Joint Project Agreement (JPA) signed in September 2006 (see Box 7).

[9] For more on IPv6, see: http://www.isoc.org/educpillar/resources/ipv6.shtml
[10] Source: http://www.ntia.doc.gov/ntiahome/domainname/icann-memorandum.htm

Box 7. ICANN/US Government Joint Project Agreement[11]

The Joint Project Agreement is an agreement between the DOC and ICANN for the purpose of the joint development of the mechanisms, methods, and procedures necessary to effect the transition of Internet DNS to the private sector. The ten responsibilities set out in the JPA were put forward by the ICANN Board to the DOC, rather the other way around, which was the case with the MoU.

JPA expired in September 2009, when it was replaced by the Affirmation of Commitments (AoC),[12] in which consideration has been given to how the ICANN model may further evolve. In a mid-term review in 2008, ICANN declared its intention to let the JPA expire, although both overwhelming support and concerns were expressed by many respondents. The ICANN President's Strategy Committee (PSC) asked for concerns to be analyzed and remedies suggested through a report to the Board.

The ICANN PSC recommendations include safeguards against all types of capture and a call to strengthen participation in the Governmental Advisory Committee (GAC).[13] For instance, simultaneous translations are provided at meetings, the annual board meetings have a broad governmental presence, and travel support is available to enable participation in GAC from the least developed countries.

One participant at the forum pointed out that a strong legal environment could mean retaining ICANN headquarters in the US to ensure certainty about registry, registrar and the Internet Assigned Numbers Authority (IANA) contracts and other stakeholder agreements and frameworks. Transparency in all ICANN structures (e.g. guidance for disclosing and handling conflicts and a framework for cross-participation that prohibits cross-voting) could support acceptance by all stakeholders. Enhancing a "Code of Conduct"[14] could improve the safeguards against inappropriate behaviour and highlight obligations of independence, impartiality and the support for the community.

Improved ICANN accountability requires greater assurance that due consideration is given to the GAC's advice. To achieve these aims, ICANN and GAC will set up a joint mechanism to review the GAC's role. It has also been necessary to seek advice from a committee of independent experts on a set of mechanisms to provide improved accountability.

The new AoC document states that the GAC chair will have a stronger role by being a permanent member of one of the four overview panels and by choosing its other members.

The need for ICANN to meet the needs of the global community by extending outreach around the world is being assisted by fact-finding from Swiss and Belgian authorities[15] on advantages of the international not-for-profit status for any possible ICANN subsidiary. Other topics of the report include ensuring financial and operational security and a focus on the safety and stability of the Internet's unique identifiers (e.g. ICANN could lead discussion on security and stability issues and pursue operational efficiency measures).

Other questions to be considered for the future evolution of ICANN include:

- Is transition to the private sector still the most appropriate model?

[11] Source: http://www.ntia.doc.gov/ntiahome/domainname/agreements/jpa/icannjpa_09292006.htm

12 For more on the AoC, see: http://www.icann.org/en/announcements/announcement-30sep09-en.htm - affirmation

13 The report here is based on a presentation by Yrjö Länsipuro at the forum.

14 The ICANN Board of Directors' Code of Conduct is available at: http://www.icann.org/en/committees/board-governance/bod-proposed-code-of-conduct-15jul08.pdf

[15] This is mentioned in the Executive summary of the Draft Implementation Plan for Improving Institutional Confidence in ICANN (see http://www.icann.org/en/jpa/iic/draft-iic-implementation-26feb09-en.pdf).

- Has ICANN accomplished core tasks?
- What steps have been taken to meet mid-term review concerns?
- Are necessary safeguards in place?

In Search of a Globally Acceptable Model

There is recognition among many that ICANN's model needs further analysis and evolution. For example, ICANN often attempts to undertake tasks that may be seen as being done by governments or a treaty organization. That led one participant remarked that "ICANN has now become the international high court of trademark justice". Such issues can be important in areas like introducing new generic top-level domains (gTLDs),[16] a topic which was addressed by trademark lawyers at the very beginning of ICANN.[17] This approach seems to work, although some think that there is the lack of recognizable authority.

