

INFORMATION TECHNOLOGY AND GLOBAL CLASS FORMATION

By Jerry Harris

Information technology (IT) has laid the foundation for global capitalism. It's the electronic skeleton through which globalization works, connecting every performing part of the world economy. The power and reach of every transnational depends on products from IT companies, and IT corporate leaders are a key sector within the global capitalist class. (1)

Information capitalism has built the structure of the new economy through two revolutionary methods in the production of information and knowledge. The convergence of telecommunications and computers has made possible a global command and control structure for transnationals, building a global assembly line for manufacturing. Secondly, the same information systems have established 24-hour global financial markets that function in real-time, leading to world capital integration. In addition, information technologies are thoroughly imbedded in the tools and productive processes of the traditional industrial sector, as well as consumer products, services, media and entertainment.

The most important part of the IT sector are those corporations which manufacture the products that are building the global structure of information processing and enable organizational changes in finance and industry. Those corporations that either produce these goods, or have most thoroughly integrated them into their productive processes tend to be the core of the new transnational power base.

FOUR CATEGORIES OF IT

IT breaks down into four basic categories. The first to develop were hardware corporations, many starting in the 1960s and '70s. These companies produce chips, boards, boxes, servers, switches, and routers that build the basic architecture and infrastructure of the new systems. Some of the most important corporations are Intel, Cisco, Hewlett Packard, Sun Microsystems, Compaq and Dell.

The next wave of corporations began by writing software applications for everything from games to business systems; they also developed networks and operating systems. Corporate giants such as Intuit, Microsoft, Oracle and Novell dominate this category.

Most recently Internet and dot com companies have appeared. These companies have attracted a lot of attention and capital, helping to fuel speculation on technology stocks. Certainly this category will undergo consolidation, but such innovators as AOL, Amazon, Ebay and Yahoo have developed widely used and expanding services.

Lastly are the corporations offering Internet services, cable and broadband connections, satellite hook-ups, wireless communication and phone lines. Although emerging out of the industrial age the telecommunications industry is now technologically and financially linked to IT. Perhaps the best indication of this convergence was the 1997 Telecommunications Act that created a new regulatory structure that sanctioned and recognized the rapidly merging

telecommunications, computer and cable industries. Among these corporations are both old and new names such as A.T.T., Global Crossings, National Fiber Network, Teledesic, Alcatel and Deutsche Telekom.

Linked to this sector are electronic corporations that have a substantial investment in IT manufacturing. These are both old and new companies with a wide array of commodities. But today a significant number produce a majority of their products in the above IT categories. These include semi-conductors, fiber optics, software, wireless phones and numerous other products that serve the computer and Telecommunications industry. Some of these transnationals are Motorola, Qualcomm, Nokia, Lucent, Samsung, Royal Philips, and Toshiba.

IT AND GLOBAL CORPORATIONS

In 1999 among the largest Fortune 500 transnationals 37% were based in the U.S., 34% were from Europe, and 20% from Japan. Among third world countries S. Korea lists 9 corporations, China 6, Brazil 3, Taiwan 2, and one each for India, Malaysia, Mexico, and India. Among these transnationals the IT sector is the most profitable. The following chart arranges the largest global economic sectors by revenues and profits to show the weight of information technology. (2)

SECTOR SIZE REVENUES

(\$ mil.) PROFITS

(\$ mil.)

IT

Computer Services and Software

Computers and Office Equip.

Electronics (3)

Telecommunications 47 corps.

US – 23

Euro –12

Japan – 9

Other – 3 \$1,339,671

\$89,885

FINANCE

Banks

Diversified Financials 70 corps.

US - 16

Euro - 34

Japan – 9

Other – 11 \$1,436,230 \$64,215

TRANSPORTATION

Aerospace

Airlines

Motor Vehicles and Parts

Railroads

Rubber (4) 53 corps.

US – 21

Euro- 18

Japan-14 \$1,560,252 \$60,985

INSURANCE

Life and Health (Mutuals)

Life and Health (Stocks)

Property and Casualty (Mutuals)

Property and Casualty (Stocks) 54 corps.

