The Failure of Market Fundamentalism
What are the Issues in the ICT Sector?

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The New Economics of ICT:
Implications of Post-neoclassical Economics for the Information & Communications Technology Sector

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THE COLLAPSE OF MARKET FUNDAMENTALISM

I made a new year's resolution to begin every speech this year with the observation that the long experiment with market fundamentalism and its irrational exuberance for deregulation is over. It started symbolically on January 20, 1981 when Ronald Reagan declared, "Government is the problem," and ended symbolically on October 23, 2008, when Alan Greenspan, the leading apostle of deregulation in the financial sector, admitted that there is a flaw in his theory.

"Those of us who looked to the self-interest of lending institutions to protect shareholders' equity, myself included, are in a state of shocked disbelief… I made a mistake in presuming that the self-interests of organizations, specifically banks and others, were such that they were best capable of protecting their own shareholders and their equity in the firm."

We in the consumer movement have long held that the pursuit of private profits is not synonymous with the public good, but Greenspan went us one better by suggesting that the pursuit of private profit is not even synonymous with the private good. If pursuit of profit cannot protect the private interests of equity owners, you can imagine what a mess it can make of the public interest.

Note that Greenspan's admission is not specific to the financial sector but is a general proposition about economic incentives. Greenspan's observation undercuts one of the central assumptions of market fundamentalism – the claim that markets tend toward efficient equilibrium (the efficient market hypothesis). The recent economic and financial meltdown has also undercut two other central assumptions of market fundamentalism – the claim that "government is the problem" (the less government hypothesis), and that inequality does not matter (the trickle down hypothesis). Thus the three central tenets of market fundamentalism have turned out to be fallacies, which leads to the collapse of its main empirical prediction, the great moderation.

Some have called the system that has been in place for the last thirty years "Casino Capitalism," others "Speculative Capitalism," but the term market fundamentalism has recently been used by both Joseph Stiglitz and George Soros. I think this is an apt description of the economic ideology that has governed the last thirty years, not only because it captures the content of the economic principles on which the economic system rested, but also because it conveys the sense of a religious belief based on faith rather than fact, which is very much the way advocates and apologists for market fundamentalism act.

Over the past 30 years, there have been a series of domestic economic crises and financial meltdowns: the S&L crisis of the 1980s, the derivatives crisis of the 1994, the collapse of a famous hedge fund, Long Term Capital Management in 1998, the California electricity meltdown in 2000, the tech stock bubble of 1999-2000, the Enron fiasco of 2000-2002, the housing bubble of 2005-2007, and the energy speculation bubble of 2006-2008. There have also been three recessions and a series of foreign financial and economic crises – the Japanese malaise of the 1990s, currency crises in Mexico (1994-1995), Thailand (1996-1997), South Korea and Brazil (1998-1999), and Argentina (2002). In short, barely a year went by in which one could not find a major market failure that should have raised loud alarms about the economic structure that we were building in the world. This time things are much worse, and policymakers are forced to pay attention

Because market fundamentalism was religiously applied across the economy, and because there are differences in economic structure across the sectors, the manifestations of the problem differ across the sectors, but they share common themes. In the financial sector the core cause of the failure of unregulated markets is a nexus of endemic problems including asymmetric information, perverse incentives, agency, conflicts of interest, moral hazard and unfairness. In the real economy the core causes of the failure of unregulated markets lies in basic market conditions and persistent flaws in market structure – low elasticities of supply and demand, high barriers to entry, economies of scale and scope, vertical economies, network effects, and externalities – that undermine competition and result in the abuse of market power. Left to its own devices the market fails to consistently achieve its primary function of efficiently allocating resources to uses. Economic theory could envision a more efficient outcome without regulation only by ignoring or downplaying the flaws in the market, but reality could not produce the theoretical outcome because the flaws inevitably assert themselves.

Left to its own devices, the market suffers from inherent or endemic flaws as a result of which it fails to consistently achieve its primary function of efficiently allocating resources to uses. The implementation of market fundamentalism in policies undermined the regulatory institutions that were intended to address these flaws – removing or reducing their power where the institutions existed or preventing the creation of new regulatory institutions where they were needed. Economic theory could envision a more efficient outcome without regulation only by ignoring or downplaying the flaws in the market, but reality could not produce the theoretical outcome because the flaws inevitably assert themselves.

