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BORDERLESS BITS: ELECTRONIC GLOBALIZATION AND ITS SOCIAL CONSEQUENCES

The older forces of globalization based on materials-based trade and transport are commingling with the newer forces of global electronic networks and creating the emergent phenomenon of “electronic globalization.” Examples of activities influenced by such electronic globalization include the following:

- With severe economic downturn from 2008, many consumers in the U.S. became delinquent in their credit card or loan payments. Call centers in India employ sympathetic, soft spoken, but firmly insistent collection agents who listen to the sob stories of delinquent Americans – and, unlike USA-based agents, usually manage to extract at least partial payments out of the hapless debtors.
- Voice files containing dictated patient notes by doctors in USA are sent electronically to medical transcriptions companies in India. At some locations in India, over 1000 people trained in listening to a variety of American accents, including ethnic ones, don headphones in front of a PC and transcribe the voice files into text. Strong knowledge of medical terminology and accuracy of transcription are critically important. Editors are employed to review every transcript. Normal files are turned around in 12 hours, while urgent of “STAT” files are often transcribed and sent back to USA within two hours.
- Some of the large Indian information technology services companies have entire rooms or floors dedicated to specific USA clients such as Cisco Systems or EDS. With advanced network connectivity, dedicated staff in India provides 24X7 network maintenance and remote “help desk” services to customers in USA and other global locations. The tech support people in India are able to “take control” of malfunctioning systems thousands of miles away, run sophisticated diagnostic tests, and fix the problems.
- A consulting group in Scandinavia that provides design services to precision manufacturers in Europe sends the rough drawings and specifications of the designs it is working on to a team in Chennai, India. In 2 or 3 days, using Computer-aided Design (CAD), the Indian team sends back fully-dimensionalized CAD engineering drawings and even 3-D computer simulations of the prototypes back to the Scandinavian firm.

As these examples show, the range of processes that are outsourced by electronic methods to low cost but appropriately skilled foreign workers is widening. Electronic globalization is characterized by the ongoing fine-splitting and reintegration of business processes, value chains, supply and distribution networks, organizational forms, cultural relationships, lifestyles, and work styles across international boundaries – often across geographically distant locations – with the aid of information and communication technologies (ICTs).

Some nations such as India and Vietnam in Asia, Ghana in West Africa, Egypt in the Middle East, and Romania in Europe appear to be beneficiaries of “electronic globalization” as outsourced service work flows to them. Developed nations of North America and Europe often face the twin effects of global outsourcing: rising corporate profits and productivity for the firms that employ outsourcing as well as significant domestic job losses in skilled categories. Unlike the gradual job attrition in manufacturing – spread over decades – the political fallout of which was managed well by the multinational corporations (MNCs) in America and Europe, the services outsourcing MNCs are not always able to contain the political tides of unrest triggered by the relatively rapid loss of high-end and white collar jobs in the technology and service sectors (Dobbs 2004). In a magazine interview, Influential American television journalist Lou Dobbs offered strong, multi-pronged critique of outsourcing of American jobs to countries like India and the Philippines (Fleischer 2005):

Among the many consequences is the pain that is being felt by working men and women in this country [USA], particularly our middle class. But the other impact is the transfer of technology and our knowledge base. We're exporting our privacy as well, because medical and financial records are being exported ... Each time we transfer knowledge bases overseas, whether it be manufacturing or technology or research, that is a service that will obviously be performed by a competing economy -- whether emerging or not, a competing economy... and this ... could grow to an increasingly larger share of the trade-deficit problem -- the result is further pressure on the U.S. economy... every job that replaces one that is outsourced pays approximately 20 percent less than the job that was exported overseas. So we have a continuing downward pressure on wages in this country. That has an impact on education because obviously that money's not available to the tax base that pays for education. It diminishes, in point of fact, the income-tax base for the federal government and state governments. So the impact is broad and it is deep.

For the beneficiary nations such as India, however, electronic globalization also entails obstacles and perils, as professional wages jump and skilled workers become harder to find. Also, in such countries, domestic income and lifestyle gaps – between the ascendant, technologically skilled professional class and other less privileged classes – become glaring, and cause political and cultural tensions. As the enmeshing of the developing nation electronic service providers into the global capitalist production system deepens and the outsourcing entanglements thicken, the shocks of global economic downturns flow into the developing nations in an amplified fashion. India witnessed this in a dramatic fashion in the second half of 2008, when the downturn in the United States economy and financial system sent nearly ruinous aftershocks in India’s software and IT-enabled services sectors and financial markets.

