

**NATION-BUILDING IN THE INFORMATION AGE:  
LEGITIMACY AND THE 'INFORMATION ECONOMIES'  
OF SOUTHEAST ASIA**

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*This essay explores the exogenous economic and endogenous political factors motivating some of Southeast Asia's authoritarian governments to strike out on a new, information-based development path. After examining the economic prospects and pitfalls involved in reorienting toward an information economy, this essay considers the question of how contradictions inherent in the economic changes and increased information flows mandated by this new development strategy might challenge these governments' ability to continue their nation-building and legitimacy-building projects.*

The coming of the 'information age' has been accompanied by an ever broadening wave of hyperbole in the political discourse of Southeast Asia. Across the region, governments look to information technology (IT) as a veritable panacea for the ongoing challenges of economic and political development. In Thailand, for example, where leaders have long been trying to develop broad support for the country's national Software Park project, former Prime Minister Chavalit once declared that information technology would provide solutions for a broad range of the country's social problems, from poverty to child labor to prostitution (*Bangkok Post*, 1997). In the wealthier, 'soft'-authoritarian countries of the region, most notably Singapore and Malaysia, information technologies have taken center stage in state-led development strategies. Rhetoric nearly has been matched by financial commitment as these countries have launched ambitious programs to upgrade their information infrastructures to the current state of the art. The grand infrastructure projects undertaken in these countries range from broadband access on a broad basis to high-capacity fiber-optic backbones.

While the West certainly has the technological know-how to upgrade in such a manner, the pace of infrastructure development has largely been determined by market forces. In contrast, the ambitious national infrastructure development projects in the state-led economies of Southeast Asia are driven by a combination of economic and political urgency. Enhanced information processing capabilities hold the promise of a development alternative to the export-oriented industrialization that offers poor future prospects for the more developed economies of the region, especially for Singapore and Malaysia. At the same time, through the rhetoric they have used to mobilize

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domestic political support, these regimes have staked their stability and the future viability of their political programs upon their ability to continually deliver increasing progress and prosperity.

The growth and prosperity experienced by these countries over the last twenty years, coupled with the skillful construction of difference through manipulation of the ‘Asian values’ idea, has maintained the legitimacy of these regimes, allowing them to keep demand for political reform in check. However, in the 1990s, emerging political and economic challenges have compelled these regimes to take bold and potentially high-risk initiatives to sustain the prosperity upon which their political well-being depends. In doing so, they have introduced a set of what might be viewed as dialectical contradictions into their political economies. Ultimately, while such contradictions may reflect economically sound decisions, they threaten to undermine the social-historical narratives constructed by these regimes, the narratives upon which the legitimacy of their rule, as well as their ongoing nation-building projects ultimately rest. One can describe these contradictions as follows:

- To maintain the growth and prosperity pursued under the banner of ‘Asian values’, these regimes must rely increasingly upon the efforts of foreign, primarily Western firms to spearhead their information technology development efforts.
- To retain an overall guiding role for the state in the development of their economies, these regimes must loosen control over key aspects of the economy, instituting significant deregulation of relevant industries and yielding at least partial ownership of state-owned telecommunications firms to foreign corporations.
- In contrast to the days when their impressive growth was based on low-skilled manufacturing, now, to shift toward an information economy, these regimes must loosen the hitherto strict controls of information that have been crucial to their legitimacy and nation-building projects.

This essay explores the interacting economic and political development challenges facing the more developed countries of Southeast Asia – Malaysia and Singapore in particular – at the end of the twentieth century. It examines and evaluates the bold initiatives undertaken by these countries to shift their economies away from manufacturing and toward the processing of information and related services. Finally, the essay considers the impact of these efforts to develop an information economy on regime stability and political change in the region: Can the authoritarian states of Southeast Asia exploit the globalizing information economy for its economic benefits and still insulate themselves from the political side effects that may come with it?

## 1. NATION-BUILDING, REGIME LEGITIMACY, AND EXPORT ORIENTED INDUSTRIALIZATION

The importance of seeking an Asian path to prosperity is woven into the ongoing processes of nation- and state-building that continues in most of these young countries. Leaders within the region are often faced with the task of uniting and mobilizing extremely heterogeneous populations, often with separatist or irredentist elements. While Singapore’s Chinese majority shares their island city-state with several other

groups, most other Southeast Asian states consist of dozens if not hundreds of ethnic groups, reflecting a kaleidoscope of cultures. Many of these manifest themselves in political identities that pre-date the colonial period. In order for post-colonial governments to promote the cause of development, they have had to encourage these diverse groups to band together to help push their countries in a relatively short time through phases of economic development and growth that took place over one or more centuries in the West. While many of the region's leaders have employed a range of authoritarian measures, including force, to ensure compliance with its programs, such measures have their limits. Over the long term, the governments of the region endeavor to legitimize their regimes on the bases of shared norms and ideals, acquisition of power through established rules, proper use of power, and ultimately, consent of the governed (Alagappa 1995).

In conjunction with authoritarianism, these leaders have fashioned and utilized a motivating national idea or self-image. This self image centers upon a cultural narrative describing where the country has come from (an often mythicized past, usually featuring a common history that justifies claims to all territory within the borders inherited from Western colonizers), what it has suffered through (colonial domination by the West and, in most cases, some form of struggle for independence), and an attractive vision of where it is going (a continuing struggle for peace, prosperity and true independence, both political and economic)(Hall 1996). This narrative dovetails nicely, but is not synonymous with, state philosophies such as Malaysia's *Rukunegara* or Indonesia's *Pancasila* (Pabottingi 1995; Case 1995). Like these philosophies, the narrative touches upon a unifying version of history with elements common to all of the groups within the state, contributing to and shaping a sense of shared norms and values.<sup>1</sup> However, the narrative serves to unite this often mythicised, common past with an envisioned common future. In the narrative, the regime is portrayed as the vehicle that can take the country to that promised future. Such progress as the regime presides over serves to legitimize the narrative.