In keeping with the theme of the conference, this observation on the different sources of market failure in the financial sector and the real economy lead me to suggest how the existing economic paradigm should be modified. I, however, start from a somewhat different paradigm than the market fundamentalist. The economic paradigm that guided the construction of new deal institutions was the Structure Conduct Performance paradigm in its early days. This paradigm remained dominant for about forty years until the Chicago School provided the intellectual underpinnings for market fundamentalism.[1]

The structure, conduct, performance paradigm identifies the factors that affect market performance. Figure 1 shows three graphic representations of the paradigm from well-known texts. These formulations identify different sets of "conditions" or "determinants" that affect structure and behavior indirectly, but they do not see direct relationships between determinants or basic conditions and behavior. Conduct is primarily the result of structure. The paradigm was primarily structural and oriented toward the real economy. Indeed, in Shepherd's identification of industries, he depicts Financial Markets, Banking and Securities as floating above the industries of the real economy.

The clear distinction between the real economy and the financial sector and the growing recognition of behavioral economics suggests that the paradigm needs to give more weight to behavior and its determinants as autonomous causes of market performance (as in the final panel of Figure 1). This distinction fits the current crisis well, since the market imperfections identified as afflicting the financial sector tend to be behavioral, while the imperfections that afflict the real economy tend to be structural. This is not to say that behavioral problems cannot afflict the real economy and structural problems cannot afflict the financial sector. To the extent that the SCP paradigm was significantly concerned with the conditions that caused markets to deviate from the theoretically efficient outcome and behavioral economics is concerned with deviations from presumed rational behavior and the resulting market inefficiencies, the union of the two should not be problematic. Thus, we might talk of the behavioral, structure, conduct, performance paradigm (BSCP).

MARKET FAILURE IN THE ICT SECTOR IN THE U.S.

The ICT sector has three characteristics that make it particularly prone to problems of market failure.

First, the sector is infrastructure in the classic sense because "it has very great influence, as a supplier of essential inputs to other industries, on the size and growth of the entire economy. It conditions the possibilities of growth."

[1] Robert Pitofsky (Ed.), *How the Chicago School Overshot the Mark: The Effect of Conservative Economic Analysis on U. S. Antitrust* (New York: Oxford University Press, 2008).

Second, in the digital age IT goes beyond mere infrastructure. The Internet is a meta-platform that rides atop the communications network and supports a vast array of other platforms and economic activities that generate massive positive externalities.

Third, the physical layer of this platform exhibits classical characteristics that inhibit competition – economies of scale and scope. The result is at best small numbers competition, which is not likely to be vigorous and poses major challenges of market power.

The impact of market fundamentalism on the ICT sector in U.S. has been profound. Beyond the tech stock bubble, which has been attributed in part to market fundamentalism by Joseph Stiglitz,[2] we have the ongoing spectacle of a steady decline of the standing of the U.S. in broadband deployment and adoption as the highly symbolic measure of the failings of the *Laissez Faire* approach to telecommunications policy. The most recent rankings of the ITU has the U.S. falling from 11th in 2002 to 17 in 2007 on the Information Communications Technology Development Index. While such summary indices have been a focal point of debate, there is no doubt that the U.S. has stumbled badly in comparison to other nations on this vital measure of market performance.[3] While the ITU index is a multi-attribute study that includes landline and wireless telecommunications, the Internet and broadband sub-indices underscore the poor performance of the U.S. The U.S. ranks even worse on several of these.

Fixed Broadband subs per 100 pop.	15
Mobile Broadband subs per 100 pop.	19
Total Broadband Subs per 100 pop.	21
% of Households with Internet	18
Backbone per Sub.	22

Figure 2 plots the final three of these dimensions for the top 30 national in the ITU index. It turns out that 28 of the top 30 nations exceed the U.S. on at least one of the three dimensions. Taken together, it does no present a pretty picture. Most of the nations that rank ahead of the U.S. did not pursue a *laissez faire* policy. On the contrary, they pursued a much more activist intervention policy – the very policy the U.S.

[2] Joseph Stiglitz, *The Roaring Nineties* (*The Roaring Nineties* (New York: Norton, 2003).