US – 17

Euro –19

Japan-12

Other- 6 \$1,292,977 \$43,774

ENERGY

Energy

Mining, Crude-Oil Production

Petroleum Refining

Utilities 54 corps.

US- 23

Euro-12

Japan-8

Other-11 \$1,249,113 \$42,752

Fortune's 500 listing of the largest U.S. corporations gives a more finely tuned arrangement of industrial groups than its list of the Global 500. In the U.S. finance ranked number one in profits, while the IT sector was second in profits but number one in revenues. (5)

SECTOR SIZE REVENUES

(\$ mil.) PROFITS

(\$ mil.)

FINANCE

Banks

Diversified Financials

Securities

Saving Institutions 78 corps. \$838,637 \$111,892

IT

Computer and Office Equipment

Computer and Data Services

Computer Software

Computer Peripherals

Electronics (6)

Network Communications

Telecommunications

Semiconductors 94 corps. \$891,884 \$86,105

ENERGY

Energy

Mining, Crude-Oil Production

Petroleum Refining

Pipeline

Utilities: Gas and Electric 104 corps. \$829,025 \$38,638

TRANSPORTATION

Aerospace

Airlines

Auto Retailing and Services

Motor Vehicles

Railroads

Transportation Equipment

Trucking 74 corps. \$881,837 \$36,681

INSURANCE

Life and Health (Mutuals)

Life and Health (Stocks)

Property and Casualty (Mutuals)

Property and Casualty (Stocks) 61 corps. \$522,515 \$29,691

FOOD

Beverage

Food

Food and Drug Stores

Food Services 79 corps. \$492,396 \$20,744

CAPITAL INVESTMENTS IN IT STOCKS

There tends to be two economic sectors in the globalized economy best represented by the “new economy” corporations listed on the Nasdaq and the “old economy” industries of the DOW. In Europe IT stocks are mainly listed on the Euro.NM, (New Markets), an alliance that brings together France’s Nouveau Marche, Germany’s Neuer Markt, Italy’s Nuovo Mercato, Euro.NM Belgium, and Euro.NM Amsterdam. This is not a perfect division between old and new industries and overlaps exist, but it does help to analyze sectors of growing distinction within capitalism. The attempt here is to draw attention to the key influence of digital/electronic technology and its distinct role in the development of a transnational capitalist class.

The IT revolution has had a huge impact on capital Investments and stock markets fueling the great global speculative boom. The world’s three leading industrial groups in stock performance are semiconductors, wireless communications, and communication technologies. (7) The market value of Nasdaq grew 1,900% in the decade of the 1990s. Its value at \$5.85 trillion is a third of total U.S. stock value, up from only 10% in 1990. (8)

A similar investment boom hit Germany’s New Market. The industrial based DAX still has a larger total capitalization than the New Market with \$1.01 trillion euros compared to \$224 billion. But since 1997 DAX has grown by 84%, while the New Market has grown a remarkable 6,818%. (9)

Throughout Europe money left the old industrial sector in a rush to high technology. From March 1999 to March 2000 technology hardware stocks grew by 153.4%, telecom services by 47.1% and software/computer services by 54.2%. In comparison old line industrial stocks were down: transportation by –27.3%, auto –26.3%, construction –8.6% and oil and gas by –7.5%. (12)

Nasdaq has now formed a joint venture with the London Stock Exchange and Deutsche Boerse to build an exchange that will eventually include The Italian, German and Spanish New Markets. This transnational merger will link the most important IT industries into one global market. Japan has also entered the field with the creation of Nasdaq Japan.