From a legal point of view, the existing ICANN model could be improved in terms of its international acceptance and global lawfulness. For instance, as a non-profit organization with obligations defined under Californian law, ICANN has a duty to serve the global public interest in the security and stability of the Internet. Further investigations are needed on ways of strengthening the legal model of an organization that has headquarters in the US yet deals with Internet policy issues that affect the global community.

ICANN has also not yet been able to provide economic justification for bringing in new gTLDs to the DNS. However, it has facilitated two independent reports on competition and pricing of new gTLDs.[18] The economic crisis does not seem to have had a great impact on domain registration as domains are being registered at about the same rate as before the credit crunch hit. From an economic point of view, there is more concern that a new technology (e.g. a new type of identifier or semantic solution) can make the whole domain-registry system less relevant.

A paradox of ICANN's presumed lack of legitimacy is that the more transparent ICANN become, the more criticism it evokes. Transparency is necessary, but it has many downsides. An in-built dilemma is that even if ICANN is supposed to be an autonomous organization, there is the need to prove that power is not going to be abused by giving a veto to third parties. This would also strengthen ICANN's accountability. One view is that an increase in accountability would enhance the ICANN model. Perhaps the economic crisis could be a stimulus to reconsidering Internet governance in ways that includes a dynamic system that constantly adjusts itself. For example, the IGF is reconsidering what has been done and is trying to come up with new ways of dealing with criticisms. But it may be much easier to stay dynamic if the organization has no decision making power—like the IGF.

[16] ICANN has expressed a commitment to implement a new gTLD programme in order to pave the way for new domain extensions and enlarge the availability of gTLDs. With the introduction of a potentially unlimited number of newTLDs, ICANN believes it will "allow for more innovation, choice and change to the Internet's addressing system", thereby creating new competition for the major gTLDs. Critics of this move argue that a growing number of gTLDs could pose serious challenges for businesses and trademark owners.
[17] In 1999, ICANN's Uniform Domain-Name Dispute-Resolution Policy was developed and adopted as a mandatory arbitration procedure to which all domain name holders must agree when they register a domain within a gTLD (see: http://www.icann.org/en/udrp/udrp-policy-24oct99.htm).
[18] For more on these reports, see: https://www.icann.org/en/announcements/announcement-04mar09-en.htm

However, participants generally emphasized that ICANN should not be replaced, as it is central for the technical administration of the Internet. Any criticism of ICANN should therefore be seen as support for improvement.

The Role of End-Users and Other Stakeholders

Almost all participants agreed that, in the long run, end-users need a more formal voice in the ICANN process. End-users can respond to the open public comments and participate by joining one of the five ICANN Regional At-large Member Organizations (RALOs) or, more recently, by participating in the NonCommercial Users Constituency (NCUC). However, current arrangements do not seem to be making a clear and visible impact in ICANN policies. Discussions have already started on developing more appropriate mechanisms to formalize the end-users' impact, raising questions about the dynamics and sustainability of end-users' engagement and interest in the ICANN process. This process should include business users, whose voices have also been heard insufficiently so far.

In addition to the role of end-users and the impact of their feedback, developments are needed to investigate how to broaden the responsibilities and duties of all stakeholders within ICANN. Discussions are also needed with governments on how they see their role in the GAC, and with the regulators on what roles they see for themselves. The growing need for security to protect citizens and Internet users must be addressed. One participant raised the argument that part of the process of Enhanced Cooperation was to build up the consensus about what protects the user. There are concerns that this could be a big problem for the future, as ICANN meetings can be dominated by the registry and registrar people who buy and sell domain names, rather than users. Pressure from the Internet industry in ICANN is therefore substantial, which could mean developments, such as the new gTLD, perhaps serve their needs primarily.