[3] See Mark Cooper, "Broadband In America: A Policy of Neglect is Not Benign," in Enrico Ferro, Yogesh K. Dwiviedi, J. Ramon Gil-Garcia,a nd Michael D. Williams (Eds.) *Overcoming Digital Divides* (IGI Global, forthcoming), for a discussion of a number of studies that seek to explain away the poor performance of the U.S..

abandoned to market fundamentalism. Thus, the failure in broadband is a failure of market fundamentalism, not as spectacular as the financial meltdown, perhaps, but a substantial failure nonetheless.

THE FAILURE TO ENFORCE PRAGMATIC, PROGRESSIVE POLICIES IN THE ICT SECTOR .

The failure of market fundamentalism in the ICT sector spans the two primary areas of policy identified in the BSCP paradigm, antitrust and regulation. The logic of divestiture was crystal clear within the framework of pragmatic, progressive capitalism – inject competition into the monopoly structure where it was viable, continue to regulate where it was not. But divestiture occurred at the start of the age of market fundamentalism and market fundamentalists have no self-control. Since they cannot accept that market failure is a real threat, they push deregulation beyond its rational limits and, as is the case in the implementation of the Telecommunications Act of 1996, they lack the intestinal fortitude to control monopoly power sufficiently to allow competition to grow.

Make no mistake about it; divestiture and deregulation are linked in a direct way. The Telecommunications Act of 1996 was pushed by incumbent local exchange carriers, who chaffed under the yoke of public utility regulation at the state level and antitrust restraints on their market power at the federal level. The 1996 Act opened the door to the reunification of local and long distance service, upon a showing that the local monopoly had been eroded by new entry. Unfortunately, market fundamentalists confused the slightest hint of entry with workable competition.

Regulators, legislators and the courts made a series of critical mistakes if they really intended to create a vigorously competitive environment in the telecommunications space. Based upon decades of experience and theory, the Department of Justice *Merger Guidelines* suggest that mergers in markets that have fewer than the equivalent of six equal sized competitors are harmful and should be challenged. In the past decade, that standard seems to have deteriorated into a standard of ‘more than two is enough.” This lax standard has been coupled with a total disregard for the problems that vertical mergers pose in a platform industry, where complementary markets are closely linked together. The lax standard has been driven by an over reliance on intermodal and potential competition to excuse the massive build up of market power that is evident when a rigorous ‘traditional’ view of product and geographic markets is taken. Intermodal and potential competition have simply not provided the effective disciplining force that head-to-head competition provides.

The Regional Bell Operating Companies were allowed to reconstruct regional versions of the old bell systems with mergers of contiguous telephone companies under the theory that one big monopolist is no worse two small ones. They were essentially excused from competing with one another through these mergers, even though there was solid evidence that they would and could do so. Ultimately, they were allowed to acquire their largest actual and potential head-to-head competitors, the long distance companies, under the theory that intermodal competition would restrain market power. Theses mergers were approved in spite of the failure of network unbundling to open local markets to competition. The dominant incumbent wireline companies were also allowed to dominate the wireless space by being giving initial cellular licenses, being allowed to merge with actual competitors, and being permitted to acquire huge quantities of the most vital assets for local competition in the wireless product market, spectrum.

As a result, the public has been left, in many cases, in the hands of a cozy duopoly or near monopoly and suffered the consequences that sound antitrust policy is intended to prevent by promoting competition – rising prices, anti-consumer terms of service, underinvestment in critical facilities and a lack of innovation. As the market power of the incumbents was ramping up due to lax antitrust policy, the 1996 Act simultaneously set in motion policies to relax regulation over the sector.

The 1996 Act also set in motion an even more serious shift in communications policy by fumbling the definitions of telecommunications services. The 1996 Act opened the door to the repeal of the obligation of nondiscriminatory interconnection and carriage that had ensured an open communications infrastructure.

In 1968 the Federal Communications Commission entered into a new regulatory experiment that might be called the open platform era. It abandoned the monopoly provision of customer premise equipment and adopted an open standard approach to Customer Premise Equipment that required AT&T to allow any equipment that met the standard to be attached to the network. This is known as the Carterfone decision. In the same year, it took a similar approach to the transport of data traffic deciding that AT&T would have to treat data traffic in a non-discriminatory manner. This is known as the first Computer Inquiry.

This was progressive, pragmatic capitalism at its best. For thirty years virtually every bit that traversed the Internet to serve the mass market was transmitted and received by devices that were approved under Carterfone and carried by regulated common carrier networks on just, reasonable and nondiscriminatory rates, terms, and conditions set by the Computer Inquires.