This tremendous growth in wealth has added new clout to info-tech corporations as it puts them in a position to acquire other corporations. The best example was AOL's buyout of Time Warner despite the fact that it's revenue was only 20% of Time Warner's and it's workforce 85% smaller. After the merger Gerhard Cromme, chief executive of Germany's biggest steel company Thyssen Krupp, sounded an alarm for the old industrial giants. As he warned: "This can happen to everybody – even those of us with big market capitalizations. Internet companies can buy up whatever they want in the world, and it's something we have to think about." (13)

The volatility of Nasdaq in 2000-01 represents a shake-out of unsound and unprofitable companies typical in capitalist economic cycles of developing technologies. Early electrical technology went through similar shake-outs from 1880 to 1890, resulting in the consolidation of industrial monopolies General Electric and Westinghouse from a field of 21 mergers. (14) The new technology economy is now entering a period of greater Centralization reflecting competition in its monopoly stage. For example, between August 1999 and May 2000 Cisco acquired six companies spending a total of \$17,399 billion. (15) This process will increase the relative power of info-tech capitalists within the transnational class as major corporations consolidate and emerge as clear winners in the new economy. The recent downturn of IT stocks actually underscores their importance to capitalism. The strength of IT products lead the boom, while their overproduction and problems pulled the economy into recession. Either up or down the health of IT is now key to the overall performance of the economy.

The IT downturn has focused a lot of attention on dot coms and the Internet. Certainly as the key innovation of the new global communications systems the Internet needs examination. What we find is a highly profitable and healthy economic sector. The Internet economy can be divided into four sub-categories from those established above. The Infrastructure sector consisting of telecommunications and service providers. The Applications sector which creates software for transactions and maintains sites and portals; an Intermediate sector that generates revenues through advertising and providing content; and lastly Internet Commerce consisting of web-based retailers including both business to business and business to consumer companies. Of companies in these categories dot.coms only make-up 9.6% (16)

Through June of 2000 employment in the Internet economy was growing at 10%, over 3% better than the rest of the economy. These jobs spread well beyond technology workers who make-up just 28% of the Internet labor force. Other job categories are sales and marketing at 33%, manufacturing at 17%, accounting and finance with 12%, and administration at 10%. More importantly revenues have been growing at twice the rate of employment. On average each Internet worker produces \$257,308 of revenue per year, compared to an average of about \$145,000 for workers in manufacturing. (17)

IT MERGERS

According to Fortune, "The boom in mergers and acquisitions (is) one of the defining trends of the past decade." (18) In 1998 all-time records were set in the US with 12,500 deals totaling over \$1.6 trillion. (19) Of these, \$201 billion were for cross-border mergers, up from \$23 billion in 1991. The US also has more than 7,000 bilateral investment agreements with other countries. In turn, foreign investments in the US for 1999 totaled \$240 billion in

corporations and corporate bonds, a pace that has continued through 2001. (20) Globally the pace of mergers roared ahead in 1999 with 23,576 deals worth \$2.3 trillion. (21)

One of the most significant changes in the pattern of mergers was their transnational character. As noted by Jeffery Applegate, chief investment strategist at Lehman Brothers; “M&A, which used to take place only within a nation-state, is increasingly intraregional and increasingly global.” (22) This differs from the merger wave in the early twentieth century that resulted in the control of domestic markets by a handful of corporations. Transnational mergers today establish production facilities in other industrialized nations in what John Bellamy Foster calls the “greatest merger wave in capitalist history.” (23)

The struggle to dominate the IT field has set the stage for some of the biggest transnational mergers, particularly the battle for Internet and telecommunications corporations. Through mergers AT&T now controls more than a third of US cable network for television, high-speed Internet access and online telephone services. (24)

This same trend has hit Latin America and Asia. In Hong Kong the Internet access company Pacific Century Cyber Works was recently acquired for \$38 billion by Cable and Wireless HKT, Hong Kong’s dominant phone company. Meanwhile Spain’s recently privatized Telefonica SA has bought telecommunication and Internet companies throughout South America, including the biggest markets in Brazil, Argentina, and Chile. The top ten telecommunications firms now control 86% of the world market. (25)

Japanese corporations have also entered into alliances and made important acquisitions. Matsushita Electric entered Europe with three major Internet deals, while Nippon Telegraph and Telephone made a \$5 billion deal for Colorado based Verio, the largest U.S. operator of business web sites. (26) In a huge move Japan’s largest Internet group, Softbank, plans to become Europe’s biggest Internet investor by establishing two funds with a combined worth of \$1 billion.