As borderless bits whirl across the globe, they fan the flames of inequities in advanced as well as developing nations. The social consequences of the inequities, however, are different. In the advanced nation that loses jobs to offshore locations, the glum realization sets in that the direction of technology-aided outsourcing – from domestic to foreign locations – is inexorable. The national mood turns to resentment, followed by despondency, and finally to sharp and painful introspections about how to restore the nation’s skills and competitiveness. In the developing nations that benefit from outsourced work, while there is some resentment of the local fast-rising “technology class”, this is tempered greatly by the sense of optimism that begins to pervade substantial segments of the population. The belief that education could open doors of opportunity – enabling everyone who gets into appropriate educational tracks to become members of the prospering technology class – takes hold of the popular imagination, especially in urban settings.

The discussion that follows is organized into five main parts. First, the factors that drive electronic globalization – as distinct from factors that drive the general process of globalization – are discussed briefly. Second, a simple model of a 2-firm USA-India dyad engaged in outsourcing relationships is presented to outline the economic basis for electronic globalization. In the third main section, progressively more complex views of the electronic globalization phenomenon are presented by introducing wider political and cultural forces. Finally, the interplays of the economic, political, and cultural forces are explored to arrive at a deeper understanding of electronic globalization, and broader consequences and longer-term impacts are explored.

Economic Forces Driving Electronic Globalization

The shifts from autarky to interdependence, from self-sufficiency to trade, and from self-production to outsourcing have been occurring for millennia. In other words, at a conceptual level, “globalization based on outsourcing” is nothing new.

There are, however, new elements that “electronic globalization” has introduced into global business relationships. What exactly are the new elements that information technology and new international alignments have injected into global business processes?

Leveling of Skills at Unequal Wages

As the equipment and training for computer and ICT skills became globally available, and affordable, business firms can find skilled ICT workers at bargain wages by going to countries like India, Romania, Vietnam, or China. ICT firms in fact put into place rigorous certification programs – such as Cisco Academies and Microsoft Certification programs – that are delivered in a uniform manner across various global locations. While scholarly skills that university-based higher education provides are scarce and restrictive, with a pyramidal and tiered hierarchy of higher education institutions, the aim of corporate-sponsored

certification programs is to flatten out the access to learning. The certification programs admit anyone willing to pay the fee. While they maintain rigor in training and testing, the goal of the corporate-sponsored certification programs is not to let the enrollee quit or fail. The certification programs build in remediation tools and repeated testing to help the enrollee reach and pass the requisite skills certification level.

Similar to individual level certification programs, there are organization level certification mechanisms – such as ISO, FDA, USDA, HACCP, and CMMI – that allow organizations to achieve and maintain high certification levels, based on their business processes and practices. In the software field, for instance, Software Engineering Institute and Carnegie Mellon University sponsor the Capability Maturity Model Integration (CMMI) process improvement and certification method – to enable software firms to attain and maintain high global standards.

In many cases, Indian software and outsourced services providers invested in higher skill-based platforms than available in the United States or elsewhere. Thus, of the CMMI Level 5 – the highest skill level available to software firms – certified software firms, the vast majority are in India. Similarly, for call center or medical transcription work, training and skill development are more intensive at Indian operations than at comparable USA-based operations.

American and European firms are thus not only able to reap the benefits of bargain wages but are often able to obtain more skilled services than they can get in their home locations. Global flows of training and certification, thus, provide ways of creating high-tech oases or enclave settings in countries that otherwise have inadequate educational systems and infrastructure. To use Appadurai (1990) inspired terminology, these global “certificationscapes” are creating First World quality production enclaves/oases in Third World settings, aimed at taking advantage of the developing nation wages and serving the affluent consumers in the advanced nations.

The leveling with, and even overtaking of, advanced-nation skills by developing nation entities has occurred in manufacturing as well as various service sectors in the past. The emergence of China as the “world’s manufactory” is testimony to that. What is different with India and the IT-related skills are the impacts on the elite, leading edge, so-called “sunrise” sectors of the advanced nations – the very sectors that were supposed to generate jobs lost in manufacturing in western nations are now under threat. On the Indian side, the compelling logic of “outsourced capitalism” boosts the skill and capability levels of India’s IT sector but also creates hypnotic “fields of greed” with potentially disastrous consequences as witnessed with the Satyam Computers scandal of 2009. There are risks that the salutary logic of skills-upgrading could give way to the sinister logic of the ends justifying the means – and descent into business practices that cut corners, are deceptive, or outright fraudulent.

