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**The Emigration of High-Skilled Indian Workers to the  
United States: Flexible Citizenship and India's  
Information Economy**

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### **Introduction<sup>1</sup>**

If you were to visit samachar.com, one of the most popular Indian-content websites from and about India, you would be immediately greeted with an enticing ad-banner for Citibank ATM cards, accessible in India. The text of the advertisement reads: “NRIs, want to send money to your folks in India? Just give them an ATM card.” The picture that you click on shows a distinguished elderly man reading a newspaper. <sup>2</sup> The next click takes you to the following text:

While you're overseas and away from home, you still have to manage your financial commitments in India. It maybe purchase of property, paying college fees, sister's marriage, renovation of your house in India, insurance premiums...the list goes on. So how can you manage all these commitments conveniently? The answer is simple -- with a Citibank Rupee Checking Account.

(From an on-line Ad placed at samachar.com, April 30, 2000, refer to:

<http://www.citibank.com/india/nri/banlead/index.htmlRCS004>)

This advertisement makes apparent the immediate link to India from the West based on familial ties that speak to assumptions about “mobile masculinity and localized femininity” in a global information economy (Ong, 1999, p.22). Today, emigration from India for the US is not understood as a permanent departure for another nation state. Aihwa Ong argues that “New

strategies of flexible accumulation have promoted a flexible attitude toward citizenship”. By “flexible citizenship”, Ong is referring to “flexible practices, strategies, and disciplines associated with transnational capitalism” that create new “modes of subject making and new kinds of valorized subjectivity” (1999, pp. 17-19). Ong is one among several scholars who have recently written about the new “heroes” of Asian capitalism, as the valorized subjects of transnational national identity (Pinches, 1998). While Ong provides an insightful analysis of the complex relationship between these new flexible citizens and the mostly authoritarian political cultures of East and Southeast Asia, this article examines similar processes of the practice of flexible citizenship in relation to India’s democratic political culture. In this paper, I argue that new strategies of flexible accumulation linking India to the US promote new meanings of cultural and economic citizenship in relation to the India’s attempts to position itself as an information superpower in the twenty-first century.

Like several other large emerging economies such as Brazil, China and South Korea, India has since the 1980s targeted the high-technology sector of information technology (IT) as a priority in its larger development agenda. Today, the export of software is the fastest growing sector in the Indian economy growing at a rate of nearly 60 percent per year and accounting for approximately (US)\$2.65 billion in 1999. The National Association of Software and Services Companies (NASSCOM), claims that the industry will grow to the \$50 billion mark making up 10 percent of the global software market, employing some 2.2 million workers by 2008.<sup>3</sup> A significant portion of India’s software exports takes the form of Indian workers employed on short-term contracts for foreign firms, a practice referred to as “bodyshopping”. In the US, this would include workers in the contentious H1B visa category of temporary high-skilled workers.

This paper does not directly address the role of the Indian government in enabling the practice of “bodyshopping”, precisely because the process is more complex and dynamic than such a causal approach would assume. Instead, I examine the social context within which Indian flexible citizens, often the financiers and brokers of the practice of bodyshopping as well as longer term emigration as well as return emigration, influence domestic economic policy. In other words, I examine the changing symbolic and institutional role of the flexible citizen in relation to the Indian postcolonial state as India enters an era of “free trade” in goods, capital *and* labor.

In the past twenty years, Indian national and regional governments have embraced, enticed and tried to formalize networks with Non Resident Indians (NRI) in the high-tech sectors, particularly in the US (McDowell,1997). These sectors include telecommunications, information technology, and now electronic commerce. Education for and employment in the transnational information technology (IT) sector most graphically symbolizes a new relationship between the state, science and the market in India. As the fastest growing and most prominent industry in India’s “new” economy, the export of software and the development of e-commerce, promises to erase structural barriers between India and the First World. Since the mid-1980s, the Indian state has rapidly expanded its technological infrastructure, and promoted the nation’s vast pool of highly trained, low-wage labor alongside the unmet market potential of its growing middle classes, in order to attract foreign investment. Domestic and transnational firms have responded with unprecedented levels of investment, while the state has formalized networks of labor and capital between regional high-tech growth areas like Bangalore, Chennai, Hyderabad and Mumbai with their global counterparts in Hong Kong, Tokyo, New Jersey and Silicon Valley.

While it might be obvious that the Indian state is interested in promoting economic and technological linkages through investment, expertise and job creation, I argue that the American high-tech NRI also plays a pivotal role in legitimating a relatively new technocratic development agenda in India. This development agenda initiated in the 1980s and codified in the 1990s appeals to the symbolic power of postcolonial technological nationalism with a new emphasis on the meritocratic logic of the global marketplace. The research for this article is based on popular media accounts, trade publications and interviews conducted in New Delhi in 1997. In order to make sense of this complex political landscape the first section outlines the history of high-tech emigration for the US. After this brief overview, we the second section examines the role of these powerful flexible citizens in the context of political reforms, which have fundamentally changed the relationship between science, the state and the market in the past two decades. The third section examines how the new discourse on technology and development has shaped policy in the 1990s, provoking new tensions about the relationship between science, the state and the market. The concluding section ties together the previous discussions by examining the legitimating role played by the American-based Indian flexible citizen in relation to the terms of high-tech development at “home”.

### **History of High-Tech Emigration to the US**

Economic historians have separated the postcolonial history of emigration from India into two phases. Mostly people with professional expertise and technical skills characterized a first period of emigration following independence in the 1950s until the mid-1970s. Most of these skilled

populations were destined for the United Kingdom, United States and Canada, with less going to Western Europe and Australia. A second phase of emigration, beginning in the mid-1970s, saw a significant expansion in the flow of lower-skilled laborers on temporary contracts to the Gulf oil economies of the Middle East. This sudden change in the profile of emigrants in the mid-1970s is evident if we compare the fact that in 1975, 57 percent of emigrants were from the professional or technical category, versus 88 percent in the previous period from 1971-1975. While these numbers are significant in gauging the changing overall profile of emigrants from India in this period, emigration for the US remained concentrated in the high-skilled “professional expertise or technical qualifications” category. Deepak Nayyar, who has written a thorough account of Indian emigration, found that of the total number of professional highly-skilled immigrants admitted to the US from all countries, India made up 19.5 percent in period between 1971-1980, and 13.4 percent between 1981-1990 (1994, pp. 21-22). These numbers are conspicuously disproportionate because India’s share in total immigration is much lower, at 3.8 and 3.6 percent for each respective period (see Table 1).

