

Netizens and Protecting the Public Interest in the Development and Management of the Internet: An Economist's Perspective¹

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Introduction

This article will discuss some aspects of Internet governance with a focus on the role that “economic theory” plays in this discussion with respect to the roles of markets, government and civil society. The fundamental question is of course what is the most important aspect of the Internet. In my opinion it is the free exchange of information and opinions. This is a common good and a public good. The commercial use of the Internet is of secondary importance from an Internet governance point of view. This is not the dominant point of view among economists. But there is no such thing as “economic theory” in the singular. There are neoclassical, evolutionary, institutional, post-Keynesian theories, just to mention a few. None of these theories, and in particular the policies they recommend, are neutral, objective, built on a purely scientific basis. No social-science theory can be value-free.

This article is divided into two parts. In the first part, I argue that the major result from neoclassical theory that unregulated markets produced the social optimum. is not based on solid scientific evidence. In the second part, I illustrate that as soon as one does not take the “Pareto optimality” of unregulated markets as a fact, when in fact it is a dogma, quite a new look is needed on most questions of Internet governance.

Throughout the article I define “mainstream” as economic theory that uses “perfect competition” as its benchmark for the optimal, “first best” state of markets. I argue at length that the “results” from this paradigm are very strong in a normative sense and very weak in a scientific sense. The fundamental reason being that the “general equilibrium” is not only built on extremely unrealistic conditions, but it is not a stable equilibrium and – as argued by, among many other Nobel laureates, Haavelmo and Stiglitz – the “results” are not robust and consequently cannot be the basis for policy formulation regarding the role of government and the role of markets. Further, my argument is that mainstream economics is – due to the static nature of the theory – far too narrow in its analysis of Internet governance. First of all, it does not discuss the justice, the legitimacy of the “initial endowments,” i.e., the initial distribution of power and/or property rights. Secondly when it comes to the actual governance of the Internet, the DNS system, the mainstream economists believe in using markets – there is no room for democratic, deliberative mechanisms in their models. This is in contradiction to the origin of the Internet when a rather small circle of scientists “ruled the root.” Since 1998 the U.S. government through the Department of Commerce and the DOC through ICANN has been governing the key infrastructure of the Internet.

The belief in markets raises several important questions. Not the least the fact that markets take into account only needs backed by money. What about those whose legitimate needs are not

¹ This paper takes as its starting point my presentation with the same title at the conference “Past, Present and Future of Research in the Information Society,” one of the official side events to the World Summit on Information Society in Tunis, Nov. 13th – 15th, 2005, but is an enlarged and extended version.

backed by (enough) money? But even on the condition that we shall leave certain parts of Internet governance to markets, do markets actually work – even roughly – as the model of perfect markets predict? If not, how do we regulate markets in order to make them serve the public interest? For example is it completely logical from a neoclassical perspective to create and encourage competition among different Internets, different DNS systems in order to reap the benefits of competition? But it is necessary to ask: what is the dynamic of such competition – and who will it benefit? Is the public interest served by several competing Internets?

There is not “economic theory” in the singular

If you go to an ordinary mainstream economist conference you will invariably hear the speakers use phrases like “what does economic theory tell us about this” or “according to economic theory” as if there were some basic set of uncontroversial theories that every sane economist builds his work upon, like in physics. Using Google, I found 10,400 instances of the phrase “economic theory tells us,” but only four of “*neoclassical* economic theory tell us” But there are of course several, very different economic paradigms “out there.” Beside the dominating neoclassical, there are Austrian, evolutionary, Schumpeterian, institutional, post-Keynesian and Marxian theories.² Each of them is a broad church containing important different current. None of these theories, and in particular the policies they recommend, are neutral, objective, purely scientific. No social-science theory can be value-free.³ The existing economic theories can be divided into two camps, often labeled by economists themselves as the orthodox and heterodox schools of economic thought. The fundamental dividing issue being the belief that the state of the economy described by “perfect competition” is the most desirable. The fact that there is fundamentally different schools of thought in economics is obvious. The fact that most neoclassical economists disregard this fact is in my opinion, just one more indication of the weak scientific character of the neoclassical paradigm. It is therefore no big surprise that Karl M. Manheim and Lawrence B. Solum in a high quality, well-written research paper titled “An Economic Analysis of Domain Name Policy” consequently write as if there is only one “economics,” “economic analysis.”⁴ In one place they write “from the standpoint of neoclassical economics” only to conclude that “... if root service is a ‘private good’, then well established and uncontroversial economic theory suggests that it can best be provided by markets” (page 355).