Leveling of Hardware and Software Available

Partly with WTO pressure, partly due to slashing of import duties by neoliberal regimes, and partly via aggressive marketing by hardware and device makers, it became possible for firms in developing nations such as India to have state-of-the-art hardware and software available within weeks of introduction in USA or other advanced markets. In many cases, software was pirated with scant attention being paid to World Intellectual Property Rights rules. Low-cost hardware and software, combined with skilled low-cost ICT workforces created strong incentives for global outsourcing of ICT work to locations such as India.

Falling Telecommunications Costs and Bandwidth Bottlenecks

Since telecommunications are key for successful global Business Process Outsourcing and Information Technology Enabled Services (BPO-ITES) activities, such activities did not take off until the telecommunications costs in India and other similar countries came down to reasonable levels and adequate bandwidth for data transfer became available. In 2008, India's telecommunications costs continued to be somewhat higher on many dimensions than those in USA, and bandwidth availability smaller than in advanced nations. But relative to India's own recent past, there have been dramatic declines in telecommunications costs and equally dramatic improvements in available bandwidth. The trends in telecommunications costs (falling), bandwidth availability (rising), and skill levels and mix (rising/richer) help to offset to some extent the rising wage levels of technology workers in countries like India

Increasing Confidence in Process Slicing and Reintegration

In knowledge-intensive manufacturing and allied processes, some companies began experimenting with global splitting and reintegration of parts of such processes. While "globally sourced products" – with components coming from various countries – had been around for many years, the global sourcing of service and knowledge work is relatively recent. In the past such global sourcing required months and even years of advanced planning and cross-national coordination. The availability of secure, reliable and low-cost ICTs changed this state of affairs. Possibilities of ICT-enabled slicing and "splicing" or reintegrating of processes within a 24-hour cycle became evident mainly in the 1990s. Companies such as Intel were able to operate semiconductor production processes by working around the clock, with smooth ICT-enabled "handover" of process steps from California to Ireland to Israel and back to California as the business day dawned in each location. Having learned for over a decade from such "handover" tactics in production processes, by 2000 there was general across-the-board confidence that a lot of service processes similarly could be "handed over" to locations such as India, enabling not only cost savings but also fast turnaround and 24-hour operations.

By 2008, the confidence in global ICT-enabled activities had reached such a level that even personal level processes could be sliced, outsourced and spliced.

The range of personal concierge-style services available from GetFriday, a Bangalore-based firm, is diverse and growing (Chiswick 2007):

Your GetFriday personal assistant (a point of contact, whom you'll know by first name) will wake you up with a morning call, then book your workmen, pay your utility bills and do your online shopping. GetFriday have even been called upon to read a bedtime story over the phone to a client's child. But - crucially - he or she will also take on responsibility for locating corporate sponsors, creating legal documents and managing payrolls and invoicing. Your man (or woman) in Bangalore is backed by a network of professional talent.

Reconfiguration of Education, Reorientation of Lifestyles

In India and many other developing nations, large numbers of people had been getting college education, including – for some portion of the college educated population – good technical training, or good English language skills, or both. Until the BPO-ITES boom, however, such college-trained people could at best hope to get at entry jobs in financial services, teaching, government offices, or as factory supervisors. These ‘babu’ career options, to use the relevant Indian term, were seen as good white-collar options but the salaries were low.

With BPO-ITES growth, many of these college-educated people invested time and money in getting greater levels technical skills, domain knowledge, and English language and westernized accent skills. So trained, the young people were able to get wages 3-6 times higher than the traditional white-collar entry-level salaries. While the work was often intense and demanding in BPO-ITES firms, people taking on such work could enjoy lifestyle benefits – scooters, cars, mobile phones, fancy clothes, expensive travel and restaurant meals – much quicker than their counterparts in traditional white-collar jobs.

The ICT-enabled opportunities are motivating the youth in countries like India, Ghana or Egypt to embark on sharply instrumental paths of skill development. In the traditional systems of just a few years ago, such instrumental and craftsman-like skill acquisition was in blue-collar arenas such as cooking, carpentry, or millwork. Such blue-collar jobs, even when they paid fairly well, were looked down upon by college-educated youth. The highly instrumental, craftsman-like skills of BPO-ITES work – accent training, complaint handling, voice transcribing, or data entry – however, earn ready acceptance in India because the work is seen as respectably ‘white collar’ and the wages available after such skill acquisition are several times higher than wages offered to someone with a mere college degree. In fact, ‘babu’ – the older Indian term for white collar work that commanded a lot of respect during the British colonial rule and the initial years of independent India – has now become a term of intense derision.

