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The New Economy and Novel Forms of Struggle

Prabir Purkayastha

The “New Economy” consists of Information, Communications and Entertainment (ICE) and is assumed to be free of the constraints of the older and more traditional brick and mortar economy. While the growth of the old economy depended on tangible products and assets such as land and machinery, the new economy produces not only intangible products but also has an invisible asset base. Thus, a software company’s worth is not measured by its tangible assets but from the Intellectual Property it holds. The role of labour in this economy is presumed to be minimal; along with the hype of an unconstrained growth of this economy there are also pronouncements of the end of labour.

Much of this hype about the new economy was fuelled by the media, which positioned itself as a part of this new economy. Today, a media company is more likely to be combination of television and Internet content provider and therefore located in the new economy of ICE. Therefore, more the hype about the new economy, more was the boom in the stock market of the hi-tech stocks including their own. Not only were the Information Technology (IT) companies riding the boom, so were the media ones.

Most of this hype has now evaporated, leading to questioning the premises of the new economy. This questioning has come from the business model point of view: whether the future stream of earning of these companies justifies a high stock value. The Dot.com companies, promising a revolution in how goods would henceforth be bought and sold, were found to be particularly over valued, leading to free fall of their stocks. However, the larger question of the relation between labour and capital has not been a part of this exercise.

While the new economy may have hit the skids, there is a still a residual belief that the new economy is somehow free of the laws of classical political economy. The price of goods is perceived to be independent of labour contained in it and is more dependent on Intellectual Property. Similarly, capital is no longer viewed as congealed labour but the Intellectual Property of a Bill Gates or a Disney; therefore valuation of the stock rather than a valuation of the

capital assets is asserted as a “true reflection” of the worth of companies in the ICE sector. The business model – the future earnings being converted to stock value – is not the issue here. A number of software companies as well as media ones may have healthy income flows. The question to be addressed is the fundamental one: what is the relation between labour and capital in the new economy. This is the question that we will seek to address here.

The New Economy

An analysis of the new economy must start by trying to unravel the complex of functions that the new economy plays. Though conventional economics tend to lump the software, entertainment and communications industries under the general rubric of services, there are clearly differing functions that these sectors perform. A telecommunications company does not sell a product: instead it performs a service. If we use the network that such companies possess, we have to pay a charge. Similarly, a Dot.com company such as Amazon.com, which allows its website to be used for selling books, is providing a service to the producers of these books, in this case the publishers. A company such as Microsoft is different as it sells primarily a set of software products. A record company, and increasingly, even movie companies, similarly sell products. The service companies therefore need to be separated from those that are selling “goods” however intangible that these goods might appear.

While old style service companies are easy to understand, the new economy has also spawned a new set of service providers, the most important of these being the Dot.com companies. As the Internet is emerging as a major communication highway as well as a market place of the future, we need to understand what precisely are Dot.com companies and the service they provide.

The Internet allows individuals and small companies to construct “sites” in cyber space. This means registering a name for the entity -- company, individual or product -- and then creating pages of information that can be put on a computer connected to the Internet. This becomes then a “site” that can be accessed through the Internet by anybody. There are “Search Engines” on the Internet (also called the web from its name of World Wide Web), which can use certain key words and site information to locate this site for the interested users. As all commercial sites have to have *.com* at their end, therefore the phrase Dot.com companies.

The entire development of the net came initially from researchers in various institutes who wanted to exchange information with each other. Instead of sending information back and forth, Tim Berners-Lee, the creator of the Web, hit upon the idea that if the information

could be put up in cyber space on computers connected to the net; people could then download whatever they found interesting. This idea, though far more complex in its current implementation, is the essence of the Internet or the World Wide Web.

Underlying the enormous changes introduced by Internet is the old-fashioned telecommunications network. Increasingly, high bandwidth optical fibre links are being added, particularly for long haul links. However, even today, the major revenue flow from the telecommunications network – about 90% by rough estimates -- is from plain old voice telephony and not from data communications. Though it is predicted that within the next decade, revenue from data communications will overtake voice, the more likely scenario is a convergence between voice and data traffic making them virtually indistinguishable. Both data and voice will travel as data packets and the Internet will be used to carry low-grade voice traffic through Internet telephony. The enormous expansion of bandwidth capacities required for data communications is currently being heavily subsidised by the voice users.

