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Connecting Bharat

Less than five months after the government amended the law to allow the Universal Service Obligation (USO) Fund to be used for subsidising even mobile phones and broadband services in the rural areas, the results are there for all to see. Mobile phone firms have come up with bids that ask for a subsidy that is a fraction of the benchmark price. In the case of Cluster 1, for instance, a benchmark price of Rs 394,967 had been set as the cost of building a mobile phone tower from which rural mobiles would be serviced; against that, the winning bid from GTL Infrastructure is for Rs 197,484. In the case of Cluster 10, to take another example, the benchmark price was Rs 423,860 while BSNL has won the bid by asking for a subsidy of just Rs 80,222. As for the other part of the subsidy (required for the electronics on the tower), most bidders have said they don't want it—that is, with the cost of the physical towers having been met, they are confident that they have a business model that can provide phones to rural India at costs low enough to bring in sufficient demand. Admittedly, this does not mean that the rural telephony model is robust enough to do away with subsidies altogether, but the heartening point is that the level of subsidy required has come down dramatically. It is reasonable, therefore, to expect a surge in rural telephony, with the attendant gains in connectivity and productivity that can be expected to follow when this happens.

Contrast this with the earlier situation in which the USO Fund was available only for fixed-line phones. This was exorbitantly costly—the Telecom Regulatory Authority of India

(Trai) had estimated in 2005 that this model would need nothing less than Rs 30,457 crore by 2010 to set up all of 28 million rural phones, thereby reaching the rural tele-density target of a modest 4 per cent. Those numbers were forbidding, and that is when Trai came up with the model of subsidising the tower, which would service more users at a fraction of the cost. The other negative aspect of the earlier model was that, since fixed lines require physical digging and laying individual lines, progress was slow. Of the Rs 14,000-odd crore that will be collected by month-end through the five-year-old USO levy on phone services, just Rs 4,500 crore is expected to be spent! Since setting up mobile phones is faster, such backlogs can now be tackled.

The lesson this holds with regard to government subsidies in general should be obvious, namely that it is unwise to get married to particular technologies or policy prescriptions—if a new or different technology or method provides the same result, it should be adopted. To extend the logic to the education sector, for instance, if privately-run schools can ensure the same or a high quality of education as compared to government-run schools, channelling subsidies to private schools is clearly a good idea. The other lesson is that it pays to try and work through the market. Instead of fixing a subsidy based on normative cost, potential service providers should be asked to do a reverse-bid on what they require to provide the same service—this is the only way to bring into play those efficiencies that are normally associated with free markets.

No longer zero

First, it contributed zero. Then, there was Ramanujan. After that, again zero. Until 2002, Indian mathematics could be summed up in three pithy sentences—zero followed by a solitary 20th century genius and not much else. Multitudes of Indians have earned reputations in fields (physics, econometrics, chemistry, bio-technology, information technology) that involve applied mathematics. Few have focused on higher mathematics itself. In the past five years, however, Indian mathematicians have published many significant papers and won several prestigious awards. The latest is the Abel Prize for 2007. The Abel, often dubbed the “Nobel Prize for mathematics”, went to Professor Srinivasa S R Varadhan of the Courant Institute of Mathematical Sciences, New York, “for his fundamental contributions to probability theory and in particular for creating a unified theory of large deviation”.

The Abel was founded in 2002 to commemorate the centenary of the Norwegian prodigy Niels Henrik Abel (1802-1829). Visitors to Oslo may recall his semi-nude statue—Abel must be the only mathematician ever portrayed thus. The award, including the cash equivalent of \$925,000 (Rs 4.15 crore), comes from the Norwegian Academy of Science & Letters, which also provides the labour pool for the Nobel Peace Prize Committee. It is more inclusive than the Fields Medal, which is restricted to mathematicians under 40.

Three months ago in December, Varadhan himself served on a Committee at the Abdus Salam International Centre For Theoretical Physics, Trieste, to award the 2006 Srinivasa Ramanujan Prize honouring mathematicians from developing countries. That went to Professor Ramdorai Sujatha of the Tata Institute of Fundamental Research for her “arithmetical algebraic varieties”. Also in 2006, M S Narasimham, a visiting professor from the TIFR, was the co-winner of the King Faisal Award (\$200,000) for

mathematical research that led to a breakthrough in quantum chromodynamics. And in 2002, three professors from the Indian Institute of Technology at Kanpur cracked an ancient conundrum, discovering a faster way to test for prime numbers. Modern encryption is based on the discovery and manipulation of large primes. So, the Agrawal-Kayal-Saxena algorithm caused a tectonic upheaval in e-transactions—it made both encryption and decryption considerably easier.

