

The End of Capitalism and the Triumph of the Market Economy

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an excerpt from

Network Commonwealth: The Future of Nations in the Internet Era
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A funny thing happened on the way to the Third Millennium. Capitalism ended. At least, capitalism as defined by the man who coined the term. It is a peculiarity of socio-economic systems that they are typically known by the names that others give to them. The knights and princes of the Middle Ages never knew that they lived under feudalism; this name was invented only in the modern era.

Our current era is a particular case of these peculiarities. We call our economic system capitalism, and our political system one of democratic nation-states. Yet the term capitalism comes from Karl Marx, who thought that the era of market-economy nation-states was, in the middle of the 19th Century, on the verge of being replaced by a world state with a centralized command economy, which he termed scientific socialism. He was wrong about the inevitability of the transition to a command economy, as well as the desirability of that transition. These facts have finally been generally accepted. Yet we continue to accept his term of capitalism, and for the most part his definition of that system, and think of the market economy and capitalism as being synonymous. This is sloppy thinking.

Marx saw capitalism as a step on the road to centralization of society, economy, and the State. In his system, the relation of individuals to the means of production of material goods and services was the fundamental tool for analyzing society. In his system, land was the principal means of

production under feudalism, at a time when agriculture was the principal productive activity, and the fact that land was owned by feudal lords made them the ruling class of feudal society. He saw capitalism as being the system of the industrial revolution, in which industry replaced agriculture as the principal productive activity. The means of production -- the industrial plants and tooling -- were large, expensive machine installations, and were owned by the shareholders of the corporations that arose to build them. Thus the class of shareholders became the ruling class of industrial society. Because ownership of capital -- liquid, investable wealth, and the industrial plants it paid for -- was the characteristic of this class, he called the system capitalism.

Over the past three decades, however, an enormous transition has taken place. Industrial manufacture has declined as the dominant and characteristic activity of the economy, and has been replaced by the production, organization, and manipulation of information. The means of producing and processing information have become the principal economic activity, and the tools used in those processes -- computers and information networks -- have become the principal means of production. At first, this seemed to not matter to Marxists, and others who saw the ownership of capital and thereby of the means of production to be the salient feature of the economy. The production and manipulation of information seemed to require large, capital-intensive tools -- computers, communications networks, and broadcasting systems -- and it seemed as if large corporations could dominate this field by the control of the massive capital needed to create and operate these tools.

The rise of Microsoft to dominance seemed to validate this model. Employing thousands of Microsofters, using its massive capital to amass software patents and enforce them, maintaining battalions of lawyers to wear down the competition, and using its capital throw-weight to establish new products through brute-force control of advertising and distribution, Microsoft seemed to be the Standard Oil of the new industry. Yet just as Microsoft seemed to be guaranteeing the predominance of the capitalist model into the new era, several significant things were happening which suggested that, rather than being the first corporation of the new era, Microsoft was the last corporation of the passing one.

The first thing was that the falling price of computers crossed the line to the point where the average programmer could afford to own a computer capable of producing the code he typically produced. This meant that, for the

first time since the beginning of the Industrial Revolution, the ownership of the most critical tool of production of the most critical industry of the world's leading economy became readily affordable by the individual worker. Throughout the first three decades of the Information Age, the individual worker was still as dependent on his employer for his means of production as was any textile worker in Manchester or Lawrence in 1840. Suddenly, this changed. Now, it is as if a steelworker could afford his own blast-furnace or rolling-mill; an automobile worker his own assembly line. By strict Marxist definitions, capitalism ended some time in the early 1990s. I have nowhere seen this fact brought to the attention of the world.