That neoclassical economics is well established is a fact, but it is just as much a fact that neoclassical theory is *controversial*. It always has been, and is non the less controversial today. One indication is the title of J. E. Stiglitz Nobel Prize lecture: “Information and the Change of Paradigm in Economics.” To call a theory uncontroversial when a Nobel Prize laureate argues for a change of a paradigm is clearly not scientific method at its best. In the concluding remarks of his Nobel Prize lecture Stiglitz writes:

In this talk I have traced the replacement of one paradigm with another. The deficiencies in the neoclassical paradigm – both the prediction which seemed counter to what was observed, some so glaring that one hardly needed refined econometric testing, and the phenomena that

² One recent example of this breadth of heterodox economics is the special issue of Cambridge Journal of Economics, “On the economics of the future,” Vol. 29, No 6, 2005, hereafter CJE-Future

³ See for example, E. Tsakalatos, “Homo economicus and the reconstruction of political economy: six thesis on the role of values in economics,” CJE-Future

⁴ Manheim and Solum (2004, page 344 ff)

was left unexplained – made it inevitable that it was simply a matter of time before it became challenged. One might ask, how can we explain the persistence of the paradigm for so long? Partly, it must be because, in spite of its deficiencies, it did provide insights into many economic phenomena. [...] But one cannot ignore the possibility that the survival of the paradigm was partly because the belief in that paradigm, and the policy prescriptions, has served certain interests. (Stiglitz 2002)

I will return to the question of whose interest the belief in the paradigm and especially its policy prescriptions have served – and are serving. But first it is necessary to discuss the theoretical structure of the neoclassical paradigm in order to argue that the general policy prescriptions are not something that is “proven,” neither theoretically nor empirically.

On the nature of the neoclassical paradigm

It is of course beyond the scope of this article to discuss all aspects of the neoclassical paradigm. My aim here is to summarize in a non mathematical way the well-known fundamental weaknesses of this paradigm so that a discussion of Internet governance can start without dogmas. I use well-known economists, two of them Nobel Laureates, in order to substantiate the proposition that there is no “rough consensus” regarding the way markets work, and consequently the division between government and markets.

The two meanings of the word competition

A continuous source of confusion in the economics literature and in the public discourse about economic policy is the fact that the neoclassical concept of perfect competition is used in fact is confused, with the commonsense concept of competition. This problem was spelled out clearly by one of the founders of modern game theory, Oscar Morgenstern. In his article “Thirteen Critical Points in Contemporary Economic Theory: An Interpretation” he pointed out the two totally different meanings of the word competition:

Consider ‘competition’: the common sense meaning is one of a struggle with others, of fight, of attempting to get ahead, or at least to hold one’s place. It suffices to consult any dictionary of *any* language to find that it describes rivalry, fight, struggle, etc. Why this word should be used in economic theory in a way that contradicts ordinary language is difficult to see. No reasonable case can be made for this absurd usage which may confuse and must repel any intelligent novice. In current equilibrium theory there is nothing of this true kind of competition: there are only individuals, firms or consumers, each firm and consumer *insignificantly* small and having *no influence* whatsoever upon the existing conditions of the market (rather mysteriously formed by *tatônement*) and therefore solely concerned with maximizing *sure* utility of profit – the latter being exactly zero. The contrast with reality is striking: the time has come for economic theory to turn around and ‘face the music.’ (Morgenstern (1972), page 1164).

The fact that “perfect competition” excludes changes in prices, technologies, tastes and initial endowments⁵ cannot fit the rapid changing reality of Internet development and the ICT industry at all. To use a static model for analysing rapid change in technology, price-setting behaviour, the growth of small garage firms to dominant, strategic players in the market, demands some really good

⁵ “Initial endowments” is economist speak for wealth, income and fortunes.

arguments. To argue that the model of perfect competition shows the “final state,” the final equilibrium is of very little help. Change has been going on for decades, and will most probably go on for quite a number of decades to come. One really has a difficult job to reconcile a theory whose basic results depend on static equilibrium with one of the areas in society that has been marked by the most dynamic development. This leads to the fundamental question, which is also the title of an article by a Nobel Laureate in Economics, the Norwegian Trygve Haavelmo.

What can the static equilibrium models tell us?