It is logically absurd to claim the existence of an Indian school of mathematics. But the golden age of Indian mathematics is reckoned to be the Gupta era, and one could claim that a modern age of Indian mathematics has now dawned. The breakthroughs have come from researchers educated in India. Many continue working here. The fact that their original work has been disseminated and acknowledged globally, augurs well. Mathematics provides the basic building blocks upon which science and technology are built. It is impossible to predict where an abstract theorem may lead. Many mathematical insights appear to have no practical applications at present. But absolute abstractions can become practically important, even centuries later. Probability theory, for example, was formulated by Blaise Pascal in order to enable better gambling. It also predicts the chance stochastic processes that underpin quantum mechanics. Boole wanted to distinguish logically between liars and truth-tellers—his logic gates are now at the heart of circuit design. An academic and socio-economic environment, which nurtures pure mathematicians, may not always yield monetisable insights. But without having the number on mathematics, it's difficult to make fundamental breakthroughs. If India is developing such a nurturing environment, its much-maligned educational system must be doing something right.



Illustration: BINAY SINHA

Foreign policy: The US turning inwards? - II

If US leaders do not learn to manage their imperial burden, the world will muddle along as it has for the past century, says DEEPAK LAL

There are disturbing signs that with the Democratic victory in the recent Congressional elections the US's foreign policy might be turning to isolationism. At least two of the Democratic contenders for their party's presidential nomination for 2008, Barack Obama and John Edwards, have openly espoused what is in effect withdrawing from foreign military engagements. How serious is this threat?

In my book *In Praise of Empires*, and in my past columns I have argued for the importance of an imperial system as being a necessary component of maintaining the global order, essential in underpinning the benign economic forces of globalising capitalism. The British, through their direct and indirect empire maintained by the global sway of the Royal Navy, provided this underpinning for the 19th century era of globalisation. The US empire, which has been surreptitiously created since the Second World War, led to the US taking over this role from a Britain weakened by two World Wars and no longer able to undertake this role. Having seen off the “evil empire”, the US has been the world's undisputed hegemon, and after the terrorist attacks of 9/11 it appeared that the US would at last take up this imperial burden in fighting what it called “the war of terror”. As the centre of glob-

al disorder currently lies in the Islamist threat posed by both state and non-state actors in Pakistan, Afghanistan and West Asia, the Bush administration's determination to grapple with this threat through a muscular foreign policy seemed wholly laudable—not least in establishing a US-friendly regime at the heart of West Asia in Iraq.

Apart from its undoubted economic strength, the revolution in military affairs (discussed in earlier columns) also promised an unmatched military dominance in which IT-based technology would allow smart weapons to be deployed. This, apart from minimising the loss of lives (particularly American) in warfare, would allow the co-ordinated use of air, sea and land based forces by dispelling the fog of war, which has haunted military commanders in the past. The military operations in both the Afghan and Iraq wars have more than fulfilled these military expectations. But it is the failure to consolidate these military gains and convincingly win the subsequent peace which has turned large parts of the US public against an imperial US foreign policy.

This failure to maintain order after military victories is closely tied, as I had predicted in my book, to two factors. The first is the unwillingness not just

of the public but of US leaders to acknowledge that they are running an empire—albeit an indirect one. The second is because of the erroneous beliefs that what I call the US “habits of the heart” reflect universal values.

Thus, take what is turning out to be an avoidable US foreign policy disaster in Iraq, because of the blunders made by the civilian authorities after the soldiers had won a speedy and virtually costless victory against what was purported to be the best army in the Arab world. Despite the plans to suborn large parts of the Iraqi army (which were successful—see M R Gordon and Gen. BE Trainor: *Cobra II*) to provide order, the proconsul Paul Bremer disbanded the Iraqi army, which took its weapons with it. The de-Baathification edict, which Bremer then promulgated, meant that the whole civil administration and health and educational systems of Iraq were disbanded at a stroke. There were no US or other substitutes provided for these indigenous institutions, which were essential in maintaining local order and public services. The list of Baghdad sites, which an official of Jay Garner's team in Kuwait had provided the army to protect (after consulting a Lonely Planet Guide and which included the national museum), never reached the forces which entered Baghdad! (See G Packer's

The Assassins' Gate.) Where previous invaders like the Mongols had speedily and bloodily established order after their conquest, the US allowed disorder to replace the undoubtedly bloody order under Saddam.

There were two unsubstantiated US beliefs. First, once people are freed from tyranny a spontaneous democratic order will emerge. Muslim states are like the US, where democracy is the natural order unless suppressed by tyrants. The second was a false analogy with the aftermath of the Second World War, where de-Nazification was followed speedily by the establishment of liberal democracies. The failure to establish order and opening up the Pandora's box of ethnic conflicts in an artificially created unitary state have led to the virtual civil war in Iraq now.