The commercial use of the net followed soon after it was realised that the World Wide Web was growing exponentially in terms of connecting people. The dizzying growth of the net made it possible to use the net to market products and services. Two of the biggest “success” stories were Amazon.com and Ebay, both of which grew to tens of billion dollars in market capitalisation (current share value in the market multiplied by the number of shares of the company) within the first two years of their launch.

Amazon.com is essentially an Internet bookshop, which allows anyone to search and purchase books on-line. Amazon.com could store far more titles in its virtual shop than any bookshop in the real world; search tools on its site suggests books that are similar in content, other books of the author, allows searches by subject or using key words. Ebay has a different profile. It started as a auction house: it would make possible a whole range of goods -- from Hitler and Marilyn Monroe memorabilia to more mundane goods -- to be exchanged without storing any goods unlike a physical auction house. While Amazon.com and Ebay were the most successful companies, there is a whole range of companies who have netted windfalls on the net. Yahoo and Sabeer Bhatia of Hotmail fame are some of the other ones that have successful Dot.com ventures.

It is important to note that unlike the software companies, who own some software products, the Dot.com companies only “own” real estate in cyber space. Thus, while the software companies own intangible assets that may be overpriced, the Dot.com companies do not have even that. They do not add any value to the products that they sell; they are just giant super markets in cyber space. The collapse of the Dot.com bubble took place once financial analysts

worked out the simple equation of future profits to current stock value. Amazon.com and Ebay, both touted as astounding success stories earlier, are now rumoured to be near bankruptcy.

The entertainment and software industries provide a set of products for the market. The Dot.com and Telecom communications, in contrast provide a platform or a means of communications or transactions; they help in the domain of trade allowing information to travel or transactions to be conducted virtually instantaneously.

While the Dot.com companies have been added recently to the services part of the old economy, the products of the new economy – either software or the entertainment products are not like products of the old economy either. Unlike older products, there is an ambiguity here of what is the product? If I buy a TV, it is clear that the use value of the TV is embedded in a piece of plastic, silicon and metal transformed in a particular way by human labour. If we take a song recorded on a CD, are we buying the CD or the song? While the record companies publicly argue that any copying is illegal, the Copyright Act allows for copying for private use recognising that what has been bought is the song and not the CD. Similarly, the software that is bought is not the CD on which it is resident but the code that runs on the computer. The product therefore can be considered as a piece of information rather than a physical object. It is this characteristic of the products of new technology -- of being information and not physical object -- that allows their copying without any loss of quality.

In any other commodity, the copying of an object would require capital investment of an order equal to that required for producing the original. The products of the new economy require only a low cost tool, the computer, to turn out such copies. In the new economy, the production of the first copy is expensive; the reproduction cost small. This is the defining characteristic of all products of the new economy.

To give an example, a Microsoft Windows 95/98/2000 may take about 100-300 programmers one year to develop and cost about \$100-300 million. Once developed, the cost of reproducing the product is about 50 cents to a dollar. If we take the tangible product – the CD ROM or the floppy, the physical cost and labour involved for each subsequent copy is a very small one compared to the cost of the development effort.

The products of the entertainment industry are similar in nature. In fact, the all products of the entertainment industry are finally recorded as digital signals and available on CD ROMs. Entertainment and Information Technology are converging in the media on which they are delivered (CD ROMs, Downloads from Internet sites) and even the devices on which they are played. Music

CDs or Movies can be played on the computer using the identical device for reading software – the CD ROM or the DVD drive. The computers and TV sets both have CRTs for display, and it is only different standards that keep them separate.

The essential characteristic then of the products of the new economy is that the major component of the product cost is developing the first copy. If such a product can take over the market, it can generate a very large surplus as it can set a monopoly price. This is where the new Intellectual Property Rights (IPR) Regime becomes crucial. The new IPR regime has enlarged the concept of “Intellectual Property” making it distinct from property in the conventional sense. It argues that the creative process is a special one and needs to be recognised through a monopoly for the creator. Software and entertainment products both come under the Copyright Act (though software is increasingly being patented as well) and are thus protected for 50 years.