There is a widespread feeling that economists are much too abstract, too mathematical. I want to emphasize, although correct, that is in a way a superficial criticism. It mistakes the symptoms for the cause. The founders of the theory, Jevons, Menger and Walras did not want it to be utterly divorced from reality, but the conditions under which one can prove that “markets are best” just turned out to be extreme. Step by step from the late nineteenth century to the Arrow-Debreu finalization in the fifties, every piece of realism had to be weeded out of the theory. If the theory was just too abstract, too mathematical, the answer to such a critique would be to make the theory more complex – as is always the case when any theory becomes more realistic and consequently less abstract - in economics as in engineering. Our critique is more fundamental. In our opinion the static Arrow-Debreu model is mathematically consistent, but it is utterly divorced from dynamic reality – and must be so to serve its political function. The fact that it is divorced from reality has been pointed out by economists, like Kornay (1971), Kaldor (1971), Metcalfe (1995) Stiglitz (1995, 2003) just to mention a few. One of the most accessible analyses for the non mathematical reader of the deep problem with the static nature of “perfect competition” is the above-mentioned article “What can the static equilibrium models tell us?” by Trygve Haavelmo. First published in Norwegian in 1958, at the same time as Gerard Debreu (1959) published his seminal “A Theory of Value.” The article was published in English translation in *Economic Inquiry*. Haavelmo’s starting point is to ...

discuss how fantastically complicated the argument that price and quantity are determined by the scissors [market cross] really is, even if one accepts the most hard-boiled assumptions about market behaviour. [...] In its naked simplicity, the well-worn picture of the intersecting curves is still the most important – and perhaps the only – rational foundation that one has to stand on if one wants to believe in the automatism of the free market.

Haavelmo then repeats for sake of argument the textbook logic behind the supply and demand curve and goes on:

What is then so wrong with the proposition that the ‘price will be where the curves intersect each other’? Only this: there is of course, not an iota of information in our behaviour scheme for buyers and sellers about how they themselves would ‘find the market price.’ Suppose we let buyers and sellers loose on each other under the presumption that a given market price will rule, and they then find that isn’t the case? What will they do? Even if they were to act quite sensibly, in *no* way whatsoever could their behaviour be deduced just from the information that the supply and demand curve gives us.

Haavelmo goes on to propose that:

... the conceptual apparatus of game theory could conceivably be used to construct such a model. But which assumptions should one then make about contacts between sellers and buyers, about their negotiation strategy, about their knowledge of the market, and so on? Here the possibilities are obviously endless. One thing is in any case certain: a vague postulate of ‘many buyers and sellers’ will not suffice to determine how this game should

proceed.

The industrial economics literature has indeed borne out Haavelmo's prophecy that the possibilities are endless. He further comments that for the game to be static and at the same time to "reflect practical possible behaviour" the buyers and sellers would have to find the market price at "their first try." Haavelmo dryly comments that, "Presumably we would find that the buyers and sellers taking part in such a game would have to be some remarkably well informed beings." Haavelmo then goes on to discuss the usual answer to these difficulties: "just make the theory dynamic." Haavelmo responds: "That answer however, seems to come very close to saying that the demand-supply cross is indeed a fine thing; it is just that it cannot answer any of our questions!" Haavelmo points out that when textbooks tell the intuitively very credible story that when prices are too high they will fall and if they are too low they will rise, but as Haavelmo points out, too high or low in this context "are expressions that are given their meaning by reference to the demand-supply cross" – and it was where they would intersect that was the original problem! Haavelmo finishes his small article by discussing the development of the general equilibrium model. In economics after Walras the existence of a meaningful solution has been the focus and that the demonstration "that such solution exists under quite general assumptions is considered one of the greatest triumphs in the area of general equilibrium theory." Haavelmo continues:

As is well known, that Walrasian general equilibrium model may be assumed to have certain 'optimal' properties according to a definition due to Pareto. Seemingly, all that was lacking was a demonstration that the system actually possessed a feasible solution. Since that has now been put in order, all might seem to be well. But there is a problem with the dynamics when the system is found 'of its equilibrium point'. So far, economic theory has, I think, treated the latter problem with somewhat less respect than it deserves. The system's dynamic motion has been regarded as no more than an appendix to the static model – an appendix of such sort that if only the *static* model has a certain form, prices and quantities will be drawn to the equilibrium point. What has been said above should give reason to be careful in making the claim that the solution of the general equilibrium model shows what will actually happen in a freely competitive market system.