In Afghanistan, the failure to mop up the Taliban and letting Osama bin Laden escape from Bora Bora have been compounded by the US obsession with fighting the unwinnable war on drugs. Where growing poppies for opium is the major means of livelihood, preventing peasants from doing so only leads them and the illegal profits generated into the arms of the resurgent Taliban.

All these failings reflect in my view a central cultural and educational failing of the US. In a country ruled by Demos, for it to be a worldly-wise imperial power there has to be a deeper understanding of the cultures and histories of the different peoples of the world. This is sadly lacking in the US. It is not helped by the jejune outpourings of the academic discipline—international relations—which is purportedly training the US foreign policy establishment. I dealt with some examples in my book: like the dictum that the US must promote democracies as it has been statistically shown that democracies don't fight with each other—tell that to Hamas and the democratically elected president of Iran in their confrontation with Israel!

So what of the future of US foreign policy? I doubt that despite all these ominous signs the US will turn inwards. Even if it wishes to disengage, it is too powerful and so intertwined with other countries that they will not leave it alone. The US will have to continue its engagement with the world. But given its fickle Demos, the rest of the world cannot count on it providing a consistent anchor for maintaining a global order. As I said at the end of my book, if the US public does not recognise the imperial burden that has been thrust upon it, and its leaders do not learn how to manage it intelligently, the world will continue to muddle along as it has for the past century, until one or the other of the ancient imperial states—China and India—is ready and willing to maintain a global Pax.

Some contrarian views

India's unceremonious exit from the ICC World Cup has expectedly led to the airing of a wide range of views, including some hitherto blasphemous ones that now raise questions such as whether India needs to devote so much attention to a single sport; do these Indian paper tigers—notwithstanding the high-decibel pseudo-patriotic advertising campaigns from cola and credit card companies—deserve so much public adulation; and should Indian businesses really risk damaging their brand equity, not to mention their balance sheets on a sport that (in India) in recent years has come to be associated more with businessmen and politicians controlling its obscenely rich board and hidden-in-the-wood match-fixers and assorted mafiosi controlling the outcome of the matches themselves. Without trying to rationalise or patronise, I tend to agree with those who see a silver lining behind the events of the last ten days and feel that finally some attention of the public and the moneyed sponsors would be given to more “democratic” sports such as soccer, hockey and basketball, and more “individual excellence” sports such as tennis, cycling, and track & field events.

In the same vein of expressing more contrarian views, I would like to take up two major ones and a minor one. The minor one relates to the justification of the “sport” of betting itself. If newspaper reports are to be taken at face value, the cricket World Cup



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alone generates betting transactions running into tens of thousands of crores. Why should the government not legalise betting, paving the way for its corporatisation, rather than letting it be managed by the underworld and other scum of society? If horse racing and state lotteries can be allowed to flourish, why not betting? Besides making this activity open to public scrutiny, it would also generate substantial revenue for the government of India (or the state governments), which can be used—if the government desires—to improve the physical infrastructure of our sporting facilities, among others.

Now the two more serious ones. The first one has been prompted by the recent turmoil at Singur, where Tata Motors is planning to establish its much-publicised, much-awaited “Rs 1 lakh” car plant. Without going into the details of the controversy, I wonder if India really needs such a car. As we all know, the state of road infrastructure in the top 30-40 cities of India is in a shambles. The top 12 cities have traffic congestion (and air pollution) beyond acceptable

limits. Thanks to utter lack of vision and lack of competence of our (government) urban town planners, there is no provision for car parking either on residential premises or in public spaces. It may seem like a noble mission to empower middle- and lower-middle-class Indian households by giving them the dream to own a car, but in my view, the same middle- and lower-middle-class homes do not have enough private space to park even a motor cycle. Where would they park their dream cars when at home or at work or out on leisure? What would happen to the overall oil import bill of the nation? Should the state governments not be burning midnight oil to establish viable public transport systems in their major urban centres on a war footing, and then levy higher taxes on privately-owned vehicles, like in Singapore or even London, where there is an increasing incidence of congestion surcharge?

The second one, and perhaps even more serious, is our obsession with focusing on the export of all and sundry goods and services. In a situation where our population continues to grow alarmingly, where the ground and other water resources are being rapidly depleted year after year, where there is so much pressure for land for alternative uses such as industrial manufacturing and the creation of new cities to reduce some pressure on the existing ones, and where there is an urgent need to improve the qualitative and quantitative intake of food

for the billion plus population, why should the government continue to have export promotion agencies and incentives for food products including cereals, fruit, vegetables, and other sundry items? Theoretically, food exports give better realisation to the Indian farmer but in reality, the beneficiaries are largely merchant exporters and not the actual farmer. Hence, why should we not plan for some import of food products, especially from countries that heavily subsidise (using their own taxpayers' money), to take care of some of our needs and in fact consciously restrict exports of such products? At the same time, we should also very rationally be looking at substituting highly water-intensive crops such as rice and sugarcane (which can be partially imported) with crops (such as vegetables and fruits) that are more essential for balancing the nutritional needs while also transparently using some of the agricultural land in close proximity of major urban centres for enhancing the urban and industrial infrastructure. The scale and growth pattern of our economy assure that finding foreign exchange for such imports will not be a constraint.