The second thing which has changed is the rise of the Internet. This is taking the control of the communication networks, and ultimately of the communications media, out of the hands of the large corporations which have always controlled them. It is creating the basis for a heterogeneous, worldwide, real-time market in which packages of communications capability, and content, will be bought and sold as commodities, and in which small players will likely hold the advantage over big ones. The Internet, the computer, and broadcasting capabilities will just be arbitrary divisions within a wider uniform medium. The cost of a facility for Webcasting is far less than the cost of a facility for television broadcasting; in a few years the quality of the Webcast will be as good, if not better, than that of broadcast television, and the cost of a Webcasting facility for high-quality production will readily be in the range of many individuals. Just as the individually-owned computer capable of producing first-rate software is revolutionizing the work relations of software, the individually-owned Webcasting facility will change the nature of the media.

It is also changing the dynamics of production. Even though the tools of production can now be owned by the workers, individually and severally, there still seemed to be a need to bring programmers together in one place and put them under the control of management. Although this is still the case in most instances, the rise of Linux and other open-source products has provided another paradigm, and one which will soon grow to become the principal model of production in the principal industry of the leading economies of the planet.

The open-source software world is unlike anything described by Marx, either as present reality or future possibility. Let us consider the world of Linux, the most famous open-source product. Software code is produced

without direct cash compensation by a wide collection of individuals, voluntarily coordinating themselves over the Internet. Consensus is the primary decision-making mode. Expertise and renown are then used as a platform for marketing individuals services as employees and as members of entrepreneurial teams in for-profit companies (such as Red Hat) which take the basic open-source code (which is available to all, free on the Internet), and turn it into commercial variants which are sold and supported by those companies. The Linux world runs what amounts to a parallel economy paying in reputation, rather than cash, linked loosely to the cash economy. It is a one-way linkage; reputation can be turned into cash, but cash cannot be turned into reputation. It is remarkably free from regulation and confiscation; no government agency can take reputation away from one participant and give it to another.

The closest analogy to the Linux model of production may be that of the live theater industry. There would-be actors perform for free or for minuscule reward to demonstrate their talents. Eventually they are accepted in a profit-making enterprise, or band together with other would-be entrants to form a new company. Once a certain breakthrough is made, the reputation of the actor becomes a reliable meal-ticket, and often a means to wealth. The difference between the theater model and the Linux model is that whereas the demand for theatrical entertainment is capped, and is relatively inelastic, the demand for good software is enormous and will continue to grow, as more and more of the functions of society become suffused with and dependent upon computation.

The process of producing Linux seems like Marx's ultimate communism, after the supposed withering away of the socialist state -- from each according to his ability would be a fair way of describing the production side. But the distribution side is entirely different. The product is given away not to each according to his need, but automatically and universally. The only thing the producers get is reputation, and that is awarded on an utterly ruthless basis of merit. Meanwhile, within the larger Linux universe, a sub-universe of pure laissez-faire market relations plays out, with entrepreneurial companies acting in accordance with pure market theory.

The real evidence that this model is not a fluke, but rather a harbinger of a new economic model, is that open-source products compete very well against the products of traditional capitalist corporations. Apache, an open-source product, has established itself firmly in the server marketplace. Linux

as a server operating system is gaining market share daily against Windows NT, a traditionally-produced, traditionally-supported, and traditionally-marketed product. It is particularly noteworthy that the server market is commercial: more demanding and more quality-conscious than the client market, where Windows products still hold sway, for now, with less-demanding, less quality-conscious consumers. Linux beats Windows NT because it is more reliable and more robust than the Microsoft product. This is extraordinary. Imagine if a type of aircraft developed by amateur homebuilders and produced by small entrepreneurial companies were to be bought by airlines in preference to the aircraft of Boeing or Airbus, who in turn could only compete in the private pilot markets! Yet this is the exact parallel to the situation in server software today.