It would be beyond the scope of this article to analyse the efforts that have been done in order to try to show that the general, static equilibrium is in fact a stable equilibrium. The interested reader can consult among other works F. M. Fisher *Disequilibrium Foundations of Equilibrium Economics* from 1983. The main conclusion of that book, written by an author fundamentally positive to the neoclassical paradigm, but with also a strong sense of scientific rigour is worth quoting: "This investigation has come some distance from its origins in the traditional stability literature. Unfortunately, there is still a long way for further research before we have a sound foundation for equilibrium economics." (page 212).⁶ In my opinion that is still the case, which means that even on the level of highly abstract theory there is no compelling reason to give the well-known policy recommendations from main stream economics any privileged status.

The role of government – from a theoretical point of view

For the economic elites of society one of the most important "results" of neoclassical theory, is that "the less government, the better." But as soon as one takes into consideration all the endless imperfections, externalities, information asymmetries of real life this "result" has no scientific foun-

⁶ A newer and less mathematically demanding overview is found in Currie and Steedman (1990).

ation, only an important ideological role to play. Or as Stiglitz formulates this in the above cited Nobel lecture:

In the 1980s, there was a strong movement toward privatizing state enterprises, even in areas in which there was a natural monopoly, in which case government ownership would be replaced with government regulation. While it was apparent that there were frequently problems with government ownership, the theories of imperfect information also made it clear that even the best designed regulatory systems would work imperfectly. This raised naturally the question of under what circumstances could we be sure that privatization would enhance economic welfare. As Herbert Simon [1991] the 1978 Nobel Prize winner had earlier emphasized, both public and private sectors face information and incentive problems; *there was no compelling theoretical argument for why large private organizations would solve these incentive problems better.* (Stiglitz 2003, my emphasis)

To sum up: What is called “economic theory” is highly controversial. The theory is based on assumptions that cannot be relaxed while keeping its main results about markets making the optimal allocation of resources and that government have no intrinsic positive role to play. One could of course ask if the lack of scientific foundation for neoclassical policy recommendations have any practical significance. It is beyond the scope of this article to argue this at length on a general, macroeconomic level, but in my opinion the recent transformation in Eastern Europe and the experience of the Nordic countries are relevant in this respect. The experience of Russia shows clearly that although you do everything according to the recommendations of neoclassical economics you might find yourself in a worse situation, not only in the short, but also in the medium term. This is no surprise, given that you do not have a theory of change, of a path from A to B, only a theory of an *unstable* equilibrium point. To do worse than the Soviet Union under Brezhnev and Gorbachov, is actually making quite an achievement. In the Nordic countries – where for decades before and after WWII one has done most things “against the book,” the labour productivity and welfare is unsurpassed. This means that strong unions, compressed wage scale, huge economic transfers⁷ are not a brake on economic efficiency. This comes as no surprise as soon as one frames the problem not as static equilibrium, but as an optimal control problem – where government, unions and other civil society has an indispensable role in utilising both the creative and the destructive aspects of capitalist competition.

The problem of “initial endowments”

One of the claims of objectivity of the neoclassical school, is that it only discusses what is the most efficient allocation of scarce resources. It leaves so to speak the judgement on the initial distribution of wealth and resources for other ethical, moral and philosophical “value systems,” i.e., “subjective” theories to evaluate the initial distribution of wealth. But this neat separation does not hold as soon as one take into consideration the real life links between distribution and efficiency. Feudal tenants produce more than slaves; peasants owning land more than tenants; trusted and valued labour, more than distrusted and oppressed labour. As Stiglitz puts it in discussing the transition in Eastern Europe:

I stress the results on the link between issues of distribution and issues of efficiency, because

⁷ Seen from a neo-classical point of view. From a social democratic point of view, the enormous incomes of the wealthy are not legitimate, so the taxation actually brings the income distribution more in line with what it should have been according to the real productive effort.

some of the recent discussions of reform within Eastern Europe have stressed efficiency concerns, with limited regard to the consequences for distribution. Years from now this lack of concern for distribution, I will argue later, may come to haunt these economies, not just in the form of social unrest, but more narrowly in terms of long-run economic efficiency. *At the very least, there is no intellectual foundation for the separation of efficiency and distributional concerns.* (Stiglitz 1995, page 50, my emphasis)

In regard to Internet governance, the neoclassical economists do not at all discuss the legitimacy – or the efficiency of the initial distribution of wealth, in this particular context – the initial distribution of control over key Internet resources. The Internet was created by researchers with a vision (see the other articles in this issue). Did these researchers create an inefficient infrastructure – or was it one that in many ways was very well suited as a platform for the free flow of information, opening up a space for deliberative, participatory democracy? Was the governance of the Internet in any significant way improved when the U.S. government took the governance out of the hands of the research community and semi-privatized it through the creation of ICANN?