Softbank has invested in 300 Internet companies around the globe but the fit in Europe is particularly good. Says Eric Hippeau, president of Softbank International Ventures, “We’re particularly interested in wireless technology because Europe seems to be ahead of the US in this field. We can introduce technologies from Europe to the rest of the world.” (27)

Not to be left behind Microsoft jumped into the Asian market hoping to become the dominant power in broadband. Microsoft wants to put Windows into TV set-top boxes and mobile phones in alliance with Legend and Haier in China and DoCoMo in Japan. In Taiwan, Gates is working with Gigamedia of the Koos Group to bring Internet services to TV, mobile phones, and PCs. In Europe he has joined with Palm’s biggest competitor, UK’s Psion, and Sweden’s Ericsson, major players in the mobile phone market. (28) This expanding field of mergers and alliances illustrate the growing interconnections of a single world capitalist class.

That competition remains fierce was shown by the most expensive buy-out in history when Britain’s Vodafone/Airtouch took over Germany’s Mannesmann for \$185 billion. The acquisition created the largest wireless telephone corporation in the world. Not only will the new company control the biggest Euro markets in Britain, Germany and Italy, it will have holdings in more than 30 countries including the U.S. and Japan.

Although both corporations had strong domestic identities their respective governments steered clear of being drawn into a nationalist brawl. Even as Mannesmann was threatened by a hostile foreign takeover, Chancellor Gerhard Schröder decided government interference could jeopardize future mergers in which German corporations would continue their global integration. The acquisition of Chrysler by Daimler Benz has marked the true road forward for German transnationals.

To think of the English, Germans, or any national group as winners in these mergers is to miss their essential character as transnational deals engineered by de-nationalized elites. Global markets are transforming national capitalists into a transnational class with common goals and interests. Mannesmann's CEO, Klaus Esser, followed this new approach when he declined to use nationalist political rhetoric as a strategy to defend his corporation. Tens of thousands of union workers protested the proposed merger, as did most German investors. Yet Esser ignored his domestic audience and appealed to his global shareholders to hold out for a higher share price. When Vodafone upped their offer the majority of shareholders bought the deal. To Esser the primary consideration was building a transnational giant, not which partner would dominate.

The Vodafone/Mannesmann merger illustrates the elevation of international stock prices over domestic concerns and underscores how national markets and politics are becoming secondary factors in a globalized economy. The newly merged Vodafone now joins a rapidly growing group that includes BP and Amoco; Credit Suisse and First Boston; Bertelsmann and Random House and many others. These are corporations whose national identities faded away as they shape the world economy and compete under the new rules of globalization.

IT AND NEW PRIVATE WEALTH

As IT developed it created new corporations, a new stock market, new wealth, and new capitalists. This rising bourgeoisie is a key group within the emerging transnational capitalist class and is developing its own characteristics and at times its own politics. Recently Money and Business conducted an analysis of chief executives' pay comparing 100 of America's largest non-technology companies to 60 of the leading Nasdaq corporations. The average pay of old economy chief executives was \$7.1 million, compared to \$27.5 million for the new economy leaders. The info-tech executives on average have also accumulated \$720 million more in equity, almost ten times the holdings of old economy bosses. (29) This wealth is based partly on the market valuation of stocks that are used more widely by the new economy corporations as part of executive compensation. This is also true in Europe, where info-tech corporations on the hunt for top talent have begun the same practices as U.S. corporations.