It is this monopoly created under the Copyright Act that allowed Microsoft to make its billions from its Windows software. In one of their advertisements, Microsoft claimed that Windows 95 sold more copies than the latest Michael Jackson album. And it was selling each copy at a cost 100 times that of producing it. The profits of a Microsoft therefore are much larger than a company in the old economy where the price and the cost of the products are much closer. It is impossible for any company to set such high monopoly prices unless protected in a special way. The Copyright Act therefore allows Microsoft to set such monopoly prices and extract huge monopoly rents from the market. Its profit in relation to the total revenue (turnover) is also likely to be very large.

The economics of the music industry is also similar. A few companies (called labels) dominate the music industry in the US. Fully 90% of the music released in the US is from companies who are members of the Recording Industry of America (RIA). The music monopolies charge approximately \$16 for a CD, whose actual cost including the medium (the physical CD) and the reproduction (copying the music on to the CD) is not more than a dollar. The rest of the cost is promotion and advertising, royalties to performers, etc. Thus the differential between the actual cost and the cost of music as sold is a huge one; this is the monopoly rent component guaranteed by the current copyright regime.

The Microsoft and the music industry examples bring out clearly that the consumers have to pay a monopoly price consisting almost entirely of monopoly rent for a successful software product or a musical hit. We will analyse here in what way these companies differ from the companies in the old economy. To bring out these features, we give below a comparison between Microsoft and the top Fortune 500 five companies: Exxon Mobil, Wal Mart, General Motors, Ford

Motors and General Electric. Incidentally, Microsoft is 79th on the Fortune 500 list even though it is the second largest company in terms of market capitalisation now having dropped from its earlier pre-eminent number one position after the collapse of the Nasdaq.

Table Microsoft and Fortune 500 Top Five: A Comparison

Company	Revenue (Billion \$)	Profits (%)	Market Cap (Billion \$)	Profits/Revenue (%)	Market Cap/Revenue
Microsoft	22.9	9.4	286.4	41.05%	12.51
Exxon Mobil	232.7	17.7	283.6	7.61%	1.22
Wal Mart	193.3	6.3	228.9	3.26%	1.18
General Motors	183.3	4.97	28.1	2.71%	0.15
Ford Motors	170.1	4.47	30.0	2.63%	0.18
General Electric	129.9	12.74	408.9	9.81%	3.15

The interesting aspect of the above table is the obvious difference between the market capitalisation and the revenue figures of Microsoft with the Fortune 500 Top 5. Even General Electric (GE), probably the most respected engineering company (in business terms) has only three times the market cap compared to its revenue while Microsoft is a whopping 12.5 times. The reason for the above is simply due to Microsoft's profits being more than 41% of its revenue, as compared to 9.8% of GE and a measly 2 to 3% of most others. This again underscores what we have already noted about Microsoft products; they are operating on a monopoly market where the margins are much higher than conventional products. Thus market cap is a reflection not of the economic weight it wields in the economy but of the ability to generate profit.

Obviously, a company that has revenue of 200 billion dollars as against another that has only 20 billion, is much more important to the economy. It provides far more jobs and uses many other raw materials as well as intermediate products. It has a much higher

asset base than the pseudo-assets such as “Copyright” and patents that software companies hold. Therefore, the stock value of the companies – the market cap – has a poor correlation to the real value of the assets of the companies in the brick and mortar economy.

A number of commentators do not distinguish between this virtual wealth and real wealth. The stock market has created a very large number of paper millionaires. The e-economy creates an autistic world where these millions appear to be divorced from the real world of assets. The problem lies in that the e-world, at best, reduces transaction costs in the real economy. There are limits therefore to the value that can be squeezed out for the new economy. That is why, unlike the brick and mortar economy, the e-brick and e-mortar economy, has a much lower impact on other sectors of the economy.