If you had listen to the market fundamentalists, however, you would have been told that these two attempts at regulated open access were doomed to fail. Although AT&T fought mightily against these incursions into its monopoly power, the market fundamentalists argue that the unregulated abuse of market power would be temporary. They predict that excessive profits would attract new investment in competing networks, or better still, the threat of competition and the realization that the incumbent network operators' interests are served by promoting complementary services will keep them from behaving too badly. The market fundamentalists believe that incumbent monopolist will embrace the principles of nondiscrimination as a reflection of enlightened self-interest.

Unfortunately, neither history nor contemporary behavior supports this hope. Back at the turn of the twentieth century, AT&T was pressed to interconnect with independent telephone companies. It did not do so voluntarily. It was only after the states began to impose interconnection obligations and regulation that it issued a famous commitment to one network, universal and interconnected. The Regional Bell Operating Companies certainly made the life of the Competitive Local Exchange Carriers miserable when they tried to interconnect to provide local service.

The Internet is a meta-platform, infrastructural sector, like the banking system, in which we simply cannot tolerate even a low level probability of market failure. Notwithstanding the griping of the incumbents, the regulated telecommunications network had a pretty good run at providing ubiquitous, affordable telephone service. More importantly, there is no doubt that regulated competition preserving and extending the obligations of interconnection and carriage in Carterfone and the Computer Inquiries were unmitigated successes that provided the communications pillar for the Internet.

Market fundamentalists make two critical errors when they analyze the Internet. They underestimate the likelihood of market failure and, treating the sector like just widgets rather than infrastructure, vastly underestimate the cost of market failure. If the market fundamentalist approach had reigned in 1968, AT&T's arguments would have prevailed in its opposition to Carterfone and the Computer Inquiries. Obligations of nondiscriminatory treatment of data traffic and publication of open standards for equipment would not have been adopted and the Internet would have been stifled; at least that was AT&T's intention. A decade later, when AT&T's progeny made their first run at nondiscrimination as the commercial Internet was emerging, their arguments that they should be allowed to re-assert centralized control over the Internet because they could not count on services to fill the fat pipes they were proposing to build would have been accepted. The Internet would have looked more like ISDN service, which the Baby Bells throttled to avoid cannibalizing existing revenues, or Minitel, retarded to funnel application revenue to network owners.

Fortunately, the market fundamentalist arguments were rejected for three decades and the Internet was allowed to flourish in an open communications environment. Unfortunately, after the 1996 Act was passed, the market fundamentalists used its ambiguity to declare that the obligations of nondiscrimination should not be extended to the broadband telecommunications services of the cable operators. This decision was used to bootstrap the deregulation of incumbent local exchange carrier broadband telecommunications.

Having abandoned intramodal competition, failed to promote competition on the communications platform and relied on feeble intermodal competition, we are left with a cozy duopoly in network access that has escaped from public interest obligations because of deregulation. The duopoly of cable and telephone companies was allowed to dribble out broadband at high prices. Attempting to provide incentives to the incumbent duopolists to roll out the new technology quickly and keep the price low, the FCC not only abandoned the obligation that communications network be available without discrimination, it also abandoned the efforts to support vigorous service competition on advanced networks and failed to prevent pricing abuse of key network services (like wholesale loops and special access) that were critical for new entrants (either landline or wireless) to compete.

While competition floundered, the FCC did little to promote universal service. In eight years, the FCC failed to reform the universal service fund so that it would support advanced communications facilities in rural areas or make them more affordable in urban area. The fund grew dramatically, enriching the incumbent telephone companies, without promoting the public interest in a ubiquitous broadband network.

CHANGING COURSE

In order to restore the U.S. to leadership in the ICT sector, we must change direction in policy. It is time for us to abandon the market fundamentalist view that sees regulation and antitrust as the *ex post* clean up after the occasional market failure, and to return to the New Deal view which understood that regulation and antitrust are the *ex ante* prophylaxis to prevent market failure. We must restore the central tenet of communications regulation that was enshrined in the Communications Act of 1934 – nondiscriminatory interconnection and carriage. History shows that a communications space based on nondiscrimination is an infinitely more innovation-friendly ecology than the walled gardens the network operators want to build. If the physical layer were as competitive as the applications layer, the argument against regulation would be more convincing, although obligations of nondiscrimination never rested solely on claims about market power, but the physical layer isn't even close to that competitive. The debate over 2, 3, or 4 competitors misses the point.