This has not only made Bill Gates the richest man in the world with \$71 billion in wealth, but created ten other chief executives with ownership stakes over a billion dollars among the top 60 info-tech firms. Even after the post Spring 2000 Nasdaq crash these executives were worth a billion or more: Jeffrey Bezos of Amazon, \$8.9 billion; Lawrence Ellison of Oracle, \$8.4 billion; Henry Nicholas III of Broadcom, a producer of communication chips, \$4.8 billion; Timothy Koogle of Yahoo, \$2.4 billion; Jo Mei Chang of Vitria Technology, a maker of e-commerce software, \$2.3 billion; David Wetherall of CMGI, \$1.8 billion; Stephen Case of AOL, \$1.7 billion; Irwin Jacobs at Qualcomm, \$1.2 billion; and Scott Kriens of Juniper Networks, a maker of Internet routers, \$1.1 billion. (30)

Among the 100 top DOW chief executives only two had ownership stakes over a billion: Patrick Ryan of Aon with \$1.2 billion and Frederick Smith at Fed Ex with \$1.1 billion. (31)

These figures report on chief executives, but Forbes lists the largest 400 personal fortunes in the United States. As Forbes points out:

“Heavy industrial fortunes would have dominated our list decades ago.”

(32) But no longer, information technology capitalists are this era’s stars. To appear on the list you need a minimum of \$625 million. Overall about two-thirds are billionaires. Of the five richest men three come from Microsoft and one from Dell. Of the total 400, 89 have wealth tied to the IT sector. IT capitalists also tend to be younger, 48 being under 50 years old. Of the Forbes 400 only a total of 77 fit that age category. (33)

Over the past decade there has been an outburst of magazines dedicated to watching and promoting the IT sector. Computer Resellers News is perhaps the most self-conscious focusing on individual leaders of the IT super-rich. Every November they choose 25 top IT corporate leaders complete with personal profiles and a reader’s poll of favorite CEOs. They also established an “Industry Hall of Fame” with annual inductees. There are currently 37 members with online articles, photographs, video clips and interviews on each member of this IT Valhalla. The magazine also sponsors an inductee gala event, which in 1999 took place at the Hard Rock Hotel in Las Vegas with 1,000 in attendance.

IT’S POLITICAL AGENDA

Competition can be fierce within the IT stratum as the government’s anti-monopoly suit against Microsoft revealed. But there are also commonly shared political, social and economic goals. Some of these are a no tax policy for e-commerce; support for government social spending to expand the use of computers and internet access; an open immigration policy for IT professionals; support for regulatory legislation that has allowed the merger of telephony, television and computer technology; ending overtime pay after an eight-hour workday; enforcing copyright law to protect intellectual capital; and support for China’s entry into the WTO.

The political involvement of info-tech capitalists is growing rapidly in the Washington DC. Microsoft has spent about \$16 million in donations to candidates and lobbying efforts since the government’s antitrust suit in 1997. Other Internet companies have more than doubled their political contributions in 1999 to \$4.5 million, while phone and telecommunications companies added another \$7.61 million. As with many industries this money is split between both parties. Often bills favored by high-tech corporations get support from a mix of New Democrats and Republicans. “‘You have to work hard to make technology issues Democrat or Republican, liberal or conservative,’ said Representative Edward J. Markey, Democrat of Massachusetts. ‘It’s not the contras versus the Sandinistas’.” (34)

New Democrats meet with Silicon Valley executives regularly. Says Wade Randlett co-founder of TechNet and executive at Red Gorilla, “I think they are trying to create a mini high-tech party in a way. It’s a smart political approach.” (35) Republican Representative of Louisiana, W.J. Tauzin calls the info-tech executives “stars,” while Virginia Democratic Representative James Moran notes, “People want to know them, touch them.” (36) As the info-tech industry grows its political wish list becomes

larger and hundreds of bills that effect the industry are now in Congress. Says Democratic leader Senator Tom Daschle, “The level of interest is as high or higher than any other set of issues I’m aware of. It’s a new paradigm.” (37)