For example, IGF discussions about the transition from IPv4 to IPv6 show how hard it could be to overcome the difficulties created by ongoing "separated" discussion. Some crucial problems seen by the technologists are talked about only in technical forums, not in wider discussions. As indicated earlier, many participants stressed there is the need to broaden the discussion beyond technical perspectives and jargon if much distrust in governance institutions is to be overcome. The technical community's rationality can be a good influence for the ongoing discussion about governance—if their technical focus can contribute more effectively into wider policy contexts.

A central issue is how the emphasis of the IGF and others on a necessary multi-stakeholder dialogue relates to the building of a common understanding of who should be represented in the dialogue and how that can help to shape a shared vision for the future. On the other hand, ICANN has developed its own policy-making model, which has worked reasonably well for over ten years with continuous revisions. There has been much development of Internet models in terms of bottom-up, self regulation and policy making. In the context of the economic downturn, account should be taken of the progress that has been made by existing governance approaches. Achieving the right balance in the future is a crucial aspect. For instance, the downside of the US jurisdiction of ICANN has an upside: the effect of its jurisdiction enables strong constitutional protection for human rights and freedom of expression at the centre of Internet governance. Regardless of where ICANN activities could be legally based in future, the principles and values of strong protection for human rights and free flow of information should be maintained.

The mandate for issues such as Enhanced Cooperation and the IGF lies with the UN, but some member states to think that the ITU should play a greater role in these issues—or even that the ITU should take over responsibility for some issues. This opens an older debate about whether any organization can manage Internet governance alone or if there is a need for a global multi-stakeholder framework where all actors can play their role. Could the IGF develop into a framework like that, with IGF turning into a kind of "soft power"?

A "Perfect Storm" Brewing? Impact of a New Economic Context on Internet Governance Policy

UN Under-Secretary General Sha Zukang wrote a letter in December 2008 to Dr. Paul Twomey, President and CEO of ICANN, inviting ICANN to provide a performance report and recommendations on the steps taken towards Enhanced Cooperation on public policy.[19] In response, Dr Twomey commented: "the continued evolution of current mechanisms is crucial". "The continued collaboration and cooperation among respective entities and organizations on issues within their own mandates serves to encourage effective multi-stakeholder solutions to topics affecting the Internet. It is vitally important to encourage open consultation and the evolution of new methodologies, while avoiding futile competition among agencies established to perform other tasks".[20]

In general, there is much more to the future of Internet governance than just a continuation of the question of who should govern the Internet and whether or not it should be governed in any conventional manner. Some governments still do not want any extension to regulation or control, while others would like increased control and increased governance, for example through the ITU structure. It was pointed out that on a practical level the ITU is becoming tactically smarter in the way it approaches Internet governance (e.g. moving more into the IPv6 area), although any new role would be a quite different operational process to the standards-setting role of a treaty organization. An ongoing discussion in a number of forums is also being led by the big telecommunication companies about introducing more control in the middle of the network, moving away from the basic architectural principals of the Internet. This is seen as a major concern by many, as it would involve change to the way the Internet works.

Some feel that it is in these kinds of fields where the practical Internet governance action is taking place, raising the question of whether ICANN itself could eventually be bypassed. Others claim it is necessary to go back to the beginning of the discussion of Internet governance and ask if the model behind ICANN is the correct one. This raises interesting issues such as whether ICANN should be a more profit-driven organization or continue to be non-profit, whether the bottom-up model of Internet governance is the right one and, if it is, how it can be best implemented.

One participant graphically captured the turbulent period that seems to be ahead for the Internet and its governance, calling it "a perfect storm", in which numerous important issues are needed to be addressed in the next two years—at a time of great economic stress. Within this storm, a steady hand will be needed to renew and sustain the opportunities for innovation in the Internet and its use, including helping address underlying economic fault lines. Harnessing the energies of industry, civil society, governments, technical communities,

[19] The letter from General Zukang is at: Twomey, http://www.icann.org/correspondence/zukang-to-twomey-23dec08en.pdf

[20] Response to Letter from Under-Secretary General Sha Zukang to Dr Paul Twomey http://www.icann.org/correspondence/twomey-to-zukang-20mar09-en.pdf

academia and other stakeholders is also crucial, including enhancing the role of the end-user.