The physical layer simply cannot be allowed to throttle the applications layer. We must not sacrifice innovation without permission in the applications layer for rent maximization in the physical layer because that is what the private owners think is in their interest. In short, communications regulators must establish public interest obligations, just like financial regulators should have exercised authority over shadow banks and exotic financial instruments, set capital and margin requirements, rejected claims that only the corporations could properly evaluate risk, and enforced rules of prudential behavior.

We need to revive vigorous antitrust oversight. Competition and regulation should go hand in hand in rebuilding the economy. Effective regulation should establish the framework within which competition can work. Federal antitrust authorities should take their own guidelines more seriously and return to fundamental head-to-head competition as the foundation of antitrust, challenging mergers more consistently in highly concentrated markets. Theories of the dynamic duopoly, intermodal and potential competition have proven to be just as wrong headed as market fundamentalism.

Indeed, economics has relied so much on theory that it has lost touch with reality, a situation that Lord Keynes observed at the onset of the great depression. If you intend to do theory, I challenge you to take the fundamental market imperfections I identified, put them into you favorite economic paradigm and observe the damage it does to the expected efficient market outcome.

- **Behavioral Determinants:** asymmetric information, perverse incentives, agency, conflicts of interest, moral hazard and unfairness.

- **Structural Conditions:** low elasticities of supply and demand, high barriers to entry, economies of scale and scope, vertical economies, network effects, and externalities

You should then propose prophylactic *ex ante* policies for each of the imperfections because without policy, the market will fail.

Over the past several decades antitrust and regulation have given far too much deference to efficiency and the enlightened self-interest of corporations at the expense of competition. The assumption that private actors will be perceptive and well-intentioned in their pursuit of efficiency and efficiency gains will be passed on to consumers even where competition is feeble, never made sense and, in light of the collapse of market fundamentalism must no longer be relied upon. Private actors are at least as likely to be myopic, misinformed and maleficent.

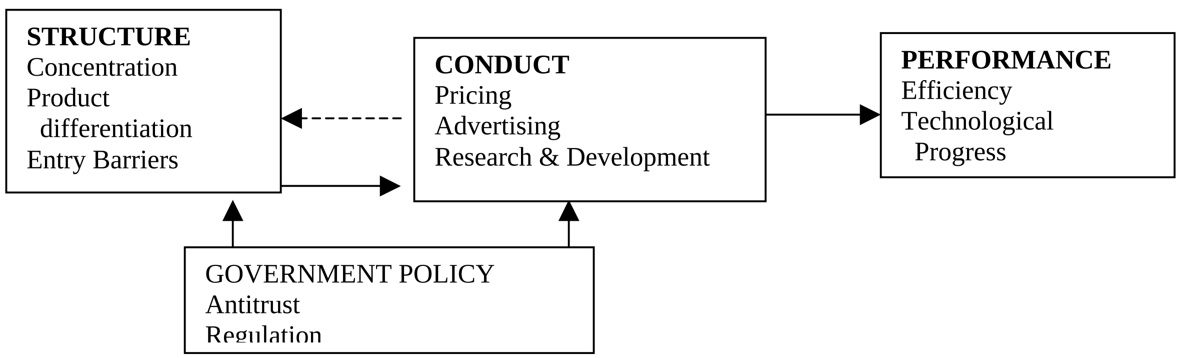
In both antitrust and regulation we must pay much greater attention to vertical relations, since the digital economy of the 21st century is very much an economy made up of platforms in which layers of complementary products and services sit atop one another and their close technological interconnection renders the threat of exercise of vertical leverage much greater than was the case in the physical markets of the 19th and 20th centuries. Tying, anticompetitive bundling and exclusionary conduct take on much greater significance.

Having launched my discussion with a sweeping claim, I will finish with one. The debate is not between capitalism and socialism, as it was recently portrayed in the election campaign, but between a pragmatic, progressive approach to capitalism that was implemented in the U.S. in the New Deal and the radical market fundamentalist approach to capitalism that has been pursued for the past 30 years. Market fundamentalism is the radical experiment that has gone wrong.