IT AND INDUSTRIAL CAPITAL

The drive towards a world capitalist system is rooted in the competitive struggle for accumulation. But the mode by which the nationally based industrial sector is transformed into transnational corporations is defined by IT. Its’ not just a change in the way competition unfolds or where capital is invested, but the way in which information technology has changed industrial technology. This has a direct impact on how globalization is structured, its capabilities and mode of operation. Abby Joseph Cohen, chief strategist at Goldman Sachs notes; “In many ways it’s artificial to draw a distinction between the so-called old economy and new economy, because the real magic of the U.S. economy has been the enormous application of technology.” (38) Adds Fortune, “the companies of the 500 that get the NET – even if they’re smokestack industries – are way ahead of their less Netsavvy rivals.” (39)

Auto is perhaps the best example of the marriage of the old and new economies. Cars best represent the industrial economy of the twentieth century. Yet today this old industry is thoroughly linked to the tools and organization of the new economy much in the manner that feudal farming was transformed by the industrial revolution.

This transformation has taken place in every phase of auto manufacturing. The car industry has used IT to construct a new command and control system that coordinates a global assembly line for production, the flow of parts, accounting and finance. Modeling software is used for design, while production is carried out by robot painters, welders and assemblers. Other tools like lathes and milling machines are run by numerical control technology. Recently Chrysler built a plant with an operating plan of only five-years, based on the expected life span of the software that manages production. With IT as the source of added value the factory is organized on its lifecycle, not industrial assets such as heavy machinery. (40) Lastly cars are imbedded with microprocessors at virtual every level of function. The Economist reports that, “The typical car today has more computer-processing power than the first lunar landing-craft had in 1969.” (41)

These changes have also produced growing centralization. Global competition has undercut national ownership and spawned a spectacular rise in world mergers. There are now just five auto transnationals who own or control 20 formerly independent manufactures. (42) A typical example of global coordination is Japan’s Mazda building cars in Spain in a factory owned by Ford for the market in Europe.

Oil production is another old economy industry transformed by IT. The ability to find oil and get to it has been revolutionized. Seismic visualization now creates 3D rotating colored images of earth’s interior for underground exploration. These hologram images aren’t produced by cameras, but by mathematical modeling of sound echoes and algorithms. To process a square kilometer’s worth of data takes ten minutes, compared to 800 minutes in 1985. The cost of analyzing a fifty-square-mile survey has fallen from \$8 million in 1980 to about \$90,000 today. (43)

Once likely oil deposits are located directional drills cut through rock in any desired direction and angle. Drills now carry computers that collect data along the way. These downhole processors equal the power of three Pentium PCs and can use oil rigs as servers. Executives can log on through the Internet from their Houston home office, or using a laptop in the back of a limo to get real-time reports from any site in the world. As in auto, command and control becomes instantaneous and global. Mergers are also sweeping the industry, reducing the famous Seven Sisters to just four.

The old industrial economy is thoroughly saturated at every level with the new tools of production. That's what makes info-tech capitalism key to the creation of a global economy and the transnational capitalist class. The fabulous wealth of the new economy goes far deeper than dot com stock speculation. In actuality the dot com craze is only an outward manifestation of a much more firmly rooted creation of new value. Even with the recent IT recession sales of technology equipment and services is up 9.6% in Asia and 11.1% in Europe. Slower than the mad pace of 1999, but still healthy. (44)

IT AND FINANCE

Finance has been revolutionized by the new means of information production. In fact, globalization is often defined by the huge and rapid transfer of money. This ability has spawned a new era of speculation and investments that have transformed national economies the world over.

In order to navigate and profit from this volatile environment traders rely on accurate data. Information is key to the operation of financial markets, and it's speed, coordination and accuracy are core elements. All of these have been immensely enhanced by a wired world, which in-turn creates a rapidly changing environment that pushes demands for faster and better information. The ability to move huge amounts of money electronically, the knowledge of where to move it, and how long to leave it has lead to trillions of dollars bouncing around world markets operating on daily or even hourly margins. The money market alone trades \$1.7 trillion a day, equaling the GNP of the US in one week. This incredible flood of financial transactions are accomplished by a computer known as CHIPS, or the Clearing House Interbank Payment System. CHIPS handles about \$2 billion in transfers every minute. Housed in New Jersey, it has a sister in Belgium called SWIFT, or the Society of Worldwide Financial Telecommunications. The New York Times dubbed CHIPS "the computer system that is the heart of global capitalism." In fact, more than 90% of all money circulating between countries is in speculative activities. (45)