Maintaining and enhancing the vitality of Internet Governance

Some see the existing Internet government system working reasonably well, but needing some modification. Other actors say that the system does not work and there is the need for something radically different. In practice, a number of forces are contributing to changes in the underlying dynamics influencing governance directions.

For example, the growing importance of the Internet in economic and social spheres has made more international actors interested in the topics of Internet governance because the Internet has entered their "turf". The growing number of involved actors broadens the discussion to encompass their various interests. This could contribute to maintaining the vitality of Internet governance—or it could lead to confusing clash of different voices and views from which coherent and effective policies are difficult to develop.

Some see self-regulation as having been a very successful model for innovation, for instance in the UK, but acknowledge that more should be heard of end-user protection going forward. Lesley Cowley commented that in order take account of user needs, industry requires better approaches to user participation, engagement and understanding. If the industry does not take responsibility and appropriate action, the door may be opened to much more interventionist arrangements. A middle-road between seeing self-regulation and regulation as alternatives is the opportunities for "co-regulation".[21]

Although many would like to have the IGF play a role in negotiation and decision-making, the IGF has worked well as a space for dialogue and information sharing. As an experiment in this capacity, it has been a success for the UN, although its future situation may change. For those who argue that no institution can manage the whole Internet governance base alone, what more is needed for a framework offering cooperation and collaboration among all the different stakeholders? For instance, should the framework allow for more decision shaping, as opposed to decision making? If some of the actors and frameworks exist but do not work very well together, is better coordination rather than radical change the best route forward?

A distinction should be made between opposition to new frameworks to replace existing ones and a desire to see existing actors working together much more cooperatively. The Tunis WSIS took the view that the process used at the time had worked reasonably well but could be improved by setting up the IGF to close a gap in terms of international cooperation.

Questions about the economic dimensions of regulation of the Internet have not yet been much discussed in governance forums, for instance at ICANN, because the debate is largely about technical regulations. Additionally ICANN's bottom-up policy development processes and ongoing restructuring do not leave sufficient time for new discussions. Various debates about whether ICANN is or is not a regulator have been inconclusive so far. Governments have competition authorities, justice departments and so forth, but internationally it is not clear who would take that regulatory role, although some related discussions are taking place within the current debate on new gTLDS. Establishing a working group on economic

[21] E.g. The European Union considers co-regulation as "the mechanism whereby a Community legislative act entrusts the attainment of the objectives defined by the legislative authority to parties which are recognised in the field (such as economic operators, the social partners, non-governmental organisations or associations)." *See* European Parliament, Council, and Commission: Interinstitutional Agreement on better law-making (2003/C 321/01) *at* §18. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003Q1231(01):EN:NOT

issues could possibly help by addressing many questions that are explicitly economic in character.