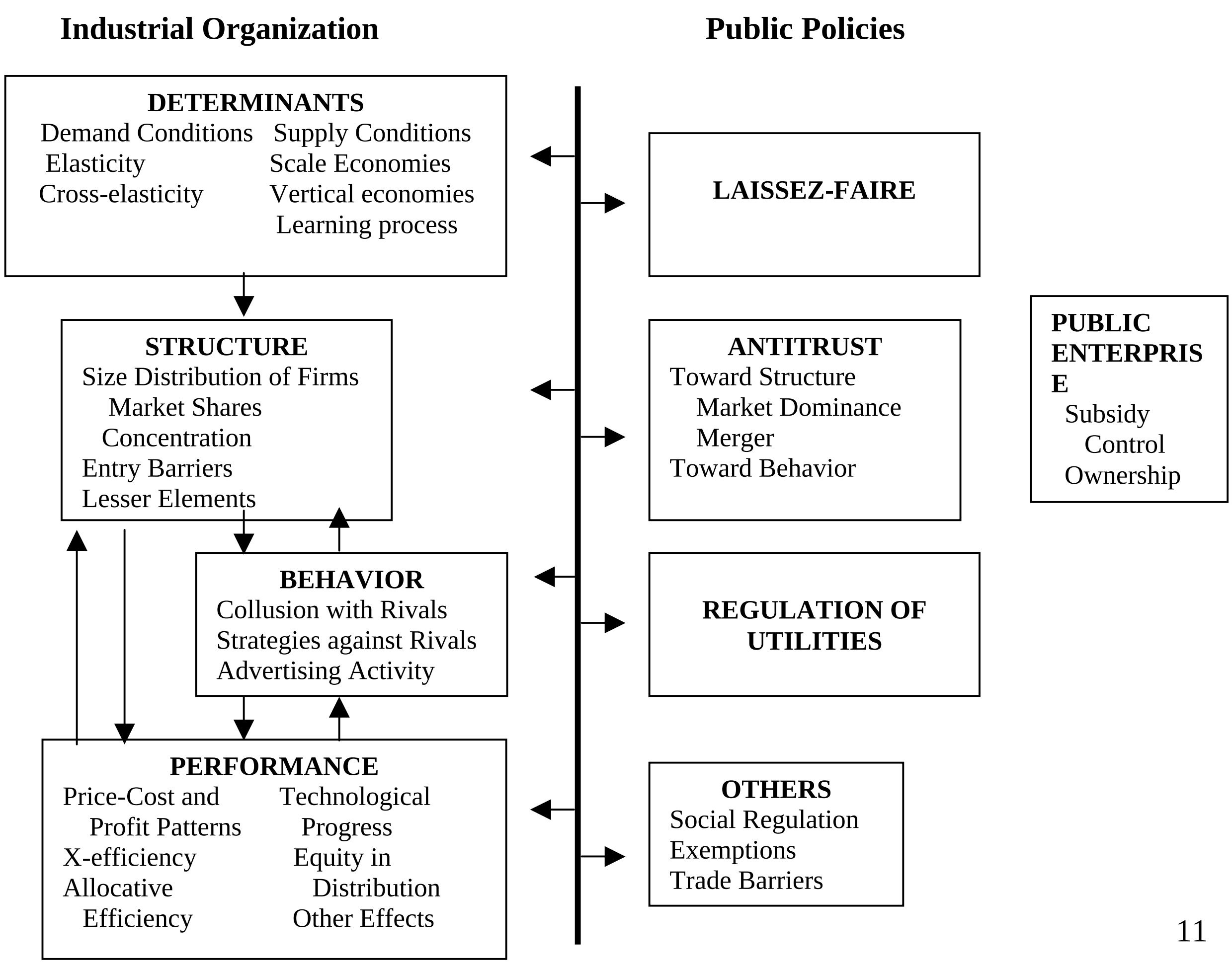
The genius of the New Deal was to use regulation to direct the powerful forces of capitalism to socially productive endeavors, without abandoning the precompetitive legislation of the progressive era. When the News Deal created the institutions of regulation to repair the economy after the collapse at the end of the roaring twenties, it did not repeal the antitrust laws. It layered regulation atop the antitrust laws. The result was a most remarkable half-century, the only half century that was free of major domestic financial crises in the history of the Republic and a half-century in which economic growth was not only vigorous but also widely distributed across the entire income distribution. Indeed, we now know that it was vigorous precisely because it was widely distributed. That is what we lost in the decades when market fundamentalism wrecked the economy and that is what we must recapture if we are to rebuild our economy on a sound basis.