For the first time in history the world's stock market capitalization has passed the world's economic output in goods and services. From \$16 trillion a decade ago stock market capitalization has hit \$35 trillion. This compares to \$30.1 trillion in global goods and services. (46)

Hundreds of new financial instruments have been created to increase this flow in what the New York Times refers to as a "torrid growth in the world's Capital markets." (47) These markets now dominate world financial movements, a lesson brought home by the 1997 lighting quick crash in Asia. IT has built an integrated global financial system that ties together all national currencies in a web of dependency. This network is managed by the IMF which demands full financial access for transnational banks and speculators into every national market.

Just as mergers in industry are driven by global competition and the organizational abilities of IT, so too are mergers sweeping the banking and finance industry. Major transnational mergers saw Suisse Credit's buying the Bank of Boston, Deutsche Bank's acquisition of Bankers Trust, and Societe Generale acquisition of Yamaichi International Capital Management. The biggest move inside the US was Travelers' acquisition of Salomon Smith Barney, followed by their buy-out of Citibank for \$73 billion. This created Citigroup with total assets of \$720 billion and operations in over 90 countries. Citigroup recently moved into the Japanese market by becoming the biggest shareholder of Nikko, Tokyo's third largest brokerage firm. In Japan pending mergers will create two banks with assets of more than \$1 trillion apiece. Another trillion dollar bank, UBS of Switzerland, recently acquired Paine Webber which holds \$423 billion in assets. The same trends are present in Germany, where there has been a scrambling of Deutsche Bank (Germany's largest with \$800 billion) Commerzbank, Hypovereinsbank and Dresdner Bank to merge or recreate themselves for global competition.

While New York has the DOW and Nasdaq, Saskia Sassen points out that "London is the preeminent city for global finance...It leads the world in institutional equity management, holding over \$1.8 trillion in assets...it is arguably the world's biggest net exporter of financial services, with a surplus of \$8.1 billion...leads in international bank lending, consulting on cross-border mergers and acquisitions, and trading and issuing international bonds. Finally, London is the leading global foreign exchange center, with a 40% market share, far ahead of New York." (48) In fact, U.S. banks account for only 15% all of cross-border lending. (49)

Information technology is also the main target of new venture capital. In the first six months of 2000 a total of \$49.3 billion was invested in 3,322 start-ups. In the US almost 86% of these investments went to Internet related companies. (50) Most come from wealthy families, many of whom became rich in the IT industry like Paul Allen of Microsoft. IT corporations like Intel and Cisco are also putting billions into new companies. Just a few years ago venture capital was mainly a local affair with angel investors mentoring start-ups and sitting on boards. But as pointed out by Jean Yaremchuk; "The spirit of global cooperation has rubbed off on venture capital investors, with European powerhouses investing in Silicon Valley and a slew of U.S. based venture capitalists moving into Europe." (51) Just in the second quarter of 2000 U.S. venture capital firms had 183 investments in Europe, Asia, and Latin America.

CONCLUSION

The tendency of capitalism to become a world system has been present from its start. But the ability to integrate beyond its national borders and emerge as a transnational system is closely linked to the new abilities of information technology. The interconnectivity and speed necessary to build a transnational economy only became possible with a networked world. Earlier international trade based in national industrial formation was built by slower flows of information, coordination, exchange, transaction, and travel. The technological revolution of the industrial era built markets and manufacturing methods bound by its own capabilities, while today's technology allows capitalism to reconfigure itself along new lines of global organization.

Today's means of communication and production are in sharp contradiction with the old industrial nationally based system. The struggle between the two is played out in the

transformation of government and supranational bodies. The growth of the WTO, IMF, and World Bank reflect a fundamental process to create a new legal and economic superstructure to accommodate, expand and protect the new social relations of globalized capitalism.