The post-Babu work and play culture, however, also is a culture from which entrenched traditional values – the somber “bhadra-lok” ways of life of the babu –

get drained rapidly, and replaced by vacuous lifestyles reflected in the shallow so-called “Page Three” gossip columns of India’s newspapers.

Simple Economic Dyadic Model of Electronic Globalization

To understand the basic economics of electronic globalization, consider a software code-writing project that can be done either in the United States or could be outsourced to India. Let us proceed with the following assumptions and calculations:

- The project entails writing 1 million lines of software code.
- The wage rate for skilled software writers in USA is \$40/hour and for similarly skilled Indian programmers, the wage rate is \$4/hour.
- Let us further assume that the USA programmer can write 500 lines of error-free code per week, while the Indian programmer can write 400 lines per week.
- With the USA wage and productivity levels, the project of writing 1 million lines of code would cost \$3.2 million if it is done in USA. If outsourced to India, with the assumed Indian wages and productivity, the project would cost \$0.4 million if done in India.
- Let us further assume that the negotiated price between the USA firm that outsources the project to India and the Indian firm that does the work in India is \$1 million. Also, outsourcing would involve considerable communications and travel. Transaction costs of \$0.1 million would be incurred when the work is outsourced to India.
- By outsourcing, the USA firm realizes an “outsourcing surplus” – the difference between the USA cost of \$3.2 million and the negotiated price of \$1 million if the project is outsourced to India plus the transaction cost of \$0.1 million. Thus, the “outsourcing surplus” for the USA firm is \$2.1 million.
- For the Indian firm, there could be a “shadow surplus” if an Indian client contracts a similar-sized project at a price lower than \$1 million. Let us assume a similar sized internal contract (in terms of commitment of programming time) within India would fetch \$0.5 million. Thus, by working for an American client rather than an Indian one, the Indian software developer derives a “shadow surplus” of \$0.5 million.

In pursuing this analysis a step further, a simple simulation was set up wherein the price of an equivalent domestic Indian project, with the Indian software firm servicing an India-based client, was taken to be 30% above the simple person-hour cost of doing the work. In such a simulation, when the Indian wage rate rose to \$7.70 per hour (and assuming the USA wage rate and project price remained constant), the “shadow surplus” of the Indian firm disappeared. In other words,

the Indian firm made about \$1 million in revenue by offering its services to the USA client *or* to an Indian client. At wages higher than \$7.70, the Indian firm could make more revenue (and a larger margin over costs) by selling its services within India, assuming there are Indian clients willing to pay 30% above the wage costs, and the USA project price remains at the \$1 million level. To the extent the assumptions of such a simple simulation are valid; the following implications can be drawn:

- As growth keeps up in the domestic economies of the countries doing outsourcing work for USA or other advanced nations, and as wages paid for ICT-aided work rise, domestic projects might become more lucrative than globally outsourced projects. This is already evident to some extent in China. China's software sector is comparable in size to India's, but most of the software work in China is done domestically for Chinese clients.
- At a fairly low wage rate (about \$8 per hour vs. \$40 per hour paid in USA), "electronic domestication" may start becoming an attractive option (to the current option of "electronic globalization") for ICT-based work in the emerging nations.
- If such is the case, firms from advanced countries would have to either raise the prices they pay for outsourced projects or they would have to look for alternative outsourcing sites (e.g., Vietnam rather than India). If latter happens, then "electronic globalization" would follow a path similar to that of "manufacturing globalization" (in arenas like garments or electronics assembly) where advanced-nation MNCs kept shifting their production bases from the more expensive to the less expensive Asian or Latin American nations.
- The ability to shift outsourced ICT-based work from country to country would depend on how well various emerging nations are able to create trained ICT-enabled workforces.

In globalization of manufacturing as well as ICT-enabled jobs, western MNCs typically exhibit a "footloose" economic logic – and move work to global locations where wages and other costs are cheaper, and there is a semblance of political stability. For ICT-enabled work, however, the industrial-technological "ecosystem" that supports such work is more complex than the "ecosystem" for manufacturing jobs.