#### INSERT TABLE 1

The economic impact of the emigration of high-skilled labor from India was examined at length by development economists of the 1970s in the literature on “brain drain” (Sen, 1973; Bhagwati, 1976). As Nayyar has pointed out, the “brain drain” approach assumes that emigration of workers is permanent, which was no longer the case from the mid-1970s and 1980s.<sup>4</sup> In contrast, Nayyar’s work considers the dynamic economic relationships between immigrants from India in terms of the state’s balance of payments through remittances and capital flows, as well

as through exports, imports and tourism. Most importantly, recognizing the trend in greater communication and travel between India and the West, the category of Non Resident Indian (NRI) was created by the Indian government in 1975 to introduce a financial facility to allow persons of Indian origin in the US and the UK to “open and maintain foreign currency non-resident accounts in US dollars or British pounds sterling”. For India, the incentive was hard currency in a period of economic transition, while for NRIs their balances and interest was securely repatriable in a period of global financial history that saw the beginning of the flexible exchange rate.<sup>5</sup> There was a “spurt” of remittances from the Middle East during the second half of the 1970s until the mid-1980s making up 57 percent of total remittances, compared to remittances from industrialized countries at 32 percent. However, the latter half of 1980s saw remittances from Middle East fall to 47 percent, while remittances from industrialized countries rose to 43percent (Nayyar, 1994, p. 50).

Between 1983 and 1990, interest rates were higher in India than in international markets and with little perceived risk the net inflow into foreign currency NRI accounts grew substantially, especially from the US dollar denominated accounts. In 1990, electoral instability coupled with the rising debt, drove India’s credit ratings for international capital markets down, and access to international lines of credit from private and commercial sources were closed in February of 1991. The balance of payments crisis became acute in this period because of a minor oil crisis resulting from Iraq’s invasion of Kuwait ( Bhaduri & Nayyar, 1996). The vulnerability of the balance of payments situation was enhanced by the fact that some 60 percent of India’s foreign reserves were in the form of NRI deposits.<sup>6</sup> India’s foreign reserves faced a liquidity

crisis with virtually no access to international credit coupled and a “near avalanche” in capital flight from NRI investments leaving the country.<sup>7</sup>

In the face of a severe balance of payments crisis, India was forced to accept stringent conditionalities as part of the World Bank’s Structural Adjustment Program. Along with the orthodox IMF and World Bank restructuring strategies of stabilizing fiscal policy through tight monetary controls and a major devaluation of the Rupee, the Eighth Five-Year Plan would promote an export-led development strategy to replace the failed ISI approach. Partha Chaterjee has argued that 1991 was significant both in terms of the actual economic changes as well as in terms of the symbolic importance of the state’s successful effort to bring this new economic model of development “to the forefront of the political debate” (1998, p. 36). This is particularly relevant for the relationship between American entrepreneurial NRIs, who almost uniformly agree that 1991 marks the beginning of “progress” in India’s development strategy.

Since the liberalization policies initiated by the state in 1991, direct remittance and NRI saving bonds have increased once again. NRI deposits in Indian banks have expanded to more than \$21 billion, with almost \$1 billion coming in the past year ending March 1999. Although still vulnerable to political uncertainty--NRI deposits declined after the Indian nuclear tests in May 1998 when NRIs withdrew nearly \$750 million dollars “fearing international economic sanctions” -- the largest volume ( \$8.2 billion) is in the form of NRI bank deposits in foreign currency nonresident accounts. NRI direct investments, which had peaked at \$715 million in 1995-96 have “dwindled to under \$62” million in 1998-99.<sup>8</sup>

As we will see in the next sections, beyond these financial flows, the Indian state recognizes the importance of NRIs in shaping the nation's economic future. Most significantly, the geography of the capital flows has brought state attention to the importance of American NRIs and their special relationship to the new Hindu right-wing BJP government. One example of this complicated "special relationship" takes the form of the American NRI lobby that has been pressing the Indian government to grant dual citizenship to overseas Indians. In December of 1998, the Indian Merchants Chamber organized a conference called "India calling" for overseas entrepreneurs, where the discussion focused on the terms and timing of the proposed "Orange Card". Interestingly, the BJP government argued that it was only willing to grant "dual citizenship...when they come and swear unconditional loyalty to this country". In another similar venue, the "Global Indian Entrepreneurs Conference" in New Delhi in 1998, Prime Minister Vajpayee addressed the audience by stating that although India continues to provide skilled labor to the Gulf states that: "...a more important segment comprises of professionals, teachers, scientists, computer engineers and programmers, doctors, managers, bankers and even gurus who are being acclaimed in areas of top management and creative thought." The Prime Minister's message encourages NRIs to continue to show interest and invest in India. While avoiding the politically volatile issue of dual citizenship, the Prime Minister proposed establishing suitable mechanisms for a "forum in the government for effective on-going consultation with NRIs". In congratulating Indian business associations interested in ties with India, Prime Minister Vajpayee stated that this should become a regular event noted on our calendars as an opportunity, "when we get together with our extended family".<sup>9</sup>

## **The State Versus the Market: Liberalization and Debates about Technology and Development**

In this section, I examine the relationship between the Non Resident Indian (NRI) and the state in terms of the debates about the role of technology and the market in relation to economic development. In postcolonial India, science has played an important role in legitimating the terms of India's state-led market economy. The state created a highly skewed educational system where public resources subsidized tertiary education at the expense of the spread of literacy and elementary education.<sup>10</sup> In addition to public sector investment in large dam projects, steel mills and other "temples of the future," concerns about national security ensured a disproportionate amount of resources were spent in high-technology research and development in capital intensive areas like aerospace, nuclear power, and the electronics industry.