The politics of neo-liberalism clearly reflect changes that spring forth from how the capitalist class has organized itself around the new means of production. The demands for free markets and open financial structures developed as capital became capable of exploiting such a transnational system. These economic and political changes are lead by an emerging world capitalist class. While competitive struggles continue they are united in building a new global system. We have indeed entered a new era.

NOTES

1. For an analysis of the formation of the transnational capitalist class see Bill Robinson and Jerry Harris, 'Towards a Global Ruling Class: Globalization and the Transnational Capitalist Class', *Science and Society*, (Spring 2000) 2. 'The Fortune Global Five Hundred, the World's Largest Corporations', *Fortune*, (2 August 1999). 3. In analyzing the electronics industry I included only those corporations with substantial investments in IT products. For example, I separated the appliance maker Whirlpool from Intel which Fortune puts in the same category. Out of 25 on Fortune's list I choose the following 16: Siemens; Hitachi; Matsushita; Toshiba; Royal Philips; NEC; Lucent Technologies; Motorola; Intel; L.M.Ericsson; Samsung; Northern Telecom; Sanyo; Nokia; Sharp; and Tyco International; 4. I included Rubber because it listed only three corporations, Bridgestone, Michelin, and Goodyear, all tightly linked to the transportation industry through tire production. 5. 'The Fortune 500', *Fortune*, (17 April 2000). 6. In listing the US electronics industry I used the same method as above. Out of 31 corporations I choose the following 10: Motorola; Solectron; Rockwell Intl.; Qualcomm; Harris; Micron Technology; Molex; Conexant Systems; DII Group; and Sanmina. 7. Lipper, Wall Street Journal Market Data Group. 'Best and Worst', *The Wall Street Journal*, (8 May 2000) 8. Greg Ip and E.S. Browning, 'NASDAQ Swings are Unprecedented But Consumers are Not Spooked', *Wall Street Journal*, p. 3. (<http://www.global.noc.org>), (17 April 2000). 9. Edmund L. Andrews, 'The Metamorphosis of Germany Inc.', *New York Times*, Section 3, p. 1. (12 March 2000). 10. Beborah Ball and Vanessa Fuhrman, 'Net Gain', *Wall Street Journal*, p. R9. (8 May 2000) 11. Edmund L. Andrews, 'The Metamorphosis of Germany Inc.', *New York Times*, Section 3 p. 1. (12 march 2000) 12. Anthony Bright, *The Electric Lamp Industry*, New York, (MacMillian, 1949). P. 85. 13. Scott Thurman, 'Cisco Agrees to Buy Arrow Point for About \$6.1 Billion in Stock', *Wall Street Journal*, p. A4. (8 May 2000). 14. Noshua Watson, 'The Lists', *Fortune*, p. 295. (17 April 2000). 15. Jeremy Kahn, 'The Fortune Global Five Hundred', *Fortune*, p. 144. (2 August 1999). 16. Dr. Anitesh Barua and Dr. Andrew Whinston, Center for Researach in Electronic Commerce, Graduate School of Business. University of Texas at Austin. (27, February 2001). 17. IBID. 18. Noshua Watson, 'The Lists', *Fourtune*, p.295. (17 April 2000). 19. Jeremy Kahn, 'The Fortune Global Five Hundred', *Fortune*, p. 144 (2 August 1999). 20. R.C. Longworth, 'Suddenly Our Manuels are Out of Date', *Chicago Tribune*, Section 2, p. 1. (9 April 2000). 21. Suzanne Koudsi, 'Ten Deals We'd Like to See', *Fortune*, p. 58. (17 April 2000). 22. Jeremy Kahn, 'The Fortune Global Five Hundred', *Fortune*, p. 144. (2 August 1999). 23. John Bellamy Foster, 'Monopoly Capital At the Turn of the Millennium', *Monthly Review*, p. 12. (April

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