Significant swings in government policy are normally framed and justified to the populace in terms of how they relate and fit into this national self image, and the vision the government has fashioned describing how it can take the country into the ranks of 'developed' countries. In Southeast Asia's more authoritarian contexts, leaders rationalize their countries' lack of democracy and accountability by citing these missing attributes, often along with civil and human rights, as 'luxuries' that must be set aside in the interest of the urgent task of achieving development and prosperity (*Los Angeles Times*, 1998). In these contexts, continued prosperity, or the image thereof, takes the place of popular consent as a key basis of government legitimacy.

However, in making such justifications, arguing for the deferral of political development in favor of economic development, the regime is, in effect, incurring a 'debt' to the population, issuing a promissory note. The population is asked to trade political liberalization in the near term for the promise of economic prosperity. At the same time, by employing such reasoning, the regime is introducing the concept of *time* into its state narrative. If the population should not expect political liberalization now,

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<sup>1</sup>In the Malaysian case, this narrative is primarily focused upon the Malay groups in various regions of the country.

then *when*? While leaders tend not to specify target dates by which the envisioned levels of prosperity will be attained, the implication is clear for all parties. The note comes due when the regime stops delivering the expected level of economic growth. In the authoritarian states of Southeast Asia, continued consent of the governed has come to rest heavily upon the proper use of power, which is increasingly defined as state action to deliver continued economic progress and prosperity.

Unfortunately for these regimes, the export oriented industrialization development path that had served their economies well was approaching a dead end in the 1990s. In fact, the prospects for further rapid growth based on labor-intensive manufacturing were beginning to look bleak well before the 1997 economic crisis began to bite. Put bluntly, China's opening to the world economy presented Southeast Asia with overwhelming competition in the provision of cheap labor.

The success of East Asia's export oriented industrialization (EOI) in the region's development, lauded in the World Bank's 1993 report *The East Asian Miracle* (World Bank, 1993), rests to a great degree upon product cycles theory, often identified with the 'flying geese' analogy put forth in Japan by Akamatsu Kaname in the 1930s. The theory describes a process through which more advanced economies progress by shifting their economic bases to higher value added products and industries, while shifting lower technology, more labor intensive 'sunset' industrial activities overseas to less developed, less industrialized economies. Moving lower technology industries offshore contributes to the industrial advancement of the receiving country. In theory, the cyclical repetition of this process leads to gradual improvement of quality of manufacture and technological advancement at all levels of this vertical division of labor. The 'lead geese', when "plump and fully developed", are supposed to transition from an export orientation to an import orientation, helping other geese catch-up (Prestowitz 1997). However, this model rests in large part upon the highly questionable assumption that there is such a thing as 'fully developed' status. In fact, the advanced economies must continue to seek new markets and new modes of commerce to continue moving forward. Seeking to reduce costs and remain competitive, the advanced economies transfer their 'sunset' industries offshore not to the next 'goose' down the line, but to the source of the cheapest labor, often the last in line. Those economies that have attained partial industrial development on the basis of cheap labor can find themselves cut-off from further technological diffusion, bypassed by further investment by virtue of the economic progress they have made. As a result, the development trajectories of Japan and other advanced economies tend not to replicate themselves in the economies of the trailing geese. Instead, development, if deprived of the fuel represented by fresh investment capital, stalls in mid-rise. Developing economies are forced in and out of hierarchical production networks, with the possibility of their ultimately languishing as technological and economic backwaters (Mitchell and Ravenhill 1995). Cheap, unskilled labor had proven vital in luring foreign manufacturing investment and capital that fueled the Asian Tigers' initial success as well as the substantial progress made by such Southeast Asian economies as Singapore and, to a significant degree, Malaysia, Thailand and Indonesia. However, by the early- to mid-1990s, it had become cheaper for foreign manufacturing firms to do business elsewhere. For countries with relatively small populations, such as Singapore and Malaysia, their usefulness as cheap labor pools was rapidly exhausted.

Singapore, a densely populated but small city-state, was quick to read the writing on the wall when China, with its enormous labor force, began opening its door to the world at the end of the 1970s. Although an emphasis on labor-intensive, export-oriented industries had served Singapore well throughout most of the 1960s and 1970s, competition for such export markets was increasing while the country's labor shortage grew ever more acute. After 1979, Singapore's government began restructuring the economy toward a greater emphasis on higher technology manufacturing and knowledge-based commerce, albeit with mixed results (Kuo and Chen 1987: 356; Rodan 1987). By the early 1990s, Malaysia had also advanced to a point where there were few takers for low paying, unskilled manufacturing jobs. At the same time, other ASEAN countries with larger populations, notably Thailand, the Philippines and Indonesia, were increasingly overlooked by Western as well as Asian investors in favor of the seemingly endless supply of cheaper labor offered by China. Campaigns by Malaysia and the Philippines to lure investors from Korea and Taiwan respectively, yielded disappointing results (Machado 1987: 639). China's 'open door' had effectively blocked any chance these countries had to continue following on the Northeast Asian Tigers' path to development via labor-intensive manufacturing.