The argument that the new economy has no boundaries and has “increasing returns” in contrast to the real economy, which has diminishing returns, has now collapsed after the hi-tech stocks took a nosedive on the global stock exchanges. The new “pundits” have been preaching that growth in cyberspace is not limited by the amount of goods produced in the “old” economy. The truth is that the virtual world of cyberspace does not add any value; it only facilitates transactions that must be accompanied by transfer of goods from the producers to the users. Thus, the limits to cyber growth come from the limits in the real world. If the economy is not growing in real terms, the virtual world will reflect this, sooner rather than later.

The media and entertainment companies – the E in the ICE – have been playing hot and cold regarding their place in the economy. When the new economy was booming, they all re-invented themselves as a part of the new economy. A slew of mergers and acquisitions saw entertainment, telecommunications and Internet companies coming together, the star of the show being the Time Warner and AOL merger. Time Warner was a media company with print, film studios, cable-networks while AOL was virtually the monopoly Internet company in the US. It is interesting that the AOL Time Warner group is now again claiming itself to be a part of the old economy.

Increasing monopoly is a feature of both the new and the old economies as mergers and acquisitions reduce the number of players in each segment. While start-up companies are much larger in new technologies, sooner rather than later, monopolies emerge here too; the Internet and the software industry are no exceptions to this generalised trend.

The Role of Labour in the New Economy

In this section, we will address the fundamental question of the role of labour in the new economy. We will restrict ourselves to software

and the entertainment industry, both of which make products for the market. The service sector – such as telecom or Internet -- will not be addressed here.

The key aspect of production in the new economy is that the role of labour seems to be marginal here. Instead, the knowledge workers – scientists, engineers, computer programmers, etc. -- have taken over. Jeremy Rifkin, in his thought provoking book, “The End of Work: The Decline of the Global Labor Force and Dawn of the Post-Market Era”, (G.P.Putnam and Sons, New York, 1996) shows that the decline of the labour force in manufacturing was earlier matched by a growth in the service sector. Today, the labour force is declining in the service sector also, creating an enclave of well-off knowledge workers who manipulate information while the rest of the labour force sinks deeper into poverty. There is enough evidence to show that the advanced countries, which have advanced further on this route than the developing countries, are showing increased polarisation; the rich are indeed getting richer and the poor poorer. The top 1% of the Americans have doubled their share of the national wealth since the 70’s and now own more than 40% of the total, while the real income of the bottom 50% have actually declined in real terms. Rifkin says, “During the 1980’s, the real hour compensation in the manufacturing sector alone decreased from \$7.78 to \$7.69 an hour.” (pp. 167). The global scenario is even worse. The combined assets of the top three billionaires are now more than the Gross National Product (GDP) of the least developed countries, which have a total population of more than 600 million people.

The question here is that are the knowledge workers to be treated not as workers but as a different category? According to Rifkin, the importance of the knowledge class in the production process is growing; he gives the example of semi-conductors where only 3% of the price of the electronic chip goes to the owners of raw materials, 5% to those who own the equipment and facilities, and 6% to routine labour, while fully 85% goes to specialised design and engineering services, patents and copyrights. This, the knowledge workers, the design bureaus and the holders of copyrights and patents, according to Rifkin constitute the knowledge class.

In this definition of the knowledge class, Rifkin unfortunately treats the computer programmer of a Microsoft and Bill Gates, its owner, both as members of the knowledge class. He also treats the software industry as being quite different in character to the traditional brick and mortar industry and concludes that as the wages of the computer programmer is high, he or she is qualitatively different from the more traditional blue or white-collar worker in the manufacturing or the service industry. Higher pay, which itself may be a transitional phenomena based on temporary shortages is being used to create essentially an analytical category.

Instead, we should look at the fundamental characteristics of the knowledge economy. The software that is produced is used either by consumers directly as products such as Windows, Word, etc. or is embedded in other goods. In either case, it is a commodity, even if it is information. The knowledge workers that produce such knowledge commodities mostly work for companies; they are only a few who bring a product directly to the market. Most knowledge workers thus work on a particular product and help “construct” this, byte by byte. The only difference in the knowledge products is that their cost of reproduction is trivial compared to the cost of the first copy.