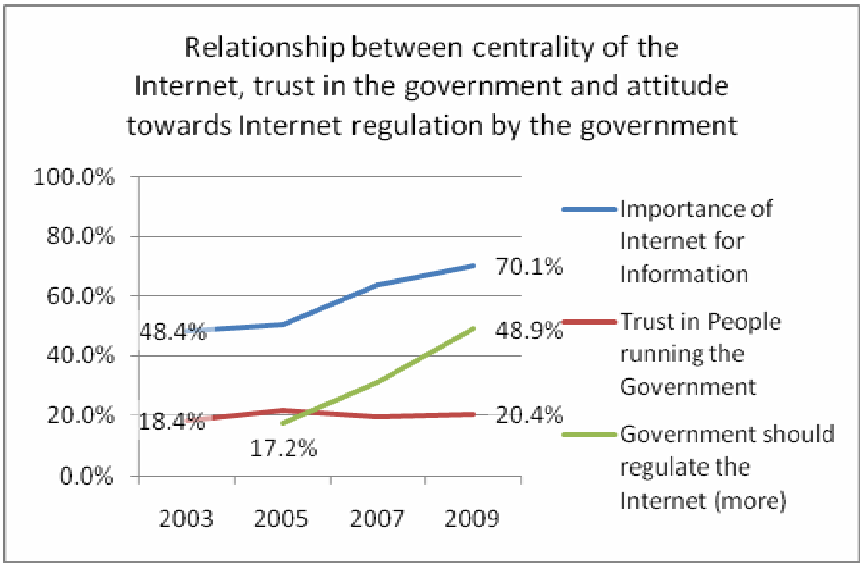
At the same time, there is the need for a broader discussion on global dimensions of Internet governance, because such discussions often take place from national perspectives. The aim is to ensure that the Internet is a trusted and secure place in which everybody feels able to take part. Topics like international enforceability, accountability, openness and legitimacy have to be on agendas of international and national forums.

The enormous scope of expectations towards Internet governance should also be addressed. This leads to many unsolved real-world problems being moved into the Internet domain (e.g. fraud and child abuse). Any evaluation of the existing multi-stakeholder model of Internet governance should therefore consider where responsibilities lie in issues that have both real-world and Internet dimensions, which can come from totally different angles. It is insufficient to just shift some of the responsibilities and expectations into the discussion about Internet governance without clarifying the underlying dynamics. For instance, there are many different national and international bodies dealing with crime issues, but they work mostly separately in Internet and offline worlds. The type of framework established by the IGF could function as a platform for bringing those groups together. This indicates that the IGF could usefully stay as a non-treaty forum to avoid people feeling threatened by its overwhelming governmental character, but with scope to build on its role as a forum to aid understanding and cooperation on a wide range of technical, social and economic issues related to Internet governance.

The existence of ICANN demonstrates that the critical resources on which the Internet is built are not completely private and within a national scope. The establishment of a dialogue-based institution like the IGF also depends on the continuation of non-private and transnational resources, although it was suggested that there might be a need for flexibility in the multi-stakeholder model to take account of the contexts of different issues (e.g. those involving governments just temporarily in some cases). However, governments are already involved, and it is right that they are. But should they play this role from inside ICANN, or should an intergovernmental institution play a role? The GAC, for instance, has an advisory role, but none of its consensus recommendations have been rejected to date. One future approach could be for the GAC to be universal and represent the governments of the world. This could make governments take their role on it more seriously.

OxIS findings among UK Internet users indicate the paradox of the growing users' requirement of a greater role of governments in Internet regulation although the trust in people running the government stays constantly low overtime.

Figure 3. Paradox between trust in people running the government and the need to give governments a greater role in regulation (Based on OxIS and Dutton et al. 2009)



A number of important unresolved questions remain, such as:

- Is it better to have governments play their role from within or outside the GAC?
- What about the other stakeholders?
- Is the private sector's role sustainable?
- Is regulation versus de-regulation the right battlefield?

As search engines are used increasingly by more people to discover Web content, should there be more regulation of search engines? To what extent would this clash with or complement moves to regulate domain names?

Summary of Key Themes

The discussion about the new economic context of Internet governance started with a focused set of questions about the role on the economic recession on Internet governance. It ended up with a complex bundle of distinct but interrelated issues revolving around questions of who should regulate the Internet and with what kind of legitimacy. What should be regulated and to which extent? Are these current models working? Are there new better models?