Confronting such a dead-end on what had been a successful path to export-oriented industrialization, the leaders of many Southeast Asian nations pondered new directions for their countries' development. During a 1996 meeting of ASEAN's Industrial Cooperation Scheme, ministers discussed common concerns over their dwindling share of overall foreign investment into Asia citing increased competition from China and, to a lesser degree, India. China's and India's share of total foreign investment into Asia had increased from 23 percent in 1989 to 59 percent in 1994, while the portion going to ASEAN countries had declined from 44 to 28 percent over the same period (Hussain 1996; Soesastro 1996). The assembled ministers concluded that, facing attenuating growth in foreign investment, Southeast Asian nations would have to devote more of their resources and energy to technological enhancement and to training the workers that such technologies would require. Only through such investment could they hope to continue their economic growth and development in an increasingly tough world market (*Reuters*, 1996).

Singapore, Malaysia and other governments in the region had to formulate a plan that was economically sound in the long term and politically inspiring and motivating in the near term. If they failed to do so, they faced the weakening of regime legitimacy and, in some cases, the unraveling of progress achieved over years of nation-building. The region's authoritarians had comfortably ridden the wave of steady economic growth that swept the region in recent decades, basing the legitimacy of their vision of the country's future and their continued rule on the prosperity that came with that growth. Facing a change for the worse in economic fortunes, these regimes needed not only a new economic vision, but also a means of motivating their populations to restructure their economies without having their own authority shaken by the upheaval such restructuring would likely entail. They found such a formula in the form of nationalist appeals mixed with the concept of 'Asian values'.

## 2. 'ASIAN VALUES' AND NATIONAL SELF-IMAGE

In the heyday of the East Asian 'Miracle,' rising states of Southeast Asia looked to the successful economies of Northeast Asia for more than investment or even an economic blueprint for success. They sought, and continue to seek a path to success and development that is distinctly Asian and just as distinctly non-Western in character. Aside from the obvious economic success enjoyed by the Tiger economies, there are several politically attractive aspects of the so-called Asian development 'model' (Berger and Hsiao 1988; Perkins 1994). Northeast Asia's rapid development offered hope of achieving a politically desirable goal, long advocated by Malaysia's Mahathir and others in the region, of an economic future for Asia built on increased interaction with Asian economies rather than with the West. Additionally, the strong role for central planning and state guidance embodied in Northeast Asia's success dovetails nicely with the generally authoritarian character of many Southeast Asian governments.

The success of the Tiger economies in recent decades has lent substance and political power to the state narrative or national self-image discussed above, providing a tangible representation of where the country could go. Future prosperity could be gained not through the adoption of Western market practices and principles, but through adherence to presumably superior 'Asian values' which have enabled the Tigers to compete successfully with and, in some cases, even best the Western economies at their own game. Promoting these examples, the region's governments are using the concept of Asian values and the success it represents to mobilize their populations to make the effort and sacrifices that the leap to an information economy demands.

The positive example offered by the Tigers, with the integral concept of Asian values, fills a powerful political vacuum in Asia, a vacuum left by the collapse into disarray of what had been an imposing 'socialist commonwealth' of Marxist states and their seemingly viable state-directed alternative to Western-style, market-based development. In the early decades of the Cold War, the achievements of the communist states made a powerful, positive impression on many of Southeast Asia's leaders, much to the chagrin of the West and the US in particular. The impressive industrialization achieved by the USSR in only a few decades of central planning, along with perceived advances then being made in the People's Republic of China appealed strongly to many of the region's emerging post-colonial elites. Indonesia's then president Sukarno ebulliently declared that the "oldfo", the imperialist, Western societies were in irreversible decline, while the socialist bloc, newly independent countries and other such new, emerging forces or "nefo" would soon dominate the globe (US Department of State).

The communist example remained politically powerful in the region long after Sukarno's passing and the rise of the region's anti-communist authoritarians. The concept of a communist alternative retained political potency as a lever for use in relations with the West, and for constructing and maintaining a real or potential *difference* from the West. As Mahathir recently put it: "Paradoxically, the greatest catastrophe for us who have always been anti-communist is the defeat of communism. The end of the Cold War between East and West has deprived us of the only leverage we had, the option to defect." (Arifin 1999).

With the stagnation and eventual dissolution of the socialist bloc, many leaders in the developing countries of Southeast Asia needed a new and politically inspiring alternative to the West's *laissez faire*, free market approach to development with its focus on individual initiative and decentralized decision making. Such an appealing if less radical alternative presented itself with the rise of the Japanese and Korean economies. These successes led some of the region's leaders to launch initiatives to study and promote the lessons they offered, typified by Malaysia's "Look East Policy" or LEP. In addition to seeking investment and technical assistance from these rising Asian stars, the LEP also recognized the political value of their success and gave them a featured role in the ruling United Malays National Organization (UMNO) party's vision of where Malaysia was going. As Prime Minister Mahathir told his people in the 1980s, Malaysians must look not to the West, but to these and other rising Asian powers "for inspiration, methods and skills" as well as "to emulate and learn [their] work ethics and attitudes" in order to further Malaysia's economic progress (Machado 1987: 638). In the early 1990s, the region's desire for an Asian way to development and prosperity also drove efforts to promote an East Asian Economic Group (EAEG) which looked to Japan for leadership and excluded the US.<sup>2</sup>

The strong, guiding interventionist role for the state that figured so prominently in Taiwanese and Korean economic advancement appeals to Southeast Asia's authoritarians.<sup>3</sup> At the same time, the absence of debate and accountability embodied in the Asian Values concept allowed for decisive government action. Comparing Asia's recent economic growth to earlier progress in the USSR, Krugman observed that the Soviet economy's special strength was not so much its efficiency as its ability to mobilize resources (Krugman 1994: 69). Southeast Asia's authoritarian governments have shown similar abilities. They have faced few domestic impediments in their efforts to reorient their countries' energy and resources toward new priorities, toward new national crusades.