By this definition, the knowledge workers, irrespective of their higher qualifications (or not), are essentially workers. Their high salary is due to the premium price that such products fetch in the market due to the current Intellectual Property Rights regime. They are also helped by the fact that the knowledge industry is more in the nature of an artisanal enterprise currently. However, it is currently being re-configured to resemble more and more the factory environment as it becomes more and more tool-driven as more and more processes of writing software are itself automated.

A certain confusion needs to be clarified here. The new economy is not synonymous with hi-tech products. Industries such as aerospace, composite materials, etc., produce artefacts that are as hi-tech as any we can find in the ICE sector. Similarly, some of the products of the new economy have little hi-tech content in them. What distinguishes the products of the new economy is that their costs of reproduction are much lower than the prices of the products. For instance, in the music industry, the medium or the player on which it is played might have changed; this does not mean that the essential product – an album -- has changed in any fundamental way. Compared to this, a composite material is quite a different product from an alloy of an earlier period and has far more knowledge embedded in it.

The extraction of super-profits from the market allows a labour aristocracy of knowledge workers to be created. The knowledge workers also have middle class origins, generally with an educational profile that is different from that of the traditional blue or white-collar worker. The artisanal character of a lot of the software industry also allows the blurring of their essential identification as workers. Nevertheless, in terms of the actual role they play in the process of generating new software products, they are generating surplus value for the owners of such software companies.

Rifkin argument that the investor or the shareholders are gradually being replaced by those who provide design and engineering services or by those who hold patents and copyrights fails to recognise that the software industry (as also the chip manufacturing industry example quoted by Rifkin) requires a number of “tools” that

are intangible. That these are intangible and may be charged as services (design and engineering), do not change their character of being tools: they help in improving the productivity of the knowledge worker and lead to improvement of quality. They also reduce the artisanal nature of the software enterprise reducing the individuality of the products. In this, the software tools perform the same functions that machines did in manufacture and are likely to have the same impact on the knowledge workers as the machines did on the artisans.

One of the characteristics of the new economy has been offering of shares to the knowledge workers and therefore arguing that they are no longer employees but co-owners. The falling value of stocks in the global stock exchange has robbed this argument of much of its credibility. Stock options are deferred wages and are in essence investing a part of the wages of the workers in the stock market. A number of knowledge workers in the US are now arguing that stock options cannot be used to deny them their trade union rights.

Novel Forms of Class Struggle in the Era of High Rents and Super Profits

It might be argued that class struggle in the era where Intellectual Property is the driver of business is irrelevant. As the knowledge workers are a labour aristocracy, they are unlikely to be engaged in direct class struggle. What is being missed in this, is that today, the focus in the new economy is about monopoly rent component of the industry. It is here that the current battles are being waged.

Before we take up various forms of struggle that are currently ongoing, we need to look at another sector, which is similar to the new economy though not identified as such. This is the pharmaceutical industry. At first sight, there is nothing in common between life saving AIDS drugs, music CDs and Microsoft's software. What unites them is that they are all priced at 20 to 100 times their cost of production. And these super profits are all guaranteed under Intellectual Property Rights regime of World Trade Organisation (WTO). A year's treatment with patented AIDS drugs costs \$ 10,000-15,000 as against the actual cost of production, which is about 1/50th -- \$200-300.

In each case -- whether software, music or film CDs or pharmaceutical products -- the consumers are paying for the information contained in the product and not the cost of raw materials or labour that goes to produce the final product. Either the patent holder as in the case of pharmaceuticals or the copyright owner in the case of music and software producer protects this information as a monopoly. In each of the above areas, the price of the product is high because its reproduction is a monopoly. If the

reproduction could be done widely, even paying a reasonable royalty of 10-20%, would have brought down their prices to a fraction of their current prices.

As so often happens in history, regimes and systems that appear to be unjust rarely last. Rousseau's social contract operates, whether it is a tyrannical autocracy or an unjust global regime involving life saving drugs or music. If it is seen to be unjust, it is unlikely to survive for long.