In seeking answers, the forum underlined the need and the importance of a broader discussion including a wide range of stakeholders, especially in relation to the financial crisis. In this context, the role of governments in regulation was discussed mainly from a global perspective as the Internet and financial worlds have global roots. The growing importance of the Internet in economic and most other sectors has also made more international actors interested in Internet governance. New proposals can therefore be expected in the context of what are seen to be any missing regulations identified in relation to the financial crisis. A proposal in April 2009 by Viviane Reding, EU-Commissioner for information society and media underlined the importance of the topics discussed in the

forum.[22] This views the US Department of Commerce's involvement in ICANN as "not defendable". Furthermore, it suggests a new governance model for the Internet that includes a private and accountable ICANN, an independent judicial body and a governmental "G12 for Internet Governance" forum.

Two main themes were repeated sufficiently at the forum to underline their importance to the discussion around which this paper based: learning from analogies between financial and Internet sectors; and the need to deal with future uncertainties.

Theme 1: Transfer of lessons between financial and Internet worlds

The discussion about regulation has become more serious in the context of the financial crisis. The almost unbelievable amounts of money at stake in the banking failures, recession and attempts to restore economic stability have often been blamed on missing regulations and their enforcement in the financial sector. Approaches to trying to avoid a similar collapse in the future have yet to be fully worked out, although the need to make substantial changes in the financial sector seems to be widely acknowledged. As highlighted earlier, some significant analogies between the Internet and the financial market were identified, including their "liquidity" function that makes them both central to a productive society. The Internet has never been so central to the global economy and society as it is today. Due to this, different models of regulation are being discussed in more detail by a widening pool of stakeholders, such as end-users. The growing convergence of digital technologies and ever-widening diffusion of Internet users can lead to calls for more central regulations or for more national governmental control, as well as to lighter coordination to sustain the Internet's innovative user-led flexibility that has fuelled much of its expansion. As ICANN is attempting to do several tasks usually carried out by governments or a treaty organization, and recognizing its legal jurisdictional limits, the ICANN model could still be seen as a workable model in the making—although its model is questioned by some. An effective compromise between self-regulation and national or central regulation could be co-regulation.

Theme 2: Uncertainty created by a perfect storm of turbulent change

The forum highlighted great uncertainty about the various issues discussed. The Internet has always been an arena of continuing and rapid change. However, it is now faced with a period involving its most crucial challenges so far, in which a perfect storm may be brewing around many different developments coming together at the same time as perhaps savagely cold economic winds are blowing. Explorations of solutions to weathering the storm could start with questioning the model behind ICANN and whether it should continue being a non-profit organization. Or it could go deeper to question the term Internet governance itself and its definition of relevant stakeholders and their roles within regulatory processes. Who belongs to the "governments", "private sector" and "civil society"? What are their roles in developing principles and norms? How should governments intervene and at what level? What is the best balanced paradigm in which to try to regulate the Internet? Discussions about Internet governance came back to two basic positions:

- the existing system works well or it works but needs some modification;
- the system does not work and there is the need for something different.

Internet governance involves a highly complex ecology of actors and arenas. Some would like the IGF to be a more active decision maker, but its success to date has been built as a

[22] For more on the Commissioner's proposal, see: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/696&format=HTML&aged=0&language=EN&guiLanguage=en

framework for cooperation and information sharing. The expiry of the JPA in 2009 made questions about the future of ICANN particularly significant, such its possible transition to the private sector? Has ICANN accomplished core tasks? How will it do so in the future? What role should the ITU have in future governance processes?

Questions like these with uncertain answers have to be discussed openly by all other stakeholders. However, it is a challenge for everybody involved to avoid moving back to their comfort zones in traditional arenas like ICANN or ITU itself.

The increasing complexity of interactions across sectors and institutions is illustrated most obviously in the impact of the economy on Internet and governance issues. The economic significance of the Internet makes many new actors interested in its governance, which will provide a new dynamism to seeking solutions to key outstanding issues. The Internet can have a "disruptive effect" across many sectors, as has been recognized recently in media and communications industries. As the Internet influences more and more arenas in life, it becomes much more visible. In this context, questions like whether such arenas need any regulation, only self-regulations or strong regulatory controls become both more significant and more difficult to answer as the Internet changes the rules of some long established industry games.