Domain names as “initial endowments”

The question of creation, distribution and governance of domain names is an excellent illustration of the question of initial endowments and the role of government in this area. The fundamental question is of course one of legitimate power. History has seen various forms of legitimate power, both Hellenic slave-owner democracy and absolute monarchy. But after the French revolution the principle that legitimate power resides with the representative assembly elected by all adult inhabitants has become achieved rough consensus. Even dictatorships organise fake elections in order to give themselves legitimacy by this principle. The same goes for the regulation of questions of global importance, to which the governance of Internet clearly belongs. That is why the dominance of the U.S. government is seen as a result of an unplanned historical development, but which cannot be the final solution for Internet governance. But there will always be historical given circumstances that shape the representative process, making it more or less representative.

There are fake elections in dictatorships like China, North Korea, and Iran. Also, there are electoral processes that are grossly unproportional and/or influenced by the resources put into the election campaign by the wealthy that one might question their legitimacy. The U.S. is notoriously known for the influence of money, the parliaments of UK and France for the very un-proportional nature of the electoral process. There are “representative bodies” like the ITU⁸ that are less representative of the “users” than IAB and IETF⁹ and other informal, NGO-like structures.

The complexities of democracy are the fundamental themes of political science and it is not the focus of this article. The key issue in this context is that neoclassical theory does not see the fundamental difference and potential contradiction between the fundamental democratic principle of one man one vote and one dollar one vote. The latter are the dollarocracy of market processes which neoclassical theory holds will maximise welfare. But what happens if elected government disagrees with the “market?” The governance of ccTLDs¹⁰ is an illustrative example.

⁸ The International Telecommunication Union, originally an organisation of state telecom companies. After deregulation a more fuzzy membership, but the ITU has UN status and is as such a legitimate body.

⁹ The Internet Architecture Board and the Internet Engineering Task Force. IAB is a body elected via the Internet. The IETF is a network, a forum for governance of the more technical aspects of the Internet.

¹⁰ Country code Top Level Domains, i.e., like .us, .uk, .fr for U.S., United Kingdom and France.

From the late seventies to the late nineties the distribution of the ccTLDs was in the hands of John Postel and his network.¹¹ Postel gave them away according to his own judgement. The result was in most cases acceptable. In some cases idealists turned over the country code to the government. In other cases they made a fortune out of them. There are examples like .la for Laos that for some years was not under the control of the Laotian government, but was used in Los Angeles. There are .tv, .cc, .nu and .ws (small island states) that are fully commercial, i.e., the contents of the second level domains have nothing to do with the states or their culture. In Norway for example, to register a second level domain name in the .no top level domain, requires registration in the official business register, which means that only organisations with a presence on Norwegian territory can register. The Government Advisory Committee of ICANN has argued that it has property rights in the country codes when used as second level domain names for example fr.com, fra.com. The point here is not to discuss whether such claims are reasonable, only to point out that neoclassical theory by its anti-government theoretical basis, or more precisely, bias, tends to say that the “market” should solve such issues -, i.e., in most cases favouring the already wealthy and/or powerful.

Is the Internet a public good?

There is general agreement that the use of the information and communication facilities on the Internet is a public good. It fulfils the two conditions of *non-rivalry* in consumption and *non-excludability*. It is of course well known that there are few pure public goods. National defense is an often used example, but it is clear that in a given situation there might be limited forces. Parts of the national territory might be left to the enemy or get less air or ground support because it is inefficient to distribute the forces of national defense. With digitalisation, radio waves can be encrypted to achieve excludability in order to avoid free-riding in pay-TV systems. On the Internet, as in telephony, there are capacity limits, but the cost of increasing capacity is so low, that there are no real shortage and no rivalry in consumption. There is an ample possibility to try to exclude, but no good reason to do so. The conclusion being that from a practical, commonsense point of view, the use of the Internet is as a public good.

Is the domain name system a public good?