Can we have a debate on these issues as well, once we have conducted all the post-mortems of the performance of our so-called “Team India”?

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A few weeks before he declared his candidacy for the Democratic 2008 presidential nomination, Barack Obama weighed in on Wal-Mart. Mr Obama joined an event organised by Wake Up Wal-Mart, a campaign backed by the UFCW grocery workers' union, to call on the retailer to improve its healthcare benefits. Wal-Mart, he declared, “is making enormous profits, yet it has chosen to go with low wages ...”

The senator is not alone. Of eight candidates for the party's nomination, four have attacked the retailer over its healthcare at UFCW events. In the run-up to 2008, amid anxieties over the impact of globalisation on the American middle class, Wal-Mart is set to appear as a witness for the prosecution—a low-wage employer

that uses low-cost imports to thrive, at the expense of decent American jobs. So, as the great Wal-Mart polemic rolls forwards, fed by a solid flow of anti-Wal-Mart books, Richard Vedder and Wendell Cox, fellows of the conservative American Enterprise Institute, have set out the argument for the defence.

Vedder is an economic historian and Cox is an expert on urban sprawl. Together, they range—sometimes too extensively—over issues such as jobs, prices, urban sprawl and labour conditions in the developing world. Together, they reach the “unambiguous” conclusion that “Wal-Mart has been good for America, and, increasingly, for the rest of the world as well”. They take issue, for instance, with the claims that Wal-Mart is a “job killer” and look at 25 countries where new Wal-Mart stores opened between 2001 and 2003. They find retail job growth

outstripping overall employment growth and some evidence that retail wages also rose. But the strength of the book lies in its summaries of economic evidence.

The academic consensus holds that a new Wal-Mart shakes things up—it creates some but not a lot of jobs in the immediate vicinity, while taking them away elsewhere. It does lower real wages for some people, but it also lowers prices for everyone else, making things more economically efficient, although less pleasant if you are one of those who lost their jobs.

In setting out to decide where all this leaves the average American, the authors cast themselves as disinterested investigators who are

THE WAL-MART REVOLUTION

Richard Vedder & Wendell Cox
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prepared to assess reasonably all the criticisms. But they get swept away with the kind of polemical generalisations that are the stock-in-trade of Wal-Mart critics they take to task. They assert, for instance, that Wal-Mart workers have rejected union attempts to organise them—indicating that they are happy in their work. This ignores the aggressive “union avoidance”

techniques that made the retailer the target of a series of NLRB complaints, before the grocery workers' union gave up altogether. Also, asking whether Costco, the warehouse club, may be “violating its fiduciary responsibility to its stockholders” because it makes a higher than average contribution to its workers' healthcare reflects a certain ideological bias.

Things get even more heady when the authors look overseas. Their swashbuckling approach to workers in the developing world would embarrass Wal-Mart itself—child labour in factories, it seems, is not necessarily bad and attempts to monitor factory conditions are, apparently, neo-imperialist

interference in Chinese labour law.

They also take the retailer's management to task for trying to improve its reputation on environmental and social issues. In 2005, Lee Scott, Wal-Mart's chief executive, outlined a new focus on social and environmental sustainability and argued that Wal-Mart customers do not want children in China to develop cancer from factory waste so that Americans can save 3 cents a foot on garden hose. Vedder and Cox seem appalled that Mr Scott should “sacrifice some of Sam Walton's vision for the company in order to try to placate some critics”. They argue that paying an extra 3 cents per foot of garden hose to save Chinese children from cancer “may be too high a price to pay”.

The authors principally blame the anti-Wal-Mart criticism on the unions, who have thrown their weight behind a political campaign

against the retailer having failed to organise its employees. This, they argue, is only defending a less efficient status quo, albeit one that did deliver better health benefits and higher wages to its workers.

But the book should still be required reading for Democratic politicians in the run-up to 2008, with its reminder that while Wal-Mart may have taken away union jobs, it has delivered lower prices for poorer Americans. While backing Wal-Mart might win the support of unions during the primaries, the vast majority of Democratic voters shop at Wal-Mart. A Pew opinion survey last summer found that 70 per cent of conservative and moderate Democrats, and solid majorities in other political categories, “have positive impressions of the world's largest company”. Even without reading this book.

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