Different kinds of protests are slowly emerging in the world. Some are clearly recognizable as protests – the protests in Seattle or the more recent ones in Warsaw – against WTO and the IMF. Countries, faced with letting their AIDS affected population die without treatment, are starting to protest. Brazil has recently threatened production of two AIDS drugs if the import prices do not drop. It already produces 8 of the 12 patented-drugs for which the United States has hauled Brazil to the WTO dispute settlement body. The African countries are trying to see how they can meet their drug needs for not only AIDS, but also for malaria, sleeping sickness, elephantiasis, etc. In all these cases, the money to be made from these drugs in poor third world countries is miniscule. However, the havoc that the patent regime is wreaking in these countries is enormous.

The most novel kind of protests are the ones that are not self-conscious as protests. Millions of teenagers around the world download high quality music using the Internet. This music uses a highly compressed format the -- MP3 format – that allows downloading a song in 20-30 minutes. The songs are stored in either specific MP3 servers or on millions of home computers.

The music industry – primarily the American record labels -- is obviously not amused. They consider the entire MP3 community as a bunch of criminals violating copyright laws. Due to practical difficulties of targeting millions of teenagers all over the globe, they have instead launched law-suits against major MP3 sites – MP3.com and Napster. As of today, MP3.com has withdrawn certain services it was offering earlier and Napster is in the danger of closing down.

Any teenager anywhere with access to PCs is probably familiar with Napster. A 20-year-old student – Sharon Fanning – wrote the software that allows files to be exchanged easily between two PCs. The Napster site does not store any music MP3 files; it allows anybody who has such files to share it with others over the Net. In the last 2 years, Napster had grown to 61 million users, with gigabytes of music distributed all over the world. Obviously, the Napster community was reacting to the high price of CDs and their frustration of not getting good quality music at reasonable prices.

The software scenario is no different. Disgusted with Microsoft's

arrogant dominance of the software world, a large number of software developers are developing open software. For the operating system software which every PC needs, we now have the Linux community. Linux started in Helsinki, Finland as an open source operating system when Linus Torvald, again another 20 year old decided he needed a better operating system for the PCs. The major break here was not the quality of Linux, but the decision of Linus to invite other developers in developing Linux as an open system. The Internet facilitated bringing together the Linux community. Linux is free and has been built by more than 100 developers around the world to emerge as the most serious challenge to Microsoft. It already has beaten Microsoft as the preferred operating system for the server market and is now challenging Microsoft also for the desktop PC market.

Microsoft won the earlier battle of Web Browsers – between Netscape and Internet Explorer -- as it could bundle its Browser, the Internet Explorer, with its operating system, the Windows. It used its market power to see that no PC manufacturer could offer Linux. The Anti Trust suit against Microsoft had these two elements in the case against Microsoft. Even though Microsoft has lost its case, it will still take sometime before its appeals are exhausted and the decision of the court to split up Microsoft is implemented. There is little doubt however who is going to be Microsoft's key challenger for the Operating System market. It is the Linux community, with its open software.

As we enter the 21st century, it is paradoxical how much potential there is of changing the way we live and how little of it can be availed. We have to let millions of AIDS victims die, as they have no money to pay the costs of patents held by rapacious pharmaceutical giants. After the book of Genome has been read, even genes are being patented. We cannot listen to good music that is a few clicks of a mouse away, as the music labels own the tracks. And we can only have cumbersome, poor quality software on our computers, as Microsoft owns the software world. In case, we disagree, we have to contend with a WTO regime that is all in favour of such monopolies. Even if we find legal provisions within WTO to challenge some of these monopolies, the US is there to protect its Enrons, its tobacco companies and its drug cartels.

Most of the above battles are not viewed as class struggle. In the direct sense of the struggle of the workers against extraction of surplus value, they are not. Quite often they are not even conscious – the struggle over MP3 music for instance. Sometimes they are clearly articulated as the struggle of the people against monopoly capital, for example, on the issue of AIDS drugs. However, if we look at the new economy, with its bloated rent incomes extracted from the consumers, protected by the IPR regime and the might of the US

(and other advanced capitalist countries), these struggles have to be recognised as a part of the larger struggle of people against capital and imperialism.