To answer this question in the negative and to argue that auctions of domain names would increase the use of Internet resources is the main aim of Mannheim and Solum’s article “An Economic Analysis of Domain Name Policy.” In their article Mannheim and Solum are so eager to make everything private goods that they also argue that the root server service is a private good. This part of the Mannheim and Solum argumentation is not very convincing. The fact that the infrastructure is costly is of course no argument that the root server service is a private good. Take water in Norway. The infrastructure certainly costs, but costs are covered by taxes.¹² But water is clearly a public good, since it is abundant in Norway. Both non rival and non excludable. The cost of the root server system is marginal to the cost of the Internet as a whole – and we are all benefitting from the fact that others let us use their hardware for free in order to use the information they put out for free.

That domain names are scarce – in contrast to the domain name system – is obvious. Not be-

¹¹ This is not an accurate account of this process. To my knowledge no systematic history of this process exists.

¹² These taxes could have been lump sum. In most cases they are proportional to number of square meters that the household possesses. This can be seen either as a proxy for consumption or as a kind of progressive tax.

cause there is – as Mannheim and Solum also point out – an “engineering scarcity” – there is more than enough possible letter combinations. Domain names are scarce because they carry meaning and thus make navigation on the Internet easier. Each domain name can only be allocated to one firm/person. From this fact Mannheim & Solum concludes:

We think this [auction] system could break the logjams that have characterized the addition of new gTLDs to the root. A paradigm shift is required to make this work. ICANN has to stop treating the name space as a public good – requiring strict regulation in the public interest. Once it recognizes that domain names are private goods, and allows market allocation, a more efficient system of name space management should emerge. (page 408)

From the neoclassical perspective an auction insures that a scarce resource is put to its best use. In my opinion this overlooks the fact that the reason why domain names are valuable is because they are a kind of language and in this respect a common good. The fact that the TLD system we have, and which no one now sees as optimal, shows how important is path dependency, i.e., historical “accident.” The .gov, .mil and .edu testifies to this. Why should not .edu be used by all educational institutions world wide and not only U.S.? Or as a common second level domain for such institutions, e.g., edu.us, edu.fr and edu.uk?¹³ One has really to be a true believer in the virtues of the market to believe that an auction scheme would give the most rational use of domain names.¹⁴ Who will speak for those with less money – both poor states, diverse ethnic, religious and political communities? That the current procedure of the ICANN is far from optimal is equally true.¹⁵ To charge 50,000 USD as some non refundable proposal processing fees is a really questionable procedure. The criteria that ICANN used choosing seven of the 44 applicants seems far from clear. What is needed is a much larger process, a multi stakeholder process where representative governments, business community and civil society became involved. Basically it is the users of the Internet, the Netizens, that should have a decisive voice here. Ironically, a world wide discussion would be as close as one in reality could come to “perfect information” about the preferences regarding what system of domain names would serve us best. That there would be very different opinions is clear, but it is not given that a rough consensus could not be reached.

The Mannheim and Solum critique of the “taxonomy” alternative

Every auction alternative faces the problem that in contrast to, for example radio frequencies or telephone number series, it is far from given what TLDs should be auctioned. Mannheim and Solum write:

It is unrealistic to expect ICANN to rationally determine which gTLDs should be added to the root. There are few if any objective selection criteria. Does a gTLD need to be pro-

¹³ Actually in the UK ac for academic is often used.

¹⁴ Stiglitz in his book, *Wither Socialism?* has an interesting approach in this respect. Since the model of market socialism shares the fundamental belief in perfect markets as the neo-classical paradigm – all the reasons why market socialism did not work are at the same time arguments why capitalist markets do not work the way the neo-classical model predicts. To understand how markets really work one must turn to the heterodox, dynamic schools of economic modelling.

¹⁵ Mannheim and Solum hold that “... ICANN’s current staffing plan is arguably inadequate. For example it does not have a professional economist on staff – a dangerous condition for an entity responsible for making economic decisions with potentially enormous consequences.” One is tempted to propose *two* economists, one orthodox and one heterodox in order to also get another view of market dynamics, relationship between market and democracy, etc.

nounceable or have semantic meaning? Does it need to be descriptive? (page 418)

It is strange to pose the question, do domain names need to have semantic meaning. That is precisely why they are useful, why they become scarce and acquire economic value. A bit further down on the same page they conclude:

In fact, there may be no rational policy choices. Regulatory decisions on which gTLDs to add are inevitably arbitrary, or simply favour particular interest groups. The highly engineered grid of gTLD assignments that mark the current domain name space does not necessarily measure or meet the needs of the Internet community. (page 418)