The objective of national state-sponsored scientific development and self-reliance took various forms including investment in research in the electronics sector beginning in the mid-1960s. Geopolitical concerns about India's nuclear capability in the late-1960s led to "autarkic pressure" amongst Indian scientific and political elites over the urgency to develop indigenous technological capabilities in electronics.<sup>11</sup> In 1967, the Electronics Corporation of India Limited (ECIL) was formed under the high-profile Department of Atomic Energy (DAE) to produce nuclear electronic instruments. Nationally renowned scientists carrying out the Nehruvian mission of self-reliance and modernization worked closely with the Bhabha Atomic Research Center (BARC) and ECIL to ultimately design the indigenous TDC microcomputer series that would become the "national champion" in computers in the 1970s and 1980s. The Department of Electronics (DoE) was created as the coordinating bureaucratic body with its main efforts

comprised of regulation of the industry to produce indigenously designed electronics through the public sector operations of ECIL, CMC, and others. The DoE, co-ordinated activity among various public sector research institutions, functioning under the assumption that the domestic private sector was not held to these same national priorities of technological self-reliance. The DoE thus encouraged indigenous technology but discouraged domestic demand for consumer goods through indirect taxes (Evans, 1995).

Although the 1970s are often characterized as India's "Socialist" era, populist politics promising the "removal of poverty" went hand in hand with significant increases in expenditure on electronics research. In this period public funding for scientific research institutions like the Indian Institute of Technology (IIT) modeled after MIT, increased significantly. The result was the training of thousands of highly qualified engineers and scientists creating a vast pool of "hi-tech" labor who would often leave the country to find more lucrative employment possibilities. The techno-nationalism of the 1970s, inspired various successful experiments in "conspicuous technology" (Nandy, 1996)—the development of indigenized computer technology, advances in nuclear technology, the launching of a national television satellite broadcast, the development of the nation's first computer-mediated network NICNET—where the legitimacy of science was used to mobilize a specific public: the urban Indian middle classes. Certainly, the benefits of these kinds of technological innovations were extended in political discourse to include the "masses" in terms of national defense and national integration. For example, the National Informatics Centre's computer network (NICNET) established in the late-1970s linked the country's 440 district headquarters together in order to coordinate information, but was "exclusively for government use" (Evans, 1995, p. 152). However, the rationale for prioritizing

investment in science and technology was very explicitly outside of the realm of public political discussions.

It was in this same period of political turmoil that public sentiment against abuse of state power merged with the rise of a vocal “middle class” who were the economic beneficiaries of India’s mixed economic model, demanding new consumer goods and services. As the Nehruvian era drew to a close in the late-1970s, the arrogance of the modernizing state and its presence in everyday life,” faced a new set of challenges. The inaccessibility and inscrutability of the state became a central concern in political discourse, including such colonial vestiges as the “Official Secrets Act of 1923,” which continued to prohibit public access to official government documents on the grounds of national security. What is important to keep in mind is that the object of public political resentment against the state had to do with its “manner rather than its policies” (Kaviraj, 1991). Beginning in the 1980s, pro-market advocates of reform appealed to these public resentments against the state’s colonial culture of secrecy to promote a new direction in economic policy. Although the vast majority of poor Indian citizens were the real victims of the state’s failed development strategy, the Nehruvian state’s empty promises of redistribution were used by reform advocates to brush aside such politicized concerns and instead emphasize the liberatory possibilities of a market society.

It is in this political landscape that both the bureaucratic and political elite was making new connections about the relationship between science and the market. By the end of the 1970s, several domestic private sector companies had entered the Indian personal computer (PC) market relying on INTEL and Motorola microprocessors, outselling ECIL’s indigenous products.<sup>12</sup> In

addition to these changes in the computer hardware market, top bureaucrats in the DoE also began to recognize that both public sector and private sector firms in India had a global comparative advantage in software production. As Peter Evans has shown, IBM's departure in 1978 pushed various banks and businesses to "consider alternatives to IBM software environments". In the private sector, computer engineers began to focus on developing commercial UNIX applications, and in the public sector former staff from IBM as well as others worked in ECIL and CMC writing software and working on large infrastructure projects ( Evans, 1995). The DoE recognized that this type of software expertise was not only uncommon in Third World standards, but was innovative even in comparison to developments in the First World. At this time, key figures within the DoE bureaucracy as well as the public sectors, began to reassess the former rules of economic governance. By 1980, several top engineers in key bureaucratic positions within the DoE and ECIL were advocating a liberalization of rules in the IT sector based on "watching world trends and the industry's poor performance" (Sridharan, 1996, p. 180). The new "pro-market" turn in the electronics bureaucracy coincided with the globalization of the economic bureaucracies in the form of new lateral appointments of World Bank experienced Economists eager to reform India's centrally planned economy. In the 1980s these Economists entered top advisory positions in the Ministry of Finance, Department of Economic Affairs, and within the Prime Minister's Office, promoting an alternative agenda of economic development from India's Import Substituting Industrialization (ISI) strategy of the past (Chakravartty, 1999).

In 1984, the assassination of Indira Gandhi unexpectedly brought a politically inexperienced Rajiv Gandhi to power as Prime Minister. Propelled to the highest office in India's complex political system, Rajiv quickly surrounded himself with experts in new

technologies and neo-liberal economics, promising a clean break from the old, corrupt forms of economic governance. Rajiv's cultivated "Mr. Clean" image resulting from his relative inexperience in Indian politics and hence his "outsider" status helped reinforce his campaign to end corruption by eliminating "power-brokers from the political arena" (Vithal, 1997, p. 205). This new Prime Minister was initially embraced by both the Indian and Western media, which saw in the young Rajiv Gandhi the embodiment of the new trend in populist neo-liberalism: the "Ronald Reagan of India".<sup>13</sup>

Rajiv Gandhi came into power promising a "new era of Indian politics" based on a "freer economy" and an emphasis on rapid technological modernization. Although other sectors of the economy received attention behind the scenes, Rajiv's most public priority became expanding and modernizing the nation's communications industries. Within a month in office, Rajiv Gandhi passed a new "Computer Policy" deregulating the industry and expanding access to imported computer equipment. The influence of the strategies of the economic successes of the East Asian Tigers played an important role in this transformation. The DoE's re-conceptualization of the Indian IT sector in global terms, which would be formulated into policy, is summarized by the following statement:

India was not to try to reinvent the wheel, but to use imported hardware, systems software and software tools to develop custom application software for export foreign clients for their specific needs (Sridharan, 1996, p. 184).