ICT-enabled work requires an educational and training infrastructure that not only prepares entry level workers with the latest software or ICT process skills, but also such skills need to be continually updated. Within India, more through historical factors than conscious planning, Bangalore has managed to create an ecosystem that is highly supportive of ICT work. At least a dozen other Indian cities are trying to emulate the success of Bangalore, with varying levels of success. Cities that have a strong base of technology education *and* English language education are faring better than cities that lack one or both. Even poor physical infrastructure (roads, airports) appears to pose less of a barrier to ICT

work than the availability of education and telecommunications infrastructure. In fact, some of the leading ICT service providers from India are able to create enclaves that are havens from the rough life of India's tattered urbanscapes. The main campus of Infosys in Bangalore, one of the top ICT firms in India, inspires media observers:

The most spectacular commercial development [in Bangalore] is the 43 acre Infosys Campus at Electronic City... It is a self-contained city for its 20,000 workers, and contains shops, restaurants, a health club, a basketball court and even a golf course... Golf carts take the many visitors around on tours, while video conference facilities link it to Infosys offices around the world... The campus is so large that Infosys provides free bicycles for its staff to travel around the site... (BBC News 2007).

On the lawn, next to the expansive food court for Infosys employees (or, as they're known here, Infoscions) and across the way from the golf green, a grove of saplings on the lawn symbolizes Infosys' importance in the Indian IT world... More than anywhere else in India, the Infosys campus represents the country's aspirations to become an IT superpower... Inside the grounds at lunchtime, smartly dressed men and sari-clad women lounge at the open-air food court (complete with a Domino's Pizza and five other food outlets), while loudspeakers at the nearby outdoor amphitheater blast the music of Sting. On the weekends, Infoscions have parties there, sometimes featuring the in-house rock band, the Algorithms... It's even grander inside some of the buildings. There's the auditorium, complete with a 40-screen video wall, the biggest in the country. The other walls are covered with tan silk, to lend a rich feel. Outside the auditorium, a smaller video screen shows off other amenities, including the library and the exercise room for the 4,000 Infoscions who work here. After a while, it's almost possible to forget you're in India (Einhorn 2001).

Introducing Political and Cultural Forces

Like most global business processes, the phenomena under the umbrella of ICT-enabled "electronic globalization" are affected not just by economic considerations but by political and social-cultural factors as well.

While globalization of manufacturing processes, especially from the United States to China, has been going on for decades, the political fallout of loss of manufacturing jobs has been contained by a number of factors. The globalization processes have evolved over a long period of time, and the displaced blue collar workers in USA have not had the education levels and access to media and politicians that displaced ICT workers have. In the post-2000 period, "electronic globalization" – especially outsourcing to India – happened quite rapidly. The displaced programmers, analysts, and other ICT-linked knowledge

workers, while smaller in number than displaced blue collar workers, are politically active and media savvy. They are, for example, able to build quickly major websites where criticism of MNCs outsourcing knowledge work to lower cost nations can be aired. The displaced ICT-linked knowledge workers have also been adept in gaining access to traditional television and print media, and in influencing elected officials and candidates running for major offices.

Electronic globalization, therefore, has turned into a mainstream political issue quite rapidly in the United States. Many political leaders, in turn, have linked the issues of job losses stemming from newer electronic globalization formats and the traditional globalization of manufacturing as a way to build coalitions across blue and white-collar workers affected by these processes.

Developing Nations

On the developing-nation end of the electronic globalization chain, in countries such as India that are benefiting from the shifting of ICT-enabled jobs from the advanced nations, there are various political and cultural repercussions. Even though the number of ICT workers as a percentage of population is very small – India has 4 million ICT-linked workers in a population of over 1.1 billion – their political lobbies have gained great strength. Public and private resources get channeled in support of regions and firms that have such workers. This “techno-class” begins to sway politics and economics in ways far greater than its numerical strength would warrant. Since the resources available in a developing nation – even a rapidly developing one such as India – are highly constrained, the ICT-induced resource shifts create major developmental gaps.

The rising affluence and visibly western lifestyles of India’s thin layer of ICT-linked workers has spawned resentment, and many elected officials who had supported such activities were voted out of office in India’s 2004 general elections.

The gaps are especially severe in rural and marginal areas, often agricultural or tribal, that have little connection to the rising urban ICT agglomerations. Almost as a dark shadow of its rising ICT prominence, India has witnessed a sharp rise in suicides by marginalized farmers. It is also witnessing a rising violent Maoist insurgency movement, spreading in rural and tribal areas. Writing in the mainstream *Business Week* magazine, Kripalani (2008) observes:

The Naxalites [the term used for India’s Maoist insurgents] may move next on India’s cities, where outsourcing, finance, and retailing are thriving... Today they operate in 30% of India, up from 9% in 2002... According to the Institute for Conflict Management, the Naxalites are now planning to penetrate India’s major cities... they are looking to encircle urban centers, find sympathy among students and the unemployed, and create armed, “secret, self-defense squads” that will execute orders. Their targets are the two main industrialized

belts that run along the east and west coasts... That's an ambitious plan, but the Institute estimates there are already 12,000 armed Naxalites, plus 13,000 "sympathizers and workers." This is no ragtag army. It is an organized force, trained in guerrilla warfare. At the top, it is led by a central command staffed by members of the educated classes.