Figure 1:
Models of the Structure-Conduct-Performance (SCP) Paradigm of Industrial Organization

Viscusi, Kip, W. John M. Vernon and Joseph E. Harrington, Jr., *Economics of Regulation and Antitrust* (Cambridge: MIT Press, 2001), p. 62.



William G. Shepherd, *The Economics of Industrial Organization* (Englewood Cliffs: Prentice Hall) p. 5.



F. M Scherer and David Ross, *Industrial Market Structure and Economic Performance* (Houghton Miflin: Boston, 1990) (hereafter Scherer and Ross), p. 5.

BASIC CONDITIONS

Supply
Raw material
Technology
Unionization
Product durability
Value/Weight
Business attitudes
Legal framework

Demand
Price elasticity
Substitutes
Rate of growth
Cyclical and seasonal character
Purchase method
Marketing type

MARKET STRUCTURE

Number of sellers and buyers
Product differentiation
Barriers to entry
Cost structures
Vertical integration
Diversification

PUBLIC POLICY
Taxes and subsidies
International trade rules
Regulation
Price Controls
Antitrust
Information provision

CONDUCT

Pricing behavior
Product strategy and advertising
Research and innovation
Plant investment
Legal tactics

PERFORMANCE

Production and allocative efficiency
Progress
Full employment
Equity

Adjusting SCP to Recognize the Importance of Behavioral Economics and the Financial Sector