In the late 1990s, these crusades take the form of information technology development plans. The governments of Singapore, Malaysia, and even Indonesia initiated grand infrastructure projects designed to place their nations at the top of the competitiveness table in an envisioned information-based world economy, irrespective of what level of development they are starting from. In pursuit of these grand goals, these governments have poured billions of dollars into massive information infrastructure projects bearing titles that lend power to state narratives, promising greatness in the coming century. Singapore's massive infrastructure projects fall under such thematic titles as "Singapore One", "Intelligent Island" and "Vision 2000".

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<sup>2</sup>Japan declined the leadership role. The EAEG initiative, championed by Mahathir, resulted instead in establishment of the East Asian Economic Caucus or EAEC, a less ambitious and as yet less influential body than the one originally proposed.

<sup>3</sup>Many recent treatments of the concept of 'Asian development models' maintain that Singapore achieved success without significant degrees of state intervention in the economy. For example, Francis Fukuyama (1998) views Singapore (along with Hong Kong) as "models of state minimalism in the economic realm." However, the lack of a centrally planned economy does not necessarily indicate that the government has adopted a hands-off approach to guiding the economy (Huff 1995; *The Economist*, 1994: 33-34).

Malaysia, in endless competition with Singapore, unites its own infrastructure expansion initiatives in its "Vision 2020" program. Indonesia embarked on an ambitious, phased program to extend a fiber optic information infrastructure across its many inhabited islands in its *Nusantara 21* ("The Archipelago 21", for the twenty-first century) program.

While the regional economic crisis or "Asian Meltdown" of 1997 has impacted upon the funding all of these countries can bring to bear on expensive infrastructure projects, the economic hardship also lends a sense of urgency that sharpens these governments' determination to preserve these costly projects while many other infrastructure and regime-legitimizing 'prestige' projects were suspended or eliminated in the face of financial collapse. Examples of such deferred or dead projects include Malaysia's Bakun hydroelectric dam, a new northern regional airport near Penang and the Kuala Lumpur 'Linear City' project; toll roads and power stations in Indonesia, as well as the planned Jamsostek Tower for Jakarta, intended to be the world's tallest building (Reddy 1997; Sukri 1997).<sup>4</sup> While such projects as these are set aside, work on developing national information infrastructure continues (*Xinhua*, 1998; *AAP*, 1998; *Asiaweek*, 1998). In preserving these projects, the region's governments preserve the politically crucial idea of their countries' forward progress, and, if the risks involved in these infrastructure investments pay off, the region's future economic viability.

### 3. OF INFORMATION 'SUPERHIGHWAYS' AND 'COW PATHS': AN INFRASTRUCTURE FOR A NEW AGE

Many explorations of new information technologies (IT) and their diffusion through developing areas tend to fall into the paradoxical debate over whether the proverbial glass is half-empty or half-full (Johnson 1998; Gunkel 1997; Holderness 1995). What often seems to be lost in such discussions is the idea that technological advancement, including the development and diffusion of IT among and within societies, is a process having a course and speed. Too often, analysts study a 'snapshot' of where a society currently stands in terms of its information capabilities rather than considering how fast such capabilities are moving and where they are going. Too often, Western analysts approach such study with the assumption that these societies will naturally follow in the footsteps of Western societies, and that the state of technical progress in the West is the measure against which that of less developed societies should be judged.

However, a fundamental problem with using Western information infrastructure as a yardstick for judging those of developing countries is a failure on the part of many analysts to see that infrastructure for the relic it is in many ways. Unlike the capabilities of personal computers, which have soared during the last twenty years, the capability of the West's basic telecommunication infrastructure has advanced at a far slower rate. On many desks in many offices and homes sit computers that appear to be technological wonders of the 21st century. Yet behind these seemingly wondrous machines one often finds a smaller box, namely, a modulator-demodulator or modem. In essence, the modem represents a bottleneck between these 21st century computers

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<sup>4</sup>Also, in Indonesia, Presidential Decree No. 5, dated 10 January 1998, halted the Jamsostek Tower project as well as a handful of planned toll roads and geothermal energy projects.

and a 19th century telecommunications infrastructure; it translates the impressive torrent of information processed by our computers into the relative trickle of data that can be accommodated by the thin copper wires running through telephone lines.

The growth in demand for Internet access has spurred numerous improvements in data communications hardware and software, allowing us to squeeze data through those telephone lines at greater and greater rates. When the author began working as an engineer in the early 1980s, 300 bit-per-second (bps) modems were the norm (for the relative few who even had need of a modem); by the mid 1980s, 2400 bps modems had become fairly common. At the time of this writing, 56,600 bps modems are standard equipment on most low-priced home computers. For those demanding greater speed some telecommunications companies may offer an Integrated Services Digital Network (ISDN) line or an Asymmetric Digital Subscriber Line (ADSL). While these improvements are impressive accomplishments in their own right, the fact remains that these advances in telecommunications technology are measures designed to extend the usefulness of an outdated communications infrastructure. These are short-term efforts to 'make do' with a network of wires that will take a great deal of time and money to replace. Thus, as the so-called "information superhighway" takes shape in the form of high-speed networks connecting research institutions and certain large corporations, most people still access it only via a thin, copper wire 'cow path'.