As indicated above, and as I will discuss in more detail further down, there is a rational choice: to call upon the Internet users, some of them in their capacity as experts in fields like linguistics, information theory, communication etc. It is illusory to think that domain names are neutral; they will of course be socially constructed. It is a good thing that they “favour” special interest groups, society consists of special interest groups. The question is only which interest group(s) get the upper hand when the domain name system is designed. Like many others when they discuss Internet governance Mannheim and Solum speaks with contempt about “political pressures.” Again, to be useful the Internet should suit some political interest. Neither researchers nor “markets” are politically neutral. In various contexts they do more or less express the interests of consumers or a majority/minority of the economic and political elites. It should come as no surprise that ICANN with its “baroque structure,” its promarket and anti-government ethos is a creation not well suited to create a rational domain name system.

The current root, which has worked rather well, was intended to be taxonomized. The ccTLDs are the standardised ISO codes for states. The gTLDs were intended to designate various categories of information providers. The famous .com was for commercial enterprises, .org was for nonprofit enterprises, .net for internet related information providers, etc. What is really the problem is as Mannheim and Solum quite precisely point out: “... the taxonomy paradigm has already been violated by the opening of restricted TLDs (such as .org, .net, and even ccTLDs such as .tv and .us) to general commercial use. But given the existing Internet, guessability does not prove that a taxonomy is better than auctions. [...] The guessability argument fails, first and foremost, because second and third level domains are not taxonomized.” (page 439)

But why has it been violated? Is that not precisely because one has bowed before market forces, has not installed a regime that would create a rational information system? Mannheim and Solum do not seem to have any qualms about the misuse of the .tv, i.e., the ccTLDs of micro states. But the DOC and ICANN have the power, not only to protect trademark and brand names, but also to discipline those registrars that misuse the intended meaning of domain names. The same goes for second and third level domain names. We are back to the lack of a democratic, Netizen-inspired process of creating a DNS.

No wonder Mannheim and Solum do not like the taxonomy alternative. The only vision they have is that, “a taxonomy committee ... [which] would consist of a small number of individuals, likely volunteers, likely without a substantial staff, who would work part-time on the project of developing the taxonomy.” (page 438). They are equally skeptical of ICANN in this respect:

If ICANN did decide to expand the root by creating an expanded taxonomy, that decision would be made by the bottom-up, consensus driven ICANN process. But that process is not well suited as a method for determining the highest and best uses of the root. Participants in the ICANN process are, for the most part, technical specialists and not entrepreneurs. (page 439)

To Mannheim and Solum, even after Enron and the dotcom crash – it is entrepreneurs that really are capable of creating the best of all possible worlds. That “technical specialists,” guided by a vision, created the Internet is of course of virtually no importance in this context.

Reform ICANN or create new navigation tools by semantic web?

This is yet another big issue beyond the scope of this article, but in my opinion ICANN is beyond reform. And in any case, domain names are a very information poor structure, better than nothing of course, but using domain names for navigation belongs to the past. Netizens of Cyberspace should unite, ally themselves with firms and governments and UN-organisations that go for an open process of semantification. This will reduce the importance and consequently the commercial value of domain names. Still of course “controlling the root will be important” because the threat to throw out those that do not behave according to the rules lays in the hands of those controlling the root. But the navigation aspect of domain names will change. But most importantly – once more noncommercial (but not anti-commercial) mechanism can improve the use of this very important public good that the Internet has been, is and will be in the foreseeable future. In short, the new and vaguely outlined Internet Governance Forum should focus on the semantic web in order to “create facts on the ground,” in order to mobilize the Netizens and progressive parts of the private sector. The private sector is better served by a new and vastly more powerful semantic web¹⁶ than an enlarged set of gTLDs. What is the use of having both .com and .biz beside having to do defensive acquisitions in both domains?

Do we need competing Internets?

I raise this really bizarre question only to show how “far out” this belief in neoclassical vision of perfect competition can lead us. When you believe that competition is the answer to most social and economic challenges, then why have one Internet – why not have competing root server systems? Or as it was stated in the “Green Paper” that laid the foundation for the privatisation of the DNS:

Where possible, market mechanisms that support competition and consumer choice should drive the management of the Internet because they will lower costs, promote innovation, encourage diversity, and enhance user choice and satisfaction.

In a working paper from the International Centre for Economic Research, Gordon L. Brady argues enthusiastically for competing Internets:

Let us hope that the alternative Internets will arise without unnecessary restrictions and make the sluggish (and highly political) regulation by ICANN less important.