As the DoE redefined its relationship to the private sector as well as the global market, industry associations became more organized in the policy arena and had greater access to policy-makers in Rajiv Gandhi's administration. Older business associations like the Federation of Indian Chambers of commerce and Industry (FICCI) and the Associated Chambers of Commerce (ASSOCHAM), along with newer associations like the Confederation of Indian Industries (CII) and the National Association of Software and Services Companies (NASSCOM) together pushed for deregulation of domestic industry. The CII, originally an engineering industry association formed in 1974, took an especially aggressive approach to "proactive" lobbying efforts in high-tech sectors. The CII's practice of submitting proposals for policy reform to various levels of the bureaucracy, organizing closed-door seminars and workshops around specific sectoral interests, and organizing "missions abroad" to promote Indian industry, represented a new and more powerful role for corporate actors in actually shaping the terms of economic policy.

The new partnership between the public and private actors in the electronics and IT sector came into fruition in 1985 with the passing of the "Integrated Policy Measures on Electronics". The electronics sector would be exempt from various taxes and import duties paid by other industrial activity. A favorite phrase used by pro-market economists, policy-makers and journalists was the need to "unleash entrepreneurial instincts" after decades of unnecessary bureaucratic intervention in economic production (Ghosh, 1998). Allowing "entrepreneurship among the professional classes to blossom" (*Siliconindia*, May/June 1998), would allow the nation to return to its roots; "British colonial rule and Nehru's Russian socialism suppressed our entrepreneurial history".<sup>14</sup> India's unusual combination of a large pool of skilled labor along with

a relatively small market for computer services translated to a policy environment that encouraged firms to develop software primarily for export. The “New Software Policy” of 1984 officially recognized India’s comparative advantage in low-wage, English speaking skilled labor in data processing and software services. The new policy liberalized software imports, terminated restrictions on foreign equity, and liberalized rules regarding foreign subsidiaries entering the Indian market to set up 100 percent export-oriented software companies. Transnational firms like Texas Instruments (TI) and Hewlett Packard (HP) entered the Indian market in the mid-1980s. TI was the first of several transnational to invest in a much publicized, multi-million dollar offshore software operation in Bangalore in 1986, officially inaugurating the global recognition of India’s Silicon Valley.

Thus in the mid-1980s, a growing consensus emerges at the level of policy-makers, business elites and high-level bureaucrats over the “failure of politics” to deliver the nation from economic stagnation. What is important to keep in mind when we examine the populist appeal of the anti-state discourse, is that it was the manner rather than the policies of the interventionist state that became the target of social movements in the 1970s and 1980s ( Kaviraj, 1991). Pro-market reformers appealed to these public resentments against the state’s colonial culture of secrecy and arrogance to promote a new direction in economic policy. Sections of the political and business elite beginning in the Rajiv Gandhi era, were able to co-opt liberal and left criticisms of state-led development to promote the idea of efficient and more importantly, accountable, market governance ( Kothari, 1995) .

Throughout this period, new economic, political and cultural networks were being cultivated between the Indian state, domestic corporate actors and Non Resident Indians living in the West, especially the US. Links to India through family, travel, remittances and investments, bound NRIs to their “homeland”, while many features of “home” changed because of these new economic and cultural networks. The growing demands for Western quality consumer goods and services among the urban Indian middle class in the 1980s is generally seen as one of the greatest impacts of these new NRI networks (Pendakur, 1989). One of the most interesting examples of the impact of these new transnational networks is in terms of the role of Sam Pitroda, an NRI businessman and close personal friend of Prime Minister Rajiv Gandhi who became a top policy-maker and bureaucrat in the telecommunications and electronics bureaucracies. As I have argued elsewhere, Pitroda’s peculiar combination of transnational nationalism and technological populism symbolized a radical break from the techno-nationalist discourse of the past.<sup>15</sup> As one astute social commentator wrote at the time:

Son of a carpenter, he is now a millionaire. But his is not the genteel mobility of the older types of scientists....It is the spectacular leap-frogging of a self-confessed entrepreneur, committed to Schumpeterian breakthroughs into the system. He is the rarest of Indian breeds, the scientist as entrepreneur...He carries his new Indian passport like a flag. There is a technological machismo here and none of the namby-pamby debates about pilot plans or the dithering caution of the CSIR (Vishvanathan, 1989).

The new connection between scientist and entrepreneur very much marked a break from an older model of nationalist scientific research that had characterized the Nehruvian model of development. Pitroda as a visible NRI policy-maker encouraged a new “egalitarian” work culture invoking a distinctly American management ethos. India’s ability to develop technologically in the field of electronics was “an exercise in national self-assurance”:

Part of our mission was to inspire a whole generation of young talent and thumb our noses at the naysayers, the political reactionaries, and the vested interests whose prosperity rested entirely on imports... I cheered people on, knowing as I did that young Indians did well in the United States...I was almost brutal in my determination to root out hierarchy and bureaucracy...I opened our doors to the media, which responded with excitement, optimism, and the kind of hero worship that we hoped would attract more young people to technology careers (Pitroda, 1993,73).

The linkage between the success of American NRIs and untapped potential would become the dominant theme for the “Americanization” of India’s culture of technology. One that needed to shed its state-centered logic. Thus beginning with the Rajiv Gandhi administration in 1984, and accelerating after the fiscal crisis and subsequent turn to “liberalization” in 1991, this new discourse of India’s entrepreneurial capabilities and the relationship between science and the market challenged an older model of state-led development. In 1991, when the Indian state underwent its most acute foreign exchange crisis (as discussed in the previous section), the break

from its so-called “socialist” past, was symbolically complete. In the next section, I consider how the new discourse on technology and development has shaped national policy in the last decade.