Conclusion: Enhancing Internet Governance in an Uncertain Economic Future

The forum's conclusion that there has been no evidence so far that the credit crunch has caused a downturn in Internet growth or a hint of the end of the "Internet's golden era" is supported by an OxIS finding that the views of UK Internet users on whether government should regulate the Internet had not been significantly affected by the economic crisis (see Figure 2). However, the impact of the financial crisis on Internet governance is recognizable in the various debates and proposals it has triggered on how to avoid missing regulations equivalent to those contributing to the financial crisis.

The question is no longer whether Internet governance is a good or bad things in itself, but how to make it better in preserving the Internet's ability to improve overall wellbeing as an economic and social, not just technical, infrastructure component built on bottom-up innovation. Box 8 identifies the positive recommendations coming from the forum concerning aspects of Internet governance that emerged at the forum.

Box 8. Recommendations coming from the forum concerning aspects of Internet governance

Many national governments recognize how much both the financial and Internet sectors are necessary to their core infrastructure requirements. The Internet is seen as an infrastructure component with the ability to support innovation in ways that improve welfare.

The growing centrality of the Internet to social and economic activities around the globe increases the need for strengthening an Internet governance model that remains flexible and builds necessary capacity to accommodate new and informed actors, particularly end-users.

The mechanism to allocate IP-address resources is currently neutral, transparent, community-defined, and eligibility-based. Anyone who possesses the physical and material means to be a potential constructive contributor to the universe of Internet resources satisfies the eligibility criteria. This high level of transparency could be considered in relation to distribution mechanisms in the monetary sector. If people could see that credit is being created, the kind of financial crisis we are now facing might still be possible, but at least the risk of it happening could be lessened because of the extra transparency.

The credit crunch could trigger a better discussion and a broader debate about changes that should be made dealing with any kind of regulation.

Most people using the Internet or talking about its governance needs do not know how its technology works, although technical issues often have significant user, social and economic implications. This has a parallel in the recent financial market, where many financial instruments became so complex that most people, even some using new financial instruments, did not fully understand how they worked and what their risks were. Efforts to avoid jargon and explain the broader implications of apparently “technical” developments are therefore crucial to good Internet, as well as financial, governance.

A broader perspective is required covering all aspects of financial and Internet ecologies in order to support more effective cross-coordination in the future, bearing in mind their global scope.

Appropriate evolution is needed of the multistakeholder models of the existing IGF and ICANN, which form a sound basis on which to build. Transparency in all ICANN structures (e.g. guidance for disclosing and handling conflicts and a framework for cross-participation that prohibits cross-voting) could support acceptance by all stakeholders.

Discussions should take place with governments to the clarify their role in the GAC, and with regulators to determine how they see as their role.

There is a growing need for better security to protect citizens and Internet users.

Many initiatives could contribute to achieving the goals of these recommendations (e.g. around developments with IGF, ICANN and other existing institutions). Opportunities also exist for new experiments and the development of policies and process based on structures that may be new but not necessarily institutional. An important element going forward is to consider carefully how best to involve all stakeholders, including a greater role for the end-user.

The Internet should be a trusted and secure place within which everyone feels comfortable. Enforceability and accountability, openness and acceptance are essential governance principles for achieving this in a global context. In relation to the financial crisis, different actors might see the need for short-term regulations, but Internet users will benefit from longer-term developments that consider all aspects of Internet governance. Participants in the forum agreed on the need for extending the discussion started at the event, and the OII is exploring the possibility of future events and research on this theme.

Glossary

AoC: Affirmation of Commitments. A long-term document to replace the JPA, signed on 30 Sept 2009 between ICANN and DOC.

DNS: Domain Name System. Translates the commonly used alphabetic version of a domain name into its numerical IP address.

DOC: US Department of Commerce. Has a contract with ICANN to perform the IANA function.