The background for Brady’s wish for alternative Internets are real. Brady points out that:

ICANN rejected ‘dot-travel,’ proposed by the International Association of Travel Agents (IATA), which represents more than 70% of all travel agents on the grounds that IATA was

¹⁶ Their devotion to an auction solution lead Mannheim and Solum to be unenthusiastic about a new real semantic ontology based Internet. They write: “But we do not need to taxonomize the root in order to add ‘Yet Another Hierarchically Organized Outline’ to those that already exist. Such taxonomized schemes of Internet access are provided by YAHOO, Google, Lycos, and dozens of other services.” (page 439). But these services are based on indexing of free-text, only ad-hoc, post-fact classification is involved – and consequently they often give thousands of irrelevant hits even when searching for well identified information.

not representative of the industry. ICANN also decided to add ‘dotbiz’ as a TLD while refusing to recognize that the owners of the pre-existing ‘dotbiz’ registration on a competing root server system might have a prior claim to that name on the A-root server. This suggests that ICANN may block efforts to broaden competition within cyberspace.

Although they in principle agree on the desirability of competition for root service, Mannheim and Solum are for once realistic enough to realize that root service is a natural monopoly. They correctly outline the scale, scope and network effects that create a monopoly.¹⁷ Consequently they pose the real question:

What is surprising is that any alternative root service providers exist at all. What explains the emergence of these failed attempts to compete with ICANN? The most obvious explanation is ICANN’s restriction on the TLD space. (page 364)

Brady goes into the technical details on how to use alternative root servers. The simple fact that to have to use different Internets, with different – and competing DNS – would be a big step backwards is completely overshadowed by the fascination of the wonders of competition.¹⁸ That Brady cares more for IATA and the owners of the alternative .biz than for the millions of knowledge and information users of the Internet just makes the picture complete.

The costs of competition and auctions

Mannheim and Solum, like most other neoclassical economists underestimate the costs of competition – like for example the PR-wars between producers when their products basically are in reality homogenous, i.e., identical as the neoclassical model requires (shampoo, cars, soft-drinks, etc., etc.) and irrational product differentiation is a question of life and death. In this context it is far from clear that more general TLDs would do any good. Most big firms and most governments would have to buy their brand name as a SLD in any TLD in order to block others from misusing it. More TLDs would only benefit those who live off selling registration and register services. Mannheim and Solum’s solution to this problem is to argue that every big firm could have its own TLD,¹⁹ probably through yet another costly auction process. But if one from the start had a Netizen perspective on domain names both cyber squatting and the cure, the UDRP, could have been mostly avoided. It would have been rational to give www.ibm.com to IBM, since that is part of a rational way to find the web-pages of IBM. As Mannheim and Solum point out there will be windfall gains. The challenge for the economics profession would be to create a theory, taking into consideration the history and dynamics of the relevant markets, where most of these gains end up in the public sector and used for transferring wealth to those whose legitimate needs are not backed by enough purchasing power.

Conclusion

The aim of this article has been threefold. First of all to argue that there is not economic theory in the singular, that there are fundamentally different approaches to the mainstream neoclassical paradigm. Secondly I argue that the neoclassical paradigm has a weak scientific foundation. It is inherently static and cannot handle dynamic processes well. The reason why it

¹⁷ That “increasing returns to scale” are pervasive, that to create them is a major way of competing – and that they completely destroy the solution of a general equilibrium model seem not to worry Mannheim and Solum.

¹⁸ That in real life – utterly imperfect – competition is the driving force of growth, see Baumol (2003).

¹⁹ They use the example of .att for AT&T

dominates is that its policy recommendations in general favour the economic elites and not trade unions and developing countries. Thirdly I argue that in the discussion of ICANN and the Internet domain name system, belief in markets makes them overlook that domain names work because they are a kind of language, and that markets/auctions are not better suited to create a rational system than a world wide democratic process regarding the domain name system. Given the impasse around ICANN the most realistic way to ensure that navigation on the Internet is done in a rational way is to have a democratic process connected to the “semantification” of the Internet, i.e., the next generation Internet. From a Netizen point of view, it is to avoid the Scylla of naïve market idealisation and the Carybdis of ICANN’s lobby prone procedures. The task is to create an open, transparent multistakeholder process of Internet governance. The Geneva and Tunis WSIS were small steps in the right direction.

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