### **India’s Role in the Global Information Economy: A New Discourse on Technology and Development**

Since 1991, a discourse of a new “confident India” has emerged that has moved from introducing market reforms to the electronics and IT sectors, to focusing on India’s role in the global economy.) In India, the new populist discourse on technology has a clearly nationalist agenda based on overturning four decades of “Brahminized socialism” when “businessmen” with relatively limited clout had to approach the “dispensers of permits and licenses essentially as supplicants” (Bardhan, 1984: 58). As in other parts of the developing world where the heavy hand and inscrutable power of the state has become the object of public political resentment, Indian policy makers and new corporate elites, have co-opted the critiques of social movements to promote an indigenized version of the American ideal of the “democratic market place” (M. Pinches, 1999).

In practice, despite beginning in the high-end of computer software development (the design and, implementation of complex information systems) in the late-1970s, the Indian IT, industry emerged as a significant global player in the lower end of the software business (routine code writing). Most of the export revenue generated by the IT sector in India is directly correlated to income generated by services performed by ‘information workers’ as opposed to product development. For example, between 1985 and 1995, the Indian IT industry grew from \$10 million to \$800 million, with 60 percent of this revenue from out-sourced labor. Indian workers were either employed by transnational corporations that set up parts of their operations

in India, or they went abroad for short-term contracts for foreign firms, a practice that is commonly referred to as “bodyshopping”.<sup>16</sup> As one NRI management expert explained, “Other countries sell cheap labor. India sells cheap intellect” (*Los Angeles Times*, March 5, 2000).

American NRIs have played a prominent role in the development of India’s high-tech economy functioning as economic and cultural brokers in terms of bodyshopping contracts and establishing offshore software facilities in India. NRI companies in US like Syntel have come under investigation by the US Labor Department for paying its H1B workers less than the legal contract. Although Syntel has responded to political pressures to hire local talent, in 1997 60 percent of its US workforce worked under H1B visas.<sup>17</sup> The NRI high-tech entrepreneur also plays an important role in the new flexible arrangements between Indian and American software firms adopting a “cross-border model” is posited as the new institutional arrangement.<sup>18</sup> This means local subsidiaries of Indian companies in the US as well as American parent companies opening “software factories” in India. Location in the US means access to bigger market opportunities so that companies can “leverage US-facing prices and make use of Indian-facing costs” (*Financial Times*, June 2, 1999).

Today, companies like IBM and Microsoft are investing in “the transfer of skills and intellectual assets” of India’s scientific labor by subsidizing several high-profile academic training programs through established national universities and technical colleges (*Economic Times*, November 23 1997). Despite slick publicity campaigns, the motives of these transnationals are not taken for granted in India. Responding to a highly publicized visit to India by Microsoft mogul Bill Gates in 1997, one newspaper editorial referred to Gates’ “headhunting

mission” which was “Much like the East India Company’s journey eastward in search of spices, Gates is now scoring the world for computer programmers” (*Indian Express*, March 10 1997). Equating corporate bottom lines and a favorable balance of payments with national interest, Gates responds by addressing “national” concerns by assuring the “captains of industry” that India will be the “largest source of trained manpower for the global IT industry” (*Disycom*, April 1997: 20). It is not surprising that the economic strategy based on low-waged, high-skilled workers has spurred debates on whether or not “manpower export” should become official state policy. Proponents argue that exploiting this comparative advantage for “forex earnings, enriched skills and experience” will benefit national development (*Economic Times*, June 1, 1997).

Today, intense competition persists between different Indian states to draw IT and telecom transnationals to specific cities and regions that are being designated as “techno-parks” and “high-tech cities”. Transnationals that have set up shop either directly or through joint ventures with Indian companies in the outskirts of New Delhi, and in cities like Bangalore and Hyderabad include, among others: AT&T, Citicorp, 3M, General Electric, IBM, Hewlett Packard, Oracle, Microsoft, Texas Instrument, and Sun Microsystems. The discrepancy in labor costs for these firms are remarkable. While a basic programmer in New York made \$120 00 per year in 1995, in India the same job paid \$4000 per year (Mir and Yajnik, 1995). This is not to deny that at the higher end of the information economy, wages of Indian software executives in Bangalore, New Delhi, and the mushrooming high-tech centers spreading across the country, are certainly impressive in Indian consumption standards, and even occasionally global standards. The H1B visas, migrant high-tech workers in Silicon Valley and elsewhere in the US, are also

often well paid for their services and in demand. And it is hard to find an Indian-content web-site that does not celebrate the “*Desi* [Indian] Dot-Com” mania by focusing on how well South Asians are doing in the IT sector both “here” and “at home”. These web-sites boast that some 160 of Fortune 500 companies outsource software requirements to India, and highlight the fact that Silicon valley based NRI executives are increasingly turning to India to help fledgling Indian start-ups.<sup>19</sup>

Despite this enthusiasm, the majority of new jobs in the information economy remain in basic programming and data processing that increasingly rely on virtual work performed through satellite links and fiber-optic lines, collapsing the distinctions between work in the IT versus the telecom sectors. The Indian government’s recent decision to allow competition in Internet provision and its plans to open the international long-distance market to private players in the near future means that the major growth area for jobs in the information economy will be in customer services. From airline reservation clerks, telephone operators, and mail-order clerks to computer service and customer-support personnel, NRI economic strategists argue that workers in India ‘would be happy to work’ for five to ten times less than their counterparts in the US (*Siliconindia*, May/June 1998).