The Linux model will not become the sole model for software production or sales, particularly on the consumer side, where branding will remain important. However, it, or what it evolves into over time, will be an important model for software, and one of the dominant modes of production. It is also important to understand that software will come to encompass the bulk of the value of any manufactured product, as integrated design-to-automated production systems become the norm in industry. As I have discussed elsewhere in this book, flexible, automated, computer-controlled fabrication facilities, ultimately quite small and decentralized, will become the normal means of fabrication of goods. Time on such machines will become a commodity, which the market will force down to the lowest possible margin. What will be valuable will be the software that describes the good and commands its manufacture. There is no reason to believe that such software, and therefore the design of most goods, could not be produced on the Linux model. Given the stability and reliability of open-source software compared to closed-source, it will probably be preferred for applications where reliability is important. The example of a homebuilt aircraft being preferred by airlines over Boeing products was fanciful; however, in the world where industrial goods are mostly software by value, an open-source aircraft design might be a reality.

At the same time that Marx's capitalism becomes obsolete as an economic category, it is clear that the new economy is a market economy -- and likely to become a purer market economy than ever before seen. What we are witnessing is the triumph of F. A. Hayek over Marx, not just in the political realm, but in the realm of social science as well. Hayek, the Nobel laureate Austrian economist, offered an understanding of the market economy which

will be the underpinning of the economics and social science of the Internet Era. Hayek understood that the essence of the market economy is not the ownership of the means of production, but the exchange process itself. The Linux model confounds Marx's rules completely, but is entirely consistent with a Hayekian, or market-process understanding. So long as the exchange of values is freely taken by a wide range of actors, and the final product is the result of those exchanges creating an emergent understanding of the relative value of the items exchanged, it is a market process. The fact that the Linux model values the original inputs by the volunteer hackers only in reputation, rather than cash, does not mean that it is not a market process. Hayek's theory explains the Linux world as readily as it did the corporate world of the mid-Twentieth Century in which it was formulated.

The Linux model has profound consequences for the fate of corporations, as does the Internet Era for the existing, centralized nation-states. Nobel economics laureate Ronald Coase posited his Theory of the Firm, which demonstrated that corporations offered an advantage in the marketplace because their size allowed essential internal functions to be performed with lower transaction costs than a comparable-sized network of individual actors. The Linux world is an example of what happens when the easy communications of Internet, and the substitution of reputation payments for cash payments, lowers the transaction costs of working in an open-source network to below those of the competing firm. Only the small, entrepreneurial firms working within the Linux world (such as Red Hat) preserve the advantages of the corporate form as they interface with the cash-economy world. Cash- and reputation-based economies mesh readily in an overall framework of free exchange. In this new medium, a new Theory of the Network is needed to supplement Coase's Theory of the Firm.

This understanding has been largely absent from the debate over the post-nation-state future which I have summarized previously. Many observers seem to have the expectation that, while the Internet economy would undercut the power of the nation-state, it would leave the great corporations not only intact, but essentially omnipotent in the economy of the future. This is as naïve as the assumption that the collapse of the independence of the nobility at the end of the Middle Ages would leave kings omnipotent. Although this did happen in some places for some periods of time, in general the consequence of the collapse of baronial power was ultimately to empower new actors: the new trading and manufacturing classes in the maritime states, and civil and military bureaucrats in the continental states.

Corporations and the established wealthy have relied heavily on the power of nation-states to protect them from competition, and most importantly, from the instability of technological change (Schumpeter's creative destruction). One of the most successful public-relations triumphs of the Twentieth Century was the selling of the idea that social democracy was forced on the unwilling rich for the benefit of the poor and working classes. Rather, social democracy has been a device to stabilize society and limit opportunities for upward mobility to narrow, state-administered meritocratic channels.

Massive taxes on new income hurt new startups and upwardly mobile entrepreneurs far more than established wealthy families and corporations. Heavy financial and product regulations cripple new competition and protect established firms. State-mandated labor union rights and lavish mandated employee benefits also present a formidable barrier to entry to new companies. Existing family wealth can usually be sheltered in offshore trusts or other wealth-preservation devices available to those with the large existing fortunes needed to justify the transaction costs of these mechanisms.