The affluence and impact of the techno-class in India, however, also seems on a relentless upward trajectory. While public infrastructure (roads, power supply) woes remain daunting, the urban areas have witnessed an unprecedented lifestyle boom. In fact, some Indians émigrés from USA and elsewhere are even returning to India to enjoy the "lifestyle arbitrage" opportunities that India offers them. Such lifestyle arbitrage is created when an Indian ICT professional, say from Boston, leaves Boston and moves to Bangalore at half the salary he was making in Boston, but is able to have "twice the lifestyle."

In India, the ICT professional can enjoy the services of a cook, a chauffeur, a nanny and a maid – lifestyle perks not even available to the richest strata in the United States. Part of the reason for this is the higher purchasing power parity of a dollar earned in a developing nation. More importantly, however, the advantage of the "lifestyle arbitrage" is possible because the urban areas in India, as in much of the developing world, have millions of people working in a feudo-capitalist employment system. These are capitalist wage workers, but attached to a single family as household servants, as in a feudal system.

In developing nations, the ranks of such feudo-capitalist household working class keep swelling with development. As the Indian economy and wage levels increase (and Indians move from household to factory and office work), the country attracts immigrants – mostly illegal – from neighboring nations such as Nepal and Bangladesh into the ranks of feudo-capitalist household workers. Ethnic and linguistic similarities help such new household workers to blend in quickly. This is of course not unique to India. South Asia and the less affluent parts of Southeast Asia have for decades provided such feudo-capitalist household workers to the entire oil-rich Middle East as well as to affluent regions of Asia such as Singapore and Hong Kong. What is new with electronic globalization is the attraction the availability of such feudo-capitalist household workers creates for the ICT techno-class. Many ICT families have two employed professionals, often with young children, and the feudo-capitalist household working class provides such families with a level of lifestyle support that the iffy daycare and other support systems of USA cannot.

While there is a rising sense of confidence among India's ICT-linked workers and the enterprises they work in, there is also resentment and a sense of worry about the political backlash to electronic globalization in USA, UK and elsewhere. There is a "wronged feeling" that no such significant backlash occurred when manufacturing jobs were globalized over the last few decades. Some see a new

sinister ideology of “Orientalism” (Said 1979) at work – the simultaneous lusting after and loathing of the ascendant ICT workers of India.

These political and cultural forces affect the economics of electronic globalization. Depending on the circumstances, they push up or curtail ICT related wages, and often increase transaction costs for firms wanting to engage in electronic globalization.

Towards a Deeper Understanding of Electronic Globalization

If economic considerations were the only ones at play, then electronic globalization would proceed at an even faster rate than the already-rapid rate evident today. In USA and India, countries with complex and contentious democratic political systems, political forces often put some brakes on runaway electronic outsourcing. That said, economic forces are far stronger than political ones. As soon as the political rhetoric on outsourcing in USA, or the populist criticism of the privileged lifestyles of ICT workers in India, cools down, there is a spurt in outsourcing activities. Here the criticism goes beyond the lifestyle of ICT workers; Sharma’s piece is an indication.

This also means that those countries where political processes are centrally managed, notably China and Vietnam, would have good opportunities to draw ICT-related work away from India as soon as they begin to develop the workforces with the requisite linguistic and educational skills. In China, especially, the tremendously superior physical and electrical infrastructure – in relation to India – offers many advantages to MNCs wanting to shift ICT related work to that country. But, the two political-economies are different.

For the MNCs from advanced countries, the quest for “slicing and splicing” of business processes in ever finer and novel ways would continue, to take advantage of ICT-enabled global outsourcing possibilities. American MNCs clearly are more willing to do such outsourcing, followed by UK and German MNCs. In other advanced nations, due to political and social considerations, MNCs have a reluctance to outsource globally, especially when distant “offshore” locations are being considered.