Heated discussions over the economic pit-falls of a low-wage strategy are taking place in corporate, bureaucratic and political circles, but they are almost entirely confined to debates about India’s ability to attract foreign investment, generate export revenue, and improve the competence of Indian capital in global markets. The machismo of bottom-line techno-corporate discourse repeatedly asserts that Indian workers will be “happy” to hold a job at any cost and

that national interest will be realized if India can “produce its own Bill Gates” (*Outlook*, March 5, 1997). As one prominent management consultant noted,

India has two major advantages: we have a potentially huge market and if someone comes in and invests \$10 million and creates 100 000 jobs he may remit 75 percent of the revenue, I don't care; second, India is a great source market for the world. We need to make India the workshop of the world. So, we want the world's capital, technology and greed to work for this country.<sup>20</sup>

Unfortunately for these reformers, not all Indian citizens have readily accepted the changing terms of economic development with the new emphasis on high-tech expansion. In the past decade, India's history as a “democracy without prosperity” has seen the advent of an unprecedented democratic political activity by those segments of the population once thought to be politically “inert”. Since 1991, the consensus among policy makers to open up the economy has galvanized mass demonstrations and strikes, created consistent electoral uncertainty, and unleashed an unprecedented identity-based politics of caste and region with voters demanding a share of the fruits of the new economy. At stake in these increasingly intense political contestations, are questions about access to the state and “to whom it ultimately belongs”—questions of public interest that fundamentally politicize what appear to be mundane technical areas of economic policy (Khilnani, 1997; Kothari, 1995). Throughout this politically messy process, that has included numerous national elections and a series of fragile coalition governments in power since 1996, one of the strongest pressures to accelerate the pace of liberalization has come from American NRIs as policy “experts” and business leaders.<sup>21</sup> In the

last section, I attempt to tie together the previous discussion in order to argue that India's successful flexible citizens abroad, particularly the NRIs in the US, play a crucial role in legitimating this new discourse of technology and market-led development.

### **The Nabobs of Networking: The “Don't Look Down Economy”**

The Indian postcolonial state today encourages emigration of high-tech workers with the assumption that when graduates return from countries like the US “they bring money, they bring a tested education, and above all they come back bitten by the entrepreneurship bug” (*Financial Times*, April 24, 2000). These “entrepreneurial efforts” are seen as important in improving Indo-US relations as well as increasing American investor confidence and trade with India.<sup>22</sup> Similar to visible diasporan-Chinese who use “orientalist codes to (re)frame overseas Chinese as enlightened cosmopolitans who possess both economic capital and humanistic values” (Ong, 1999: 131), we see new advocates of Indian (re: Hindu) capitalist values. Perhaps the most recognizable for Western audiences is Deepak Chopra, the ubiquitous “Indian New Age leader and alternative medicine pioneer”. Chopra's creative reinterpretation of Hindu texts in such best-sellers as his recent *The Creation of Wealth, Entrepreneurship and Nourishing the Human Spirit*, is required reading for The Indus Entrepreneurs (TiE).<sup>23</sup> Organizations like TiE, founded in Silicon Valley in 1992, tries to foster “entrepreneurship, networking and guidance among aspiring professionals” in both the US and South Asia. TiE, which is sponsored by NRI corporate sponsorship, organizes annual conferences in Silicon Valley, and holds monthly

meetings and interactive sessions, both in the US and in regional chapters in Chennai, Bangalore, Hyderabad and Mumbai (*The Hindu*, January 15, 2000).

These corporate networks between India and the US promote a cyber-capitalist re-reading of Hindu values, locating the success of high-tech Indian entrepreneurs in essential characteristics associated with ethno-religious identity. For example, Indian competence in the Internet economy is associated with the “web of interrelations” that tie together Indian families across national borders. More common, is the argument that “Indians have a long history of excelling in abstract thinking useful in writing computer code”. This line of reasoning is almost always followed by the assertion that “The concept of zero was developed by Indians...and therefore Indians are naturals for software development”.<sup>24</sup> The success of Indian IT entrepreneurs is invoked repeatedly in hundreds of articles about India’s rosy high-tech future. These new (trans)national heroes include Vinod Dham, CEO of Silicon Spice and former group leader of the team that designed the Pentium chip for Intel, Saheer Bhatia, founder of Hotmail.com who sold his company to Microsoft in 1997 for \$400 million, N.R. Murthy, co-founder of Infosys Technologies based in Bangalore which was the first Indian software firm to list on NASDAQ commanding a market capitalization of \$15 billion. When Mumbai-based Rajesh Jain sold indiaworld.com to Satyam Infoway for \$116 million, the business press on both sides claimed that he had “wiped out the difference between Santa Cruz, Mumbai and San Jose, California”. Enthusiasm for the net economy accounts for NASSCOM’S estimates that two or three new “Indian” websites appear on the net each day, and that in April of 2000, there were 23 000 India-specific sites and more than 100 000 domain names registered by Indians.<sup>25</sup>

Indian entrepreneurial triumphalism is explained through the “Hindu” work ethic based on industriousness, discipline and frugality. In contrast to Western capitalist culture, this Indianized version appeals to a distinctly flexible notion of family and community. As one successful NRI entrepreneur notes, Indians have been successful in the information age because “Indian parents...stress science or technological careers”.<sup>26</sup> This is an argument that emphasizes essential qualities associated with Indian family values, speaking directly to American racial politics of the “model minority” as distinct from the minorities that fail. However, this line of argument also addresses the thorny issue of meritocracy back “home” where non-literacy remains at 52 percent and a skewed education system is a politically charged topic. To resolve this tension within the discursive parameters of the transnational Hindu work ethic, advocates argue that the “weeding out process teaches an important lesson to Indian students...Since college positions are limited, students have to battle mightily in secondary school for a spot”. It is this experience that helps Indians “develop a better work ethic”.<sup>27</sup>

Currently, TiE is planning to raise \$1billion in contributions for the Indian Institute of Technology (IITs), provided that the IITs are given “greater autonomy to pursue excellence” as opposed to being beholden to national caste-based affirmative action policies (*The Hindu*, January 15 2000). In other words, associations like TIE see the privatization of higher education as the solution to India’s deeply stratified education system. Interest in the booming IT economy has spurred 729 000 applicants for engineering courses across India in 1999, with 200 000 for the six IITs—the “jewels in India’s science crown”—alone. The success of India’s IITs which offer a total of 2 200 coveted seats, is measured by the fact that US-based transnationals recruit directly from these institutes. IT industry leaders concur with NRI alumni that the solution to

increased national and global demand of skilled techno-workers rests on the privatization of higher education based on corporate and alumni donations and “market-priced tuition”.