Thus, it is no wonder that established wealthy families and their corporate empires have often supported social-democratic politics. The Rockefellers in the US, the Wallenbergs in Sweden, and the entire Tory wet class in Britain have spent much of the Twentieth Century supporting the genteel politics of regulated capitalism and tax-supported redistribution of (some) wealth. They would have preferred that politics be a debate between their parties (the Rockefeller Republicans in the US, the Christian Democrats on the Continent, and the pre-Thatcher Tories, exemplified by Rab Butler, in England) and the more moderate socialists and social-democrats of the Left (Humphrey Democrats, the Social Democratic parties of the Continent, Hugh Gaitskell's Labour in the UK).

It is also little wonder that the political classes, overwhelmingly dependent on large bureaucratic institutions for their incomes, viewed voices outside this consensus with horror. Barry Goldwater, Ronald Reagan, and Margaret Thatcher in the political arena, and Milton Friedman and F.A. Hayek in the sphere of professional economics all encountered ferocious ridicule and criticism far out of proportion to the impact of the actual policies they advocated or implemented. What sparked intense opposition was their threat to a reigning consensus.

The changes introduced by the Thatcher and Reagan governments were more important as indicators of direction than for the scope of changes accomplished in themselves. More important was the wave of deregulation, decontrol, and privatizations introduced worldwide in the 1980s and 1990s by conservatives, liberals, and socialists alike, which resulted in substantial shakeups to the existing corporate structures. Many established, change-resistant bureaucracies either reformed or adapted, or vanished from the scene. This process is far from finished, but one can now see a delayed, downsized, leaner and meaner corporation, more network-like in its internal structure, and more flexible in its response to the marketplace. Gone are many of the characteristics of the mid-century corporation, including the expectation of lifelong loyalty in either direction.

It is tempting, then, to see the new corporation as the endpoint of this transition process. But the logic of the end of capitalism, as described, argues that the transition is far from complete, and the endpoint is not even necessarily visible today. The stock markets are today dazzled by companies such as Netscape, which began with a product produced by two college students in their dormitories in the early Nineties, for a system, the WorldWideWeb, created as an as open-source phenomenon. They have not really begun to understand true open-source companies such as Red Hat. And Red Hat and its like are not the endpoint of this evolution either.

There will still be a role for corporations, including large corporations, in the network economy of the Internet Era. Their economic weight and established brand names will continue to be valuable assets. However, their relation to the whole system will be very different from the role of corporations in the economy now passing. The network economy of free exchange will be the matrix; individuals, small groups, and open networks (like the Linux community) will interact with corporations without subservience. In this very open and fluid environment, which we might dub the Network Marketplace, opportunities will abound for the astute.

The political question is, what will be the relationship between the state forms and the marketplace forms? I have argued that the world political system of large, centralized nation-states is transitioning to one of smaller, more coherent regional states linked in loose confederal forms on civilizational lines, the Network Commonwealths. These will interact with a fluid network economy in which much-changed corporations, largely links between financing and research centers, will interact with a host of smaller

actors in a market-economy matrix. Government intervention, as I discuss elsewhere, will be much more local and limited -- specific interventions for limited ends. The world of helpless individuals squeezed between large, powerful states and large, powerful corporations will be a dim historical memory -- neither will survive in their historical, Twentieth Century essence, although the forms will still likely be there. Fears of corporate domination of the Network world are misplaced. In fact, as the power of big corporations dwindle, it will likely be left-wing nostalgics who mourn them the most.

The new understanding of the market is essential to comprehend the Network Economy. The Marxist concept of capitalism has long outlived its usefulness, if ever it had any. At most, it was a tool for understanding power relationships in the early Industrial revolution era; as a tool for understanding corporations, it was readily superseded by Coase's theory of the firm. Capitalism is dead. Let us move on to examine the emerging world of the Network Economy and the Network Commonwealth.

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