In contrast, Southeast Asian countries have relatively little communications infrastructure to 'make do' with, and thus have faced less of a cost-benefit analysis in planning their information infrastructure. As developing countries install such infrastructure based on more advanced technologies, their efforts will bring about a shift in relative information processing capabilities. National and regional networks built on newer technologies will enjoy a far greater capacity for moving and processing information in various forms – including coded text, video and sound – than will those countries and regions that elect to 'make do' with existing copper wires.

This relative capability is a matter of *bandwidth*, the frequency at which data bits can pulse through a given transmission medium. When they were installed, the West's copper wire telephone lines were intended to accommodate a narrow bandwidth well within the range of audible sound, certainly less than 15,000 cycles per second. Recent advances in data communications technology have enabled higher speed signals to be transmitted via those wires. For example, Asymmetrical Digital Subscriber Lines (ADSL) promise the ability to *receive* data at the rate of up to six million bits-per-second, provided one does not live too far from a local telephone relay station, and *send* data only at a fraction of that speed (hence the asymmetry)(*The Economist* 1996b: 88). Fiber optic lines, of the type being installed across much of Southeast Asia as part of the region's ambitious infrastructure projects, offer capacity potential measured in *tera-bits* per second (a terabit represents ten-to-the-twelfth-power ( $10^{12}$ ) bits, or 1,000 gigabits) *per color* of light used in transmission.<sup>5</sup> If, for the sake of discussion, we limit the capacity of a fiber-based information infrastructure to one color and one terabit-per-second, we are still referring to a bandwidth or line capacity roughly 160,000 times greater than that of Asymmetrical Digital Subscriber Lines using the copper wires

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<sup>5</sup>Fiber optic cable manufacturers Corning achieved one terabit-per-second transmission rates in the laboratory in 1996 (*Associated Press Financial*, 1996).

relied upon in the West. Singapore's infrastructure projects, like others in the region, envision the upgrading of the broad band services available there, currently deployed through cable television lines and ADSL, by eventually extending the fiber optic infrastructure directly to the end user or 'fiber to the home' – an expensive but important step. If one is connected to the fastest imaginable broad band network by only a few feet of copper telephone wire, then one can transmit and receive data only at the rate allowed by that copper wire.

Southeast Asia's efforts to develop and install new, high-capacity information infrastructures are intended to hasten the development of information economies much like the development of railroads facilitated the industrialization of Western economies in the nineteenth and early twentieth centuries (Rostow 1991: 55-56). However, unlike the railroads that figured so prominently in the industrialization of Western countries, the expansion of information infrastructure in Southeast Asia cannot rely primarily upon local industries. As Rostow points out (1991: *Ibid.*), the development, extension and maintenance of railroads required the development of and innovation within domestic industries such as engineering, steel, coal, coke production, industries which facilitated growth in other industrial sectors. In contrast, Southeast Asia's leaders, seeking the rapid development of high technology industries, often from a fairly rudimentary base, must rely on foreign firms – mainly Western firms -- to take the lead in designing and building their information infrastructures, attracting such firms with various combinations of deregulation and subsidy.

The region's governments have proven willing to surrender some control and regulation in return for infrastructure modernization by offering foreign telecommunications firms a stake in the growing telecommunications industry if they will install new lines and equipment. For example, in the mid-1990s, Indonesia entered into a number of deals with consortia of major Western and Japanese telecommunications firms including Nippon Telegraph and Telephone Corporation, U S West, Australia's Telstra Corporation and France's *Cable et Radio* to update and expand its telecommunications infrastructure, adding millions of new lines as well as expanding cellular telephone capacity. Indonesia was expected to pay for three million of the eight million new lines initially envisioned in these deals, with the foreign telecomm firms providing the rest. In return, Indonesia granted licenses to these firms to operate lines they installed and sold them outright a share of the state's cellular telephone operator, *PT Telkomsel* (Wagstaff, 1995). Malaysia negotiated a similar set of agreements in expanding its own telecomm infrastructure (*Far Eastern Economic Review*, 1995).

The region's leaders have also attracted foreign technology firms by offering various forms of subsidy: government funded concessions to lure multinational corporations to invest and set up shop locally. In most cases, these include tax breaks or 'holidays' of a specified number of years, the greater the amount of investment, the longer the tax holiday. Singapore adds sweeteners in the form of research and development grants for foreign firms through its Research Incentive Scheme for Companies (RISC) program (*Reuters*, 1996b). Some countries waive import duties on equipment for companies investing in setting up high technology concerns, while others have modified their restrictions on foreign ownership of property. Indonesia recently allowed foreigners involved in developing high technology industries to buy and own homes outright, a hitherto proscribed practice.

Perhaps the most attractive subsidy intended to entice foreign high technology firms to set up shop is the enhanced information infrastructure itself. The most noteworthy example is Malaysia's forty kilometer Multimedia Super Corridor (MSC) project, an enormous information technology industrial park, covering an area larger than all of Singapore, built on a high capacity fiber optic backbone. The MSC offers potential investors a veritable *tabula rasa*, facilities that will be built to their specifications. As one computer industry executive put it: "It's as if someone said, 'What would be the perfect Silicon Valley?' and then built it." (*Far Eastern Economic Review*, 1997: 45).