The issue of “cream leaving India” can be “positively used in the interest of the institute by nurturing ongoing communication with them, by getting their feedback in running the institutes and finally by leveraging their reach and influence in the world market”.<sup>28</sup> Leading the way, IIT Mumbai has established a non-profit corporation in the US called the “Heritage Fund” that has raised \$3 million in three years. According to some of the NRI donors, they are more likely to give to IITs than Indian-based entrepreneurs because of both culture are and tax laws: “American culture of non-profit institutions and the tax structure that makes it easier”. While NRIs righteously argue that the “notion of paying back to society is not well established in India”, locally based entrepreneurs argue that they are repaying the taxpayer who made their IIT education possible by “generating employment, paying taxes and earning foreign exchange for my country”.<sup>29</sup> Thus the transnational nationalist flexible citizen helps to liberate their less flexible counterparts from the grip of the postcolonial state. They do so by highlighting the success of Indian origin entrepreneurs in the global IT industry while erasing the difficult realities associated with inequality and redistribution of socio-economic resources both at “home” and across national boundaries.

## **Conclusion**

The new discourse of high-tech development that has emerged in India since the 1980s is based on new configurations of public and private, national and transnational, and science and industry. Central to these new logics is the institutional and symbolic role played by the new

heroes of “Indian” digital capitalism: the technologically-savvy and entrepreneurial, Non Resident Indian (NRI) living in the developed world, most significantly in the United States.

Despite the impressive growth figures associated with the Indian IT sector, Indian policy makers have to contend with the fact that software-related services accounts for little more than 1 percent of the overall GDP. Despite all of the hype associated with “high-tech” development in India, the vast majority of Indian citizens—70 percent—live in rural areas with almost 40 percent of the population living in conditions of abject poverty. The celebration of the economic success of hundreds, perhaps thousands of NRI high-tech entrepreneurs in the US and India in the transnational media must be recognized in this political economic context. In both the print and electronic media that speaks to a transnational Indian public, indigenized capitalism based on a “Hindu work ethic” and “Indian family values” is repeatedly affirmed. Much of this discourse challenges the “hegemonic link between whiteness and global capitalism” (Ong, 1999, p. 181). This new form of flexible economic and cultural citizenship leads to two types of political practice. It allows a specific segment of NRIs to address inter-community racial politics in the US while simultaneously justifying intra-community class and caste politics across national boundaries. My objective in this article was not to show how flexible citizenship allows for the strategic deployment of identity as an extension of cosmopolitanism that works in the favor of wealthy South Asians in the US in relation to other “less model” minority groups.<sup>30</sup> Rather, I concentrated on the second kind of political practice associated with flexible citizenship as it relates to the terms of economic governance in the context of India’s democratic political culture.

The first section provided a brief outline of the history of Indian emigration to the US and located the different arenas of influence in India’s political economy since the 1970s. The rest of

the article identified three separate but inter-related features of NRI high-tech flexible citizenship in relation to India's national policy goals of becoming an information superpower. First, these strategically placed flexible citizens reconfigure the role of science and its relationship to the state versus the market. Although postcolonial India has had a long history of state-sponsorship of science for the goal of national self-reliance (Prakash, 1999), these NRI flexible citizens advocate an entrepreneurial approach to scientific knowledge production that marks a conspicuous departure from Nehruvian investments in science. Secondly, the nationalism of the NRI subjects is based on a nationalist Americanized business culture that is both "pro-nation" but "anti-state". This version of nationalism resonates with a powerful cosmopolitan urban, upper caste elite that is increasingly anxious about its place in a majority low-income democracy. This has particular ramifications in justifying kinds of state versus market interventions in setting the terms of economic governance. Finally, these NRI flexible citizens have a conflicted relationship with their larger "national family" in the form of obligations and responsibilities. While state intervention is ruled out, new forms of corporate citizenship and voluntary charity are encouraged. Interestingly, the predominant object of this kind of corporate charity has focused on the privatization of higher education, which directly addresses the social relations that made NRI success possible in the first place.

**Table 1: U.S. Immigration by Country of Birth, 1981-1997 (in thousands)**

Country of Birth	1981-1990 (total)	1991-1995 (total)	1996	1997
Ireland	32.8	53.2	1.7	NA
Soviet Union, former	84.0	277.1	62.8	NA
China	388.8*	227.0	41.7	41.1
<b>India</b>	<b>261.9</b>	<b>191.6</b>	<b>44.9</b>	<b>38.1</b>
Brazil	23.7	26.5	5.9	NA
Mexico	1,653.3	1,487.9	163.6	146.9
Canada	119.2	74.2	15.8	11.6

\*Data for Taiwan included with China.

Source: U.S. Immigration and Naturalization Service, Annual Statistical Yearbook, and releases.

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## ENDNOTES

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<sup>2</sup> This is in reference to an ad-banner by Citicorp posted in April, 2000 at the homepage of samachar.com.

<sup>3</sup> According to NASSCOM, the industry has grown by a rate of 57 percent since 1992 and employed in 1999 somewhere between 160 000 to 250 000 people in India. See: <http://216.147.10.44/html/IT-Industry.htm> and “A Growing Force and Going Places”, *Financial Times*, June 2, 1999: 01.

<sup>4</sup> The “brain drain” literature examined the costs of immigration from the home country versus the benefits of immigration for the host countries. See: D. Nayyar, 1994.

<sup>5</sup> This policy originated to encourage NRIs to open and maintain Rupee accounts in the early-1970s, but was more successful when the facility was enhanced to allow foreign currency denomination. It was extended in 1988 to allow accounts to be denominated in Deutsche marks or Japanese yen.

<sup>6</sup> The late 1970s and early 1980s had seen a “boom” in foreign exchange remittances, mostly from Indian workers in the oil and gas industry in the Middle East. The majority of NRI investments in India are “portfolio investments,” interest bearing bank deposits on financial assets as opposed to direct foreign investment in physical assets. Although India’s capital markets are not liberalized like East Asian and

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Latin American countries, NRI investment has been given special consideration by the state since the late-1970s and is subject to the same kind of volatility as portfolio investment in other emerging countries, i.e. Mexico, East Asia and Russian “crises”.