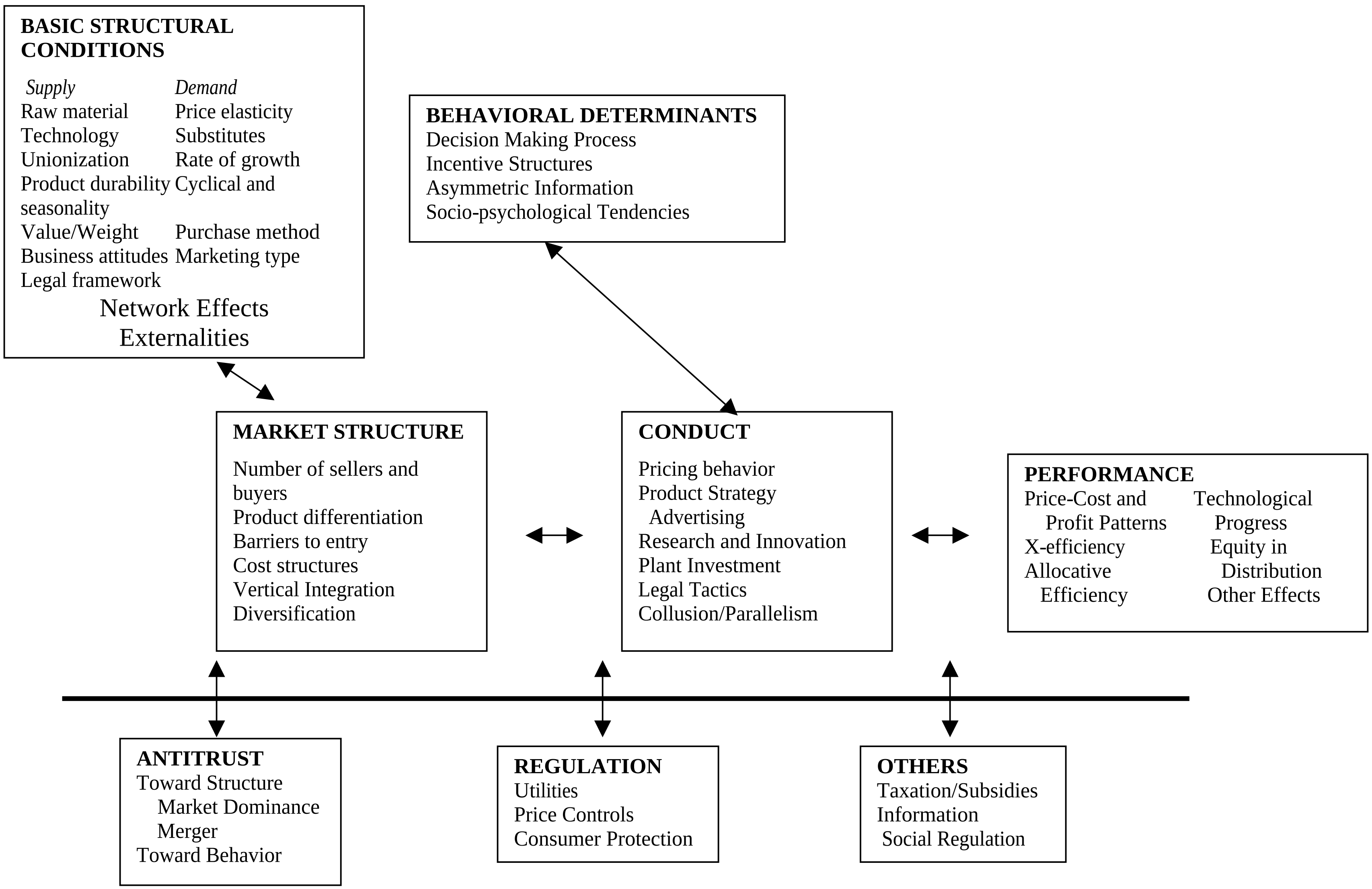
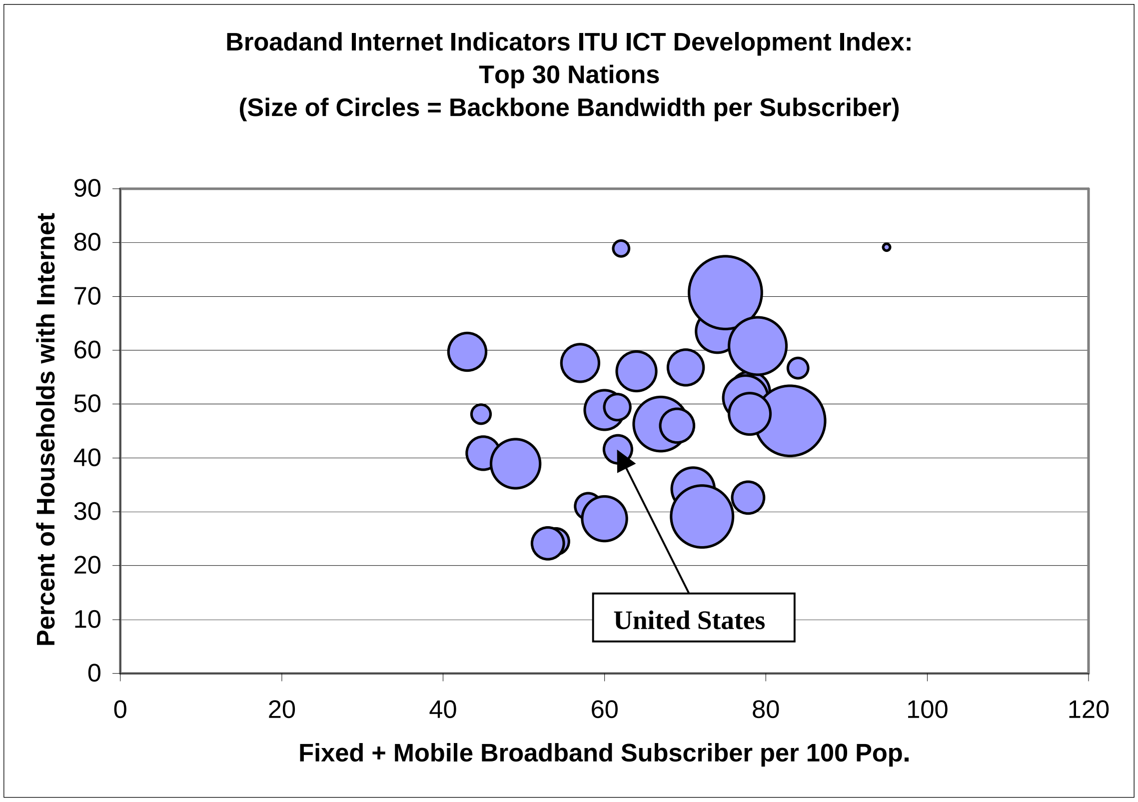


Figure 2:



International Telecommunication Union, *Measuring the Information Soceity: the ICT Development Index*, 2009, Annex 4.