#### 4. IF THEY BUILD IT, WILL THEY COME? THE PROSPECTS AND PITFALLS OF AN INFORMATION ECONOMY

Southeast Asia's efforts to shift toward an information-based economy challenge the 'hand-me-down' concept of technological transfer and technical advancement embodied in the flying geese model and reveal the limits of the model in an increasingly competitive world market. Developing countries that are bypassed by these transfers must urgently seek a more active, entrepreneurial approach to lure the foreign high technology input needed to upgrade their technological base. In all cases, more public energy and expenditure would have to be devoted to improving the physical infrastructure and human resources needed to lure new types of investment to the region, in other words, investment in intellectually-based, knowledge-intensive enterprises, rather than in labor- or even capital-intensive manufacturing.

As this essay demonstrates, recent advances in telecommunications and information technologies, combined with the growing potential of the Southeast Asian market for telecommunication services, offer opportunities for innovation on the part of the region's governments. In the context of a developing global market for telecommunications services, these governments are in a position to enter into what are essentially joint ventures with transnational telecommunication and information technology firms (Vonortas and Safioleas 1997). These firms share in the risk of developing an expensive information infrastructure in return for a share of anticipated revenues to be derived from increasing telecomm traffic and consumption of information and related services. The potential return for the governments involved is a perceived opportunity to seize a comparative advantage in high technology industry and especially information-based services, preserving legitimacy by ensuring continued economic progress. Still, the scale and intensity of regional infrastructure development efforts beg certain questions regarding the prospects for significant economic return on such huge investments. How can they make it pay?

Some of the existing evidence indicates that investment in information technology can and does pay off in increased productivity and GDP growth (Kramer and Dedrick 1994). Promoters of an information economy point to a growing need for information technology professionals as the world moves into the 'information age', a projected 200,000 man-year deficit for programmers in the United States alone (*Far Eastern Economic Review*, 1997b: 45). According to Primo Braga, such potential may be only the tip of the iceberg. Recent advances in new information technologies, especially the explosion of the Internet and related technologies, have "unbundled" production from

the associated consumption of services related to that production, such as research and development, accounting, data processing and so forth. As a result, all of these services are now more tradable than before, and thus more suitable for 'outsourcing'. Developments in information technology have radically reduced the costs of such outsourcing, whether to vendors located down the street or across the globe. The potential market in such services is enormous when one considers that as much as 65-70% of employment in the manufacturing sector may in fact be in these types of associated services (Primo Braga 1996: 35).

At the same time, the information-based path to development will not be entirely smooth. The regional economic crisis has only intensified Southeast Asian governments' interest in moving forward with their information technology programs. Their partners in infrastructure expansion, foreign telecommunications firms, are still pressing ahead with these projects as of this writing. Furthermore, the combination of government initiative and Western, private sector investment that drives these projects helps ensure their continuation despite the region's economic meltdown, as such economic down-turn brings falling labor and physical plant costs for those willing to invest now. Kuala Lumpur has already scored significant success in its approach, having lured Sun Microsystems, Nippon Telegraph and Telephone, and other notable information technology firms to set up operations within Malaysia's Multimedia Super Corridor. Software giant Microsoft is establishing a regional operations headquarters there. Numerous Western and Japanese firms are seizing this opportunity to expand their presence in the region while prices are low and governments are amenable to, if not desperate for increased foreign investment (*Straits Times*, 1998; *Deutsche Presse-Agentur*, 1998; Gaines, 1998). Further, the amount of foreign capital these countries needed to borrow for infrastructure expansion was reduced by risk-sharing on the part of foreign telecommunications firms, which contributed to infrastructure expansion in anticipation of realizing a return through their stake in the telecommunications market. However, Western investment in telecommunications infrastructure and other information related and high technology industries is based on estimations of continued, rapid growth in the Southeast Asian market. In the event of a prolonged economic crisis, foreign firms may revise their estimations of the region's market potential and invest elsewhere.

With respect to developing the necessary human capital, the challenge is immense. A key element of the Asian 'Miracle' lauded by the World Bank was the decision by East Asia's successful economies to focus their resources on primary and secondary education in training their work forces (Page 1994). However, those work forces were training for relatively low-skilled jobs in labor-intensive manufacturing. To provide adequately trained workers for an economy based on higher technology and information will require significant expansion of post-secondary education. As Southeast Asian countries struggle to provide the massive investment needed to upgrade their education systems and develop their human resources, they will face the challenge of maintaining as a comparative advantage a highly-skilled work force in a globalizing economy that puts a high premium on those skills. Competition for skilled programmers and other information technology professionals at home and abroad causes their wages to rise, and contributes to a national 'brain drain' as these skilled professionals are lured abroad by higher paying jobs (*Far Eastern Economic Review*,

1997a). Additionally, this brain drain does not result just from poaching by software firms in the West. Given the severe shortage of trained information technology professionals described above, it should come as no surprise that much of this poaching of talent goes on between countries within the region, especially between Malaysia and Singapore. Despite a gradual trend in the region toward deregulating higher education and allowing greater opportunities for foreign education institutions to operate, the formal education of Southeast Asia's work forces is one aspect of the region's development that relies primarily upon local initiative and funding. It is also the aspect of the region's economic and technological development where the greatest progress remains to be made.

Of course, underlying such challenges is the greatest pitfall of all, the heavy risks inherent in putting so many of these countries' economic eggs in one basket. While new information technologies hold great *potential* for expanding international trade in services, the actual growth in that trade in developing areas had thwarted some optimistic predictions even before the 1997 economic crisis. India's experience offers relevant insights. A major center for information processing, producing software primarily for firms in the United States, India has defied World Bank predictions and achieved only a 0.35% share of the global software market. A 1993 World Bank study, *India's software and services export potential*, predicted that India would realize software exports of \$7.4 billion in 1996. In the event, India achieved only 9% of that export goal (*Far Eastern Economic Review*, 1997: *Ibid.*).