<sup>7</sup> Nayyar argues that degree of sensitivity and responsiveness to exchange rates suggests that repatriable deposits originated from relatively high-skill, high-income, permanent migrants, largely based in industrialized countries, as opposed to Middle East, because more likely to assess investment opportunities and redeploy investments. See Nayyar, 1994, pp. 62-63.

<sup>8</sup> See: <http://206.20.14.67/achal/archive/aug99/Gleaning%20&%20Spot%20Checks.html>

<sup>9</sup> See: <http://www.indianembassy.org/inews/December98/11.html>

<sup>10</sup> The neglect of primary compulsory education is contrasted with the highly organized pressure groups in Indian society who have historically made tertiary education a priority for public policy by Drèze and Sen, 1997, p. 91-91:

“The sections of the population that are most affected by the absence of literacy are typically much worse off than the groups that benefit from higher education. In terms of consequences, the bias in educational priorities has tended to reinforce existing inequalities, and has been least kind to the most deprived.”

<sup>11</sup> In 1968, the US, the Soviet Union and the UK, as well as other states signed the Nonproliferation Treaty. India refused to sign the treaty because it wanted to keep its options for future nuclear device-testing programs open. Improved Sino-US relations in the 1970s only reinforced strategic concerns in India’s national security establishment. Sridharan has persuasively argued that the need to design and manufacture a “broad range of industrial electronic instrumentation, computers, telecom equipment, as well as critical components” reflected an understanding in important policy circles that the nuclear option would warrant technological and economic sanctions as a result of the NPT. See Sridharan, 1996.

<sup>12</sup> The most successful company in the late-1970s and early 1980s were Hindustan Computers Ltd. (HCL), which launched a microcomputer in 1977 when these were first entering the global market. HCL’s “Busybee” became the leading seller in the PC market. As discussed above, despite HCL’s early

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success in computer hardware, its expertise in software engineering would be the company's main line of business in the future. See. Evans, 1995.

<sup>13</sup> The economist Jagdish Bhagwati, one of the foremost advocates of neo-liberal reforms, argues that American newspapers like The Wall Street Journal, "Mistakenly saw a Reagan in Rajiv Gandhi and applauded India's turn from defunct socialist doctrines. The applause turned out to be premature." See Bhagwati, 1993, p. 79.

<sup>14</sup> Interview with management consultant, MR. Athreya, September 20, 1997.

<sup>15</sup> See P. Chakravartty (1999), *The Democratic Politics of Telecommunications Reform: 1947-1997*, Madison, WI : UW-Madison Dissertation: Chapter 5.

<sup>16</sup> In 1996, 82 percent of the companies that outsourced information workers either in India or by hiring Indian workers on short-term contracts were US-based corporations. See S. McDowell, 1996. The question of H1-B visas (special work permits for skilled professionals) has raised a lot of debate in the US congress for bringing down the wage-scales of US workers in the IT sector. Anti-immigrant sentiment has also played into this debate. See A. Mir and M Yajnik, 1995

<sup>17</sup> LittleIndia.com, see: <http://206.20.14.67/achal/archive/Aug98/chi9ps.html>

<sup>18</sup> This is a model inspired by the success of Origins, a Dutch consulting firm that has a "front-office/back office model. The Front office teams in developed markets work with clients to design ERP solutions. Solutions developed in a dedicated production line in Indian software factory (Mumbai). Client deals with "front office". Production line "team leaders" flown to meet clients at early stage, take part in on-site design. Cross-border model more expensive than offshore model, cheaper than on-shore. See *Financial Times*, May 17, 1999.

<sup>19</sup> See [www.rediff.com](http://www.rediff.com)

<sup>20</sup> Interview with M. B. Athreya, September 20, 1997. Athreya is an influential management consultant who has worked for both the state as well as the private sector. In 1991, he served as the chairman of the

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“Report of the High Level Committee on Reorganization of Telecom Department” that recommended the corporatization of the Department of Telecommunications (DoT).

<sup>21</sup> Some of the most vocal and convincing arguments for liberalization came from abroad, from “the ranks of dispersed intellectuals and economists lodged in the international economic agencies and universities” (Khilnani, 1996, p. 98).

<sup>22</sup> As a *Los Angeles Times* Article on India in the context of President Clinton’s recent visit pointed out: The US buys less than \$6 billion a year of tea, garments and other goods from India, while selling it only about \$3 billion worth of chemicals and electronics goods. US business investment in India totals only about \$5 billion, compared with 10 times that in China.

<sup>23</sup> See <http://www.tie.org/02-00-chopra.html>

<sup>24</sup> See <http://www.tie.org/TechWeek%20India%20Inc%20%5B9-20-99%5D.html>

<sup>25</sup> See <http://www.business-leaders.com/200feb/cover2.html>

<sup>26</sup> See <http://www.tie.org/TechWeek%20India%20Inc%20%5B9-20-99%5D.html>

<sup>27</sup> This is a quote from an H1B visa holder, working for IBM in Santa Clara, California for an article on Indian success in high-tech industries that was posted at the Indus Entrepreneur’s Association website in April 30<sup>th</sup>, 2000. See: <http://www.tie.org/TechWeek%20India%20Inc%20%5B9-20-99%5D.htm>

<sup>28</sup> See: <http://www.tie.org/Rediff0999.html>

<sup>29</sup> Interestingly, in the same article one Indian-based entrepreneur also argues that the Bangalore-based Indian Institute of Science was apparently started by “a huge gift of the Mysore Maharaja and an endowment of Rs. 120 million by Jamshedi Tata”, referring to two prominent political and economic brokers of colonial rule in India. See <http://www.tie.org/Rediff0999.htm>

<sup>30</sup> Kamala Visweswaran (1997) addresses the absence of class in recent academic writing about the Indian diaspora as distinct from African Americans and Latinos.