Domain name: A series of alphanumeric strings separated by periods(such as: www.oii.ox.ac.uk) that is the address of a computer network connection which identifies the owner of the address.

DSL: Digital Subscriber Line. A family of technologies that provides digital data transmission over the wires of a local telephone network; also known as ADSL or xDSL.

G20: The G-20 (more formally, the Group of Twenty Finance Ministers and Central Bank Governors) is a group of finance ministers and central bank governors from 20 economies: 19 of the world's largest national economies, plus the European Union.

GAC: Governmental Advisory Committee. An advisory committee for ICANN, comprising appointed representatives of national governments, multinational governmental organizations and treaty organizations, and distinct economies. Its function is to advise the ICANN Board on matters of concern to governments.

gTLD: Generic top-level domain. One of the categories of top-level domains maintained by IANA for use in the DNS. These domains are not generally associated with a particular country.

IANA: The Internet Assigned Numbers Authority. An organization that oversees IP address, Top-level domain and Internet protocol code-point allocations.

ICANN: Internet Corporation for Assigned Names and Numbers. Responsible for crucial Internet elements (e.g. the domain names).

ICT: Information and Communication Technology. A generic name for the technologies involved in communicating with computers and digital media.

IGF: Internet Governance Forum. Supports the UN Secretary-General in carrying out the mandate from the WSIS to convene a forum for multi-stakeholder policy dialogue

IP: Internet Protocol. Standards used for communicating data across a packet-switched internetwork using the Internet Protocol Suite, also referred to as TCP/IP.

IPv4: The fourth revision in the development of IP, and the first protocol to be widely deployed. See IPv6.

IPv6: IP version 6, the next generation version of IP. It increases the address space from 32 to 128 bits, providing for a vast number of networks and systems.

IRTF: Internet Research Task Force. Supports the evolution of the future Internet by creating Research Groups focusing on topics related to Internet protocols, applications, architecture and technology.

ISOC: Internet Society. A professional society addressing Internet-related issues.

ISP: Internet Service Provider. Companies that offer customers access to the Internet.

ITU: International Telecommunication Union. UN body coordinating international telecommunications standards and policy.

JPA: Joint Project Agreement. An agreement between the Department of Commerce and ICANN for the joint development of the mechanisms, methods and procedures necessary to effect the transition of DNS to the private sector. Replaced by the AoC.

MoU: Memorandum of Understanding. An agreement between DOC and ICANN which aims to ensure that, before making a transition to private sector DNS management, the DOC is provided with assurances that the private sector has the capability and resources to assume the important responsibilities related to the technical management of the DNS.

NCUC: NonCommercial Users Constituency. The home for civil society organizations and individuals within ICANN.

OII: Oxford Internet Institute. The University of Oxford's independent centre for the study of the societal implications of the Internet.

PSC: The ICANN President's Strategy Committee. An advisory group responsible for making observations and recommendations concerning strategic issues facing ICANN.

RALO: Regional At-large Member Organizations. Responsible for considering and providing advice on the activities of ICANN as they relate to the interests of individual Internet users (the "At-Large" community).

RIR: Regional Internet Registries. Organization overseeing the allocation and registration of Internet number resources within a particular region of the world.

Root server: A computer at the top of the control hierarchy for the DNS.

Spam: Bulk unwanted e-mail that may contain malware.

TCP: Transmission Control Protocol.

TCP/IP: The Internet Protocol Suite.

TLD: Top Level Domain. The highest level of domain names in the DNS.

URL: Uniform Resource Locator, specifying the address of a Web page.

WGIG: Working Group on Internet Governance. It was a UN multi-stakeholder working group set up after the 2003 WSIS to agree on the future of Internet governance.

WSIS: World Summit on the Information Society. It was a pair of UN-sponsored conferences about information, communication and the information society. Held in 2003 in Geneva and in 2005 in Tunis.

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Appendix I. Forum Participants

The following participants attended the forum on 27 April 2009.

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