In Europe, for example, “near-shoring” to new EU member states or to countries that are potential EU candidates is much more politically palatable than “distant-shoring” to places like India. Similarly, in Japan, “near-shoring” to China seems more acceptable than “distant-shoring” to India. In fact, for Japanese MNCs, because of perceived cultural closeness, offshoring to Vietnam may be more acceptable than offshoring to India. Because of these issues, some of the leading India-based ICT firms are beginning to explore the options of establishing operations in East-Central Europe and in Southeast Asia – to at least have some

possibility of capturing the small but growing stream of outsourcing work originating from EU and Japan.

Conceptualizing the Emergent World System

It is always difficult to see the conceptual outlines of emergent phenomena, especially from a position located inside the unfolding processes. The luxury of hindsight and reflection that a historical view provides is missing. Nonetheless, it is important to start the process of conceptual exploration.

From a Center-Periphery type perspective (Galtung 1980), there are important differences in the manufacturing oriented globalization that characterizes contemporary China and the BPO-ITES variety of electronic globalization of services that characterizes contemporary India.

In the case of China and other Asian and Latin American nations that experienced an outsourced flood of manufacturing jobs from USA and Europe, the periphery (working class) of the center (advanced capitalist nations) was pitted against the periphery (working class) of the periphery (developing nation). As skills equalized, the economically sensible options for the multinational corporations (MNCs) were crystal clear: shift the manufacturing work to the periphery. The periphery of the periphery was eager for work opportunities, even at wages that were fractional compared to the wages of the periphery of the center. Issues of workplace rights, occupational safety, and environmental impact were initially brushed aside by the combined political muscle of the neoliberal state of the center and the quasi-neoliberal-authoritarian state of the periphery. Later, grudging concessions were made in some cases to improve the working conditions in the periphery – often because global activism (Klein 2002) threatened the brand equity of MNCs such as Nike.

In case of electronic globalization of service activities, the knowledge workers – whether in the global capitalist center such as USA or in the global capitalist periphery such as India – can hardly be characterized as peripheral. The cerebral labor processes of such workers are neither peripheral (like those of assembly line workers) nor central (such as the work of top management). Indeed, these meso-level workers engage in relatively complex “projects” and identify strongly with the capitalist owners and management – that is, with the center – especially when employment conditions are stable and rewarding.

Global outsourcing of service work, in fact, begins at the periphery of the enterprise (in the central nation) and then inches closer to the center of the enterprise. In the medical field, for example, the sequence of global outsourcing moves from medical transcription, to medical billing and record-keeping, to remote diagnostics (x-ray reading), and eventually perhaps to remote consultation with specialized doctors. In such a process, there is a “creeping proletarianization” in the central countries as knowledge workers with

successively higher levels of training and skills come to realize that they are essentially in a labor-selling role vis-à-vis the enterprise owners and managers. They discover, often in rude ways, that their jobs are subject to global outsourcing.

In the peripheral countries, initially employment opportunities are scarce and knowledge workers enter ICT employment with semi-proletarian perspective, cognizant of the need to work hard so as to hold on to scarce jobs.

As global outsourcing accelerates, however, there is a mirrored reflection of the center in the periphery. The “creeping proletarianization” of the central countries finds a reflected image in the form of a “creeping aristocratization” of knowledge work in the peripheral countries. Given the differences in purchasing power parity between central and peripheral nations, as well as the highly skewed income distribution in the periphery, the knowledge workers in the periphery are able to climb up the conspicuous consumption ladder quite rapidly – even with wage levels that are fractional compared to advanced nations. Their cultural identification with the local owners-managers gradually increases. Instead of empathy for the displaced knowledge worker of the central nation, the increasingly secure and prosperous knowledge worker of the periphery develops feeling of disdain. The displaced knowledge worker of the center, quite understandably, develops feelings of resentment against the ascendant knowledge worker of the periphery.

The relations between the center of the service enterprise in the advanced, central nation and the center of the service enterprise in the developing, peripheral nation are fairly comparable to those in manufacturing sector. The center of the center expects the center of the periphery to provide services, but does not expect the peripheral enterprise to wrest control of end-customers. As in manufacturing, the owner-managers of the peripheral service enterprise struggle long and hard to gain direct access to end-customers in rich nations and to build independent brand recognition. Such tussles usually play out over decades, and bring about some gradual world-systemic changes in time frames that span generations.

Concluding Observations on Electronic Globalization

With electronic globalization, micro and macro processes – economic as well as political and social-cultural – are interacting in novel and complex ways. The basic decision to outsource globally, taking advantage of ICT-enabled “slicing and splicing” of business processes and lower offshore costs, is a micro decision. Organizations make this decision after analyzing their costs and competitive positions, and assessing potentially adverse consequences and pressures.