In the worst case, should the envisioned information economy fail to take shape in Southeast Asia, the countries of the region may be many years recovering from the impact of the current regimes' enthusiasm for building information infrastructure. Acemoglu and Zilibotti point out that a lack of diversification in development undertakings, especially the concentration of resources in large, risky projects, enhances the role of chance in determining future development prospects. Returning to the analogy between Southeast Asia's efforts to expand information infrastructure and the role of railroads in nineteenth century Western industrialization, they note that while railroad construction was the key to opening up large-scale industrialization in the US, heavy investment in railways did not pay off in Spain and Italy. Spanish and Italian losses on their investment in railroad construction led to capital scarcities for decades to come, crippling industrial development (Acemoglu and Zilibotti 1997: 717).

## 5. CONCLUSION: ANTICIPATING POLITICAL SIDE-EFFECTS

While a shift toward an information economy holds great promise for the more advanced economies of Southeast Asia, active pursuit of information-based development will have a significant impact upon their political as well as economic development processes. As mentioned at the outset, the measures undertaken by these regimes to secure a competitive advantage in an information economy have introduced seemingly dialectical contradictions into their political economies. Despite the promise the regimes' IT initiatives hold for continued prosperity, the contradictions contained therein hold challenges to regime legitimacy. Simply put, they threaten legitimacy

because they are in dissonance with the regimes' narratives, the narratives upon which their legitimacy ultimately is based.

To retain a guiding role for the state in furthering economic development, these regimes must first loosen regulation and control of key industries. Specifically, these governments have been forced to relinquish their monopolies in the telecommunications sector. Beneath government touting of the IT multinationals that have been lured by the new infrastructures to set up local operations lies the fact that the infrastructures themselves are increasingly foreign owned. As shown above, Malaysia, Singapore and other states in the region have aggressively courted foreign firms by offering them large shares of their real and anticipated telecommunications markets. In doing so, they secure the financial investment and technical expertise needed to bring their information infrastructures up to the level demanded by an information economy. However, while such foreign participation may make sound economic sense, its very scale, along with the diffusion of economic decision making it suggests, opens the way to questioning of the regimes' claims that they are uniquely qualified to carry their countries toward development and true economic independence.

Even more challenging is the contradiction this reliance on foreign, primarily Western firms presents to the regimes' espousal and manipulation of the 'Asian values' idea. Mistrust of the West, dating from long periods of imperialist domination, remains a sensitive issue in many countries of the region. As a result, anti-Western sentiment is easily stirred by the region's leaders, as evidenced by Malaysian Prime Minister Mahathir's publicly decrying the activities of foreign investors as "recolonization" (Arifin 1999) even as his government endeavored to attract more foreign participation in its Multimedia Super Corridor project. Such suspicions are readily fashioned by these regimes into politically useful images of difference, forming the main foundation of the 'Asian values' concept in the region in the absence of a more appropriate foundation, namely, shared, pan-Asian values.

Given the vast cultural differences between the Northeast Asian Tigers and most of Southeast Asia one might suggest that the appeal of 'Asian Values' to authoritarian leaders rests not so much in its philosophical roots as in the character of government and policies these values help to legitimize. The path to successful development taken by these Tigers features various qualities that are as compatible with authoritarian governance as they are incompatible with market-driven decentralization: the state's guiding role; strict hierarchy and almost unquestioning respect for higher authority; and the de-emphasis of individual enterprise. The appealing if ill-defined concept of 'Asian Values', vaguely rooted in Confucianism, has proved a useful construction by which Singapore, Malaysia and other Southeast Asian regimes could justify the lack of accountability and pluralist debate characterizing their governments (*The Economist*, 1995b: 38; Christie 1995). However, where this constructed difference is based more upon anti-Western sentiment than on shared values, it is more easily undermined by the regime's apparent reliance on Western capital, expertise and decision making in carrying forward the cause of economic advancement and independence.

Additionally, the existing ethnic and regional tensions within these states will be exacerbated by the uneven distribution of benefits from the new information economy, further undermining the regimes' efforts to promote any motivating idea based on pan-Asian values. One aspect of this problem manifests itself in the tendency of such

information-based development to concentrate in urban centers, leaving the already disadvantaged rural areas even farther behind.<sup>6</sup> Growing regional and ethnic disparity will undermine the legitimizing power of a prosperous national self-image in ongoing nation-building efforts. Ethnic groups that felt increasingly isolated from the prosperity realized in an information economy would question their place in the state narrative, convinced that it no longer described their future. Increasingly alienated from state norms and values, they would increase rather than reduce their resistance to dominant groups or to the state itself (Alagappa 1995: 55-58). Facing a shortage of trained engineers and technicians, the Malaysian government has already been forced to relax its politically sensitive *Bumiputra* laws, regulations that mandate priority hiring of ethnic Malays, as part of its efforts to lure foreign information technology firms to its Multimedia Super Corridor (Tarrant 1996).

The above two contradictions provide their most potent challenge to regimes when combined with the third. Namely, the need to relax hitherto strict controls on information flows in accordance with the demands of an information economy. While the first two contradictions are in dissonance with the state's narrative, increased flow and exchange of information facilitates the entry of this dissonance into the political discourse of these societies, including the discourses of legitimacy- and nation-building.