As the momentum of global ICT-enabled outsourcing builds up, with thousands of organizations participating, there are major macro impacts. In the advanced

nations, MNCs are able to achieve massive cost cutting and productivity gains. Such MNCs are also able to convert many business processes from one or two-shift operations to continuous 24x7 operations, taking advantage of time differentials between North America and Asia.

Inevitably, with such ICT-enabled global outsourcing, highly paid ICT-linked jobs in USA and other advanced nations are lost. The displaced knowledge workers in the advanced nations are often able to create vocal and effective media and political campaigns that put some brakes on outsourcing activity. But the economic forces are usually far stronger than the political and media resistance to outsourcing, and the momentum of ICT-enabled offshoring continues despite political and media pressure.

In fact, MNC strategists – especially in the U.S. – seem to be constantly exploring novel ways of breaking down business processes (“slicing”), finding low-cost offshore locations for operating such process-parcels, setting up reliable ICT links for continuous communications, and reintegrating (“splicing”) globally dispersed workflows into unified and seamless end-customer-facing processes and products.

The challenge of dealing with the deskilling of the U.S. workforce continues to remain daunting. There is a growing realization that a nation of hamburger-flippers cannot compete in a global marketplace, but there are no easy solutions to the challenge of retooling workers who are displaced by outsourcing, or to prepare those newly entering the workforce in ways that – while they earn First World wages – enables them to compete with the young workforces of developing nations such as China and India. The fact that the developing nation professional workers enjoy a lifestyle arbitrage advantage at professional wages considerably lower than those in the advanced nation created further cultural resentment.

In the countries that are doing a lot of ICT-enabled outsourced work – India being at the forefront of such countries – significant economic and social transformations are occurring. Even though the wages of ICT workers in India are far lower than wages of comparable workers in Western nations, these Indian ICT wages are substantially higher than what other college-educated workers get in traditional jobs in India. This has triggered a social dynamic where young people are investing tremendous money and energy to get trained and to position themselves as “ICT workers.” Even call center agents, for example, who are at the bottom of the technical skill spectrum, earn 3-4 times the wages of traditional post-college jobs. The demand for ICT related training – from accent training to medical transcription training to high-end software application training – has skyrocketed and a large industry has sprung up to provide such training. Even in villages, rural families with very little education at the parental level are clamoring for English medium schools and computer classes for their children.

New enterprises seeking global outsourced work are being formed daily in India, and existing enterprises doing outsourced work are hunting for talent to expand their “body count.” This is because at this stage of electronic globalization, revenues of such firms are a direct multiple of the number of people they employ. It is inevitable that a bubble would form and it would burst when shakeout occurs among the ICT firms in India. At incipient stages, there is predictably very little concern about such a bubble or an impending shakeout.

About half a dozen of the largest ICT firms in India are facing different strategic issues. They realize that the “body count” game cannot go on forever. Even at the best Indian ICT firms, the annual revenue per employee is \$50,000 – far lower than the figure for ICT firms in Israel or Ireland, where annual revenue per employee often reaches \$0.5 million. The larger Indian ICT firms, therefore, are looking at ways of boosting value added per employee. This entails strategies like developing software products (rather than merely working on projects) and offering comprehensive ICT consulting solutions rather than simply doing outsourced work on parcels of business processes.

Western, and to a lesser extent Japanese and Chinese, MNCs would continue to seek novel ways of configuring business processes on a global scale, to save costs as well as to boost efficiencies and customer satisfaction. ICT firms in countries such as India would keep seeking more outsourced work as well as ways of moving up on the value chain. Such micro decisions, based mainly on economic business logic, are the main drivers of electronic globalization. The impacts and consequences of electronic globalization, however, would unfold on a larger spatial and temporal canvas. Just as China’s emergence as the main economic rival to USA, and the tremendous growth in intra-Asia trade and investment flows, could not have been foreseen in 1970 – the early stage of “manufacturing globalization” – similarly, the larger impacts of the post-2000 “electronic globalization” would only become evident after one or two decades.

What is clear, however, even at this incipient stage of electronic globalization, is that this phenomenon represents technology enabled transformations that go considerably beyond merely the economic. Political as well as social and cultural changes are already happening in response to electronic globalization.

Sound public policy making, business planning, and academic practice require multifaceted, multidisciplinary approaches to understanding the complex phenomena of electronic globalization. In a milieu characterized by spectacular and heady growth in selected sectors and regions, there is need to be reflective and holistic in terms of examining as well as guiding the processes – economic as well as cultural – unleashed by technology-enabled globalization.

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