Governments of the relatively young states of Southeast Asia endeavor to fashion legitimacy by creating a sense of shared norms and values in diverse, multi-ethnic contexts. This process involves controlling the allocation of resources, formulating and propagating rules, and framing these in the form of appeals to a shared sense of history and culture (Alagappa 1995). However, this creation and promotion of norms and values by the state depends to a large degree upon the state's ability to suppress or at least control messages containing versions of history -- or manifestations of culture -- that conflict with its own. Just as a vintner must eliminate naturally-occurring strains of yeast before introducing his or her own carefully cultured variety to the winemaking process, so must the authoritarian state strive to eliminate competing norms, values and cultural ideas from the its legitimacy- and nation-building processes. Until now, these states have attempted to protect these processes from 'contamination' through the strict control of information.

However, the authoritarian states of Southeast Asia are discovering that censorship is incompatible with their goal of information-based development. Censorship has long been common practice in Singapore, Malaysia and even post-Suharto Indonesia, with media outlets strictly licensed and tightly controlled by the government. However, as they developed their information infrastructures, these countries forged a double-edged sword. Having staked their futures on developing information economies, leaders of these states are finding that efforts to censor information flows can easily scare-off foreign firms, who may avoid investing in these countries for fear of government interference

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<sup>6</sup>While such urban-rural disparity poses little threat to Singapore, it is a serious issue in Insular Southeast Asia. For example, projects such as the Philippines' "Information Technology Master Plan" for education will almost certainly exacerbate the uneven levels of development within the country. As of 1997, forty-two percent of schools across the Philippines, primarily in rural areas, still did not have electricity. Author's discussion with Alejandro W. DeClemente, Undersecretary, Department of Education, Culture and Sports. Manila, Philippines, 20 February 1997.

in their operations. A workable balance between satisfying the foreign investors they are trying to lure and maintaining traditionally tight controls over the information available to the public continues to prove elusive.

Authoritarian regimes in Southeast Asia have been experimenting with ways to censor the Internet, with mixed results (*The Economist*, 1995a: 37; 1996a: 34). Singapore has invested heavily in its efforts to censor the Internet, making the corps of bureaucrats hired to read and censor electronic traffic a fast-growing segment of the country's large civil service sector. In an attempt to reassure potential investors concerned over censorship, the Singapore Government has instituted a more lenient standard in censoring corporate traffic than that applied to information received and exchanged by the public (Ang and Nadarajan 1996; McGurn 1995: 72). Still, foreign investors are spooked by the very idea of censorship, and the degree to which a country regulates information is emerging as one element determining the quality of its comparative advantage in luring foreign firms (Della-Giacoma 1997).

In contrast to Singapore's censorship approach, Malaysia is attempting to establish what one might call a 'special information zone' in its Multimedia Super Corridor, roughly analogous in its purpose to the special economic zone concept used in China. Tengku Mohamed Azzman Shariffadeen, director general of the Malaysian Institute of Microelectronics Systems, a government agency that regulates access to the Internet in the country, declared to potential investors that Malaysia has not censored the Internet, "so the free flow of information is very much the order of the day." However, information can flow freely only within the corridor itself. It cannot be distributed throughout the country. Azzman has assured investors that his government "won't police what [foreign firms] do as long as it is within the confines of the company." Companies in the MSC can receive information from abroad, process it and then transmit it out of the country without interference (Tarrant 1996). To further isolate this zone, Malaysia envisions housing its information technology work force in special communities within the corridor, such as the new city of Cyberjaya. However, political challenges accompanying the regional economic downturn have cast doubts upon Malaysia's freedom of information assurances. In the aftermath of an incident wherein 'lies' about economic conditions in Malaysia were traced by the government to e-mail addresses in the country, foreign investors in Malaysia's IT initiatives were unsettled. Prime Minister Mahathir did not reassure them when he declared that people were being "confused" by "misuse" of the Internet (Bernama 1998). The same incident produced a similarly unsettling editorial in the *New Straits Times*: the Net is many things to people: an information goldmine, a playground for the devious, a pipeline for anarchy and an unrestricted avenue for false prophets. The freedom under which the Net operates is easily exploited by individuals to push their own agenda. Anyone can create a web-site with corrupt and dangerous ideas, doctor material from other sources and circulate incorrect statements. Freedom and responsibility go hand in hand (*New Straits Times*, 1998).

While in the heyday of labor-intensive manufacturing, repressive government practices have tended not to deter foreign firms from investing in countries with authoritarian governments, such firms are proving much more sensitive when their products are knowledge and information. Remarks such as these as well as circumstances surrounding the Mahathir regime's imprisonment of former Deputy

Prime Minister Anwar Ibrahim have compelled a number of previously committed Western investors to adopt a wait-and-see approach to their further involvement in the Multimedia Super Corridor scheme (Edwin 1998).

Such reactions by foreign corporations underscore the contradictions facing authoritarian systems of governance poised to exploit an information economy. Increasingly, they find themselves between the proverbial rock and hard place. Having based so much of their legitimacy on the promise of economic progress and prosperity, and facing poor prospects for future development based on industrialization the shift to an information represents an urgent necessity. If they failed to innovate, these regimes would demonstrate to their populations their inability to carry forward the cause of continued development. The 'promissory note' mentioned above would come due. Bereft of legitimacy, the government would face the choice of retaining power by coercive means or stepping aside. However, as this essay has shown, while their innovative shift to an information economy holds considerable economic promise, the contradictions necessitated by such innovation pose serious threats to their continued rule. In the Southeast Asian context, the question is no longer that addressed by the World Bank in the early 1990s: whether authoritarianism was a necessary element of economic growth in Asia (World Bank, 1993; Page 1993). The question at hand today is how long the region's authoritarian regimes can survive once economic growth is based not on low-cost labor, but on increased flows of information within their societies.

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