

World Economy, Geopolitics and Global Strategy

Indo-US Relations in the 21st Century

In the 21st century, all major countries recognise that international trade and financial flows are in the interests of both the source and destination countries. Therefore, there is a need to promote economic relations for mutual gain. This article documents the relative economic and geopolitical position of the major countries and outlines the new challenges facing the US, and, to a varying and perhaps lesser degree, the other major countries, including India. It also gives a projection of the world economy and polity over the first half of the 21st century which helps clarify the challenges and opportunities for the US and India, and the imperatives for mutually beneficial cooperation.

ARVIND VIRMANI

I Introduction

The US has been the predominant global power or sole superpower since the collapse of the USSR at the end of the 1980s and arguably since the beginning of the 1980s [Virmani 2005e]. At the same time, the European Union (EU) has emerged as an economic rival in certain global contexts such as WTO negotiations and in certain sectors such as civil aircraft. Many member states of the EU, however, feel less constrained to support all US actions across the world, since the collapse of the USSR. The US action in Afghanistan and Iraq has also demonstrated both the military predominance of the US and its limitations in the globalised, relatively democratic world of the 21st century. The terrorist attack on the World Trade Centre in New York (9/11) has thrown a challenge to US security that will take it many decades to address. Coincidentally what are new threats and challenges for the US have been so for India for decades (jehadi terrorism, nuclear proliferation). These problems are likely to continue to confront and challenge the US for decades.

As long as China is ruled by a party based on the Leninist concept of monopoly of political power, a rapidly growing China with increasing military expenditures could emerge as another threat to the US in the coming decades. Elements of the US strategic community are therefore looking for new allies and friends. There is an increasing recognition in the US that India could be one such friend because of shared values (democracy, respect for rule of law and human rights), the highly educated/skilled and prosperous Indian diaspora in the US and overlapping (not identical) interests.¹ Much of the US establishment (political and academic), steeped in non-proliferation theology, was not however willing to end the nuclear apartheid structure that it had built to contain India's strategic advancement after the 1974 atomic test.²

Indian analysts and national security strategists were equally clear about India's world view and approach to India-US relations:³

(1) India has no extra-territorial ambitions and had never in its history tried to rule other countries. The Indian empires in

south-east Asia had no political connection with India, but were independent cultural entities. Thus the probability of India taking an offensive territorial posture after it became a global power was negligible.

(2) Because of centuries of rule by a foreign power and the humiliation of being ruled by the British East India Company the Indian elite was extremely sensitive about its independence and freedom of action. India would therefore never be a client state or a formal (inherently junior) ally of the US.

(3) A closer long-term relationship between India and the US could only be built on the principles of equality. Just as equality under law in a democracy does not eliminate differences arising from intelligent quotient (IQ) and wealth, India with 8 per cent of the per capita income and power potential of the US would be financially and technologically weaker than the US for many decades.

(4) A genuine, enduring, partnership based on the principle of equality could not be built on a foundation that patently discriminated against India, with one-sixths of world population, independent technological capability and power potential.

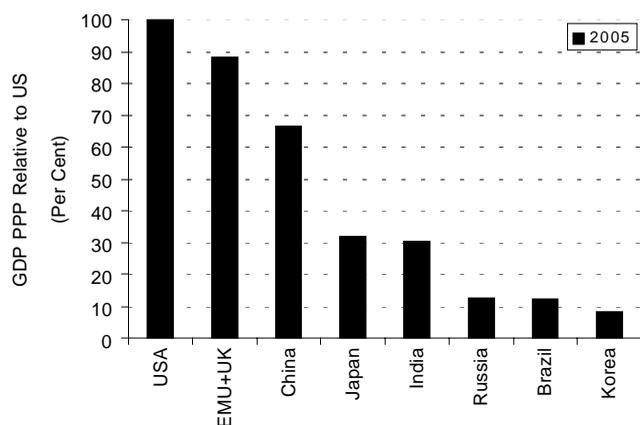
(5) A natural balance of power, based on economic size and strength, was not possible if one of the potential stabilisers (India) had its strategic hands tied behind its back while other, more aggressive countries had no such restrictions.

(6) Consequently, a removal of restrictions on "dual use" and civilian nuclear technology and materials was a prerequisite for a long term, mutually beneficial relationship between India and the US [Virmani 2004].

This message was apparently heard and accepted by the second Bush administration, because of its prior positive view of India⁴ and new/revised assessment of both the emerging challenges in Asia and of India's potential capability to meet these challenges.⁵

The new approach of the Bush administration provides India with an opportunity to advance its own national interest. One must, however, be realistic enough to remember that our short-term approach to some issues, such as Pakistan's nurturing of jihadis, may differ. This should not deter us in cooperating in areas that our respective national interests coincide. The first step in this process is to have a realistic view of the world and India's

Figure 1: Distribution of World GDP – Large Countries Relative to USA



role in it. The second step is to define what we need to do to enhance our chosen role in the world. The third step is to determine what strategic technology and assets we need and can get from the US, Russia and France, etc, that will accelerate the process of attaining these objectives. The role of diplomacy then is to get the best deals available from any source to further our national interest. The fourth step is to ensure that we develop on our own those technologies and assets that are necessary for attaining our strategic objectives and that none of them is either able or willing to give to us.

There are no free lunches in the world of diplomacy and national power. The USSR veto on Kashmir in the United Nations Security Council (UNSC) and the Indo-Soviet friendship treaty's insurance against a second front during Bangladesh liberation, came at the cost of explicit or tacit support to the USSR's suppression of eastern Europe (Hungary, Czechoslovakia) and its invasion of Afghanistan. China's freedom for unlimited export to the US and other Organisation for Economic Cooperation and Development (OECD) countries requires it to cooperate with the US in the UNSC. All cooperation entails a mutual adjustment and a mutual gain. Though India's governments have not been strangers to the truth propagated by Kautilya, pure hearts sometimes confuse personal sentiment and individual morality with national interest. Global powers like France in the 18th century, UK in the 19th, the US in the 20th and China in the 21st do not make such mistakes. They pursue their national interest without sentimentality and without being bound by personal morality, whatever the (above the surface) rhetoric.

The next section documents the relative economic and geopolitical position of the major countries. Section III outlines the new challenges facing the US, and to a varying and perhaps lesser degree, the other major countries, including India. Section IV gives a projection of the world economy and polity over the first half of the 21st century. This helps clarify the challenges and opportunities for the US and India and the imperatives for mutually beneficial cooperation. Section V concludes the paper.

II

Unipolar World with Multipolar Fringe

We start by looking at the world today five years after the start of the 21st century, first in terms of the world economy and then in terms of geopolitical power.

Multipolar World Economy

The economic importance of a country can be measured either by its share in the world GDP or by its ratio to US GDP, the largest economy in the world. Any such comparison of economic size is valid only in the real term that is using the same set of prices to weight different baskets of goods. The closest approximation to this is the GDP measured in purchasing power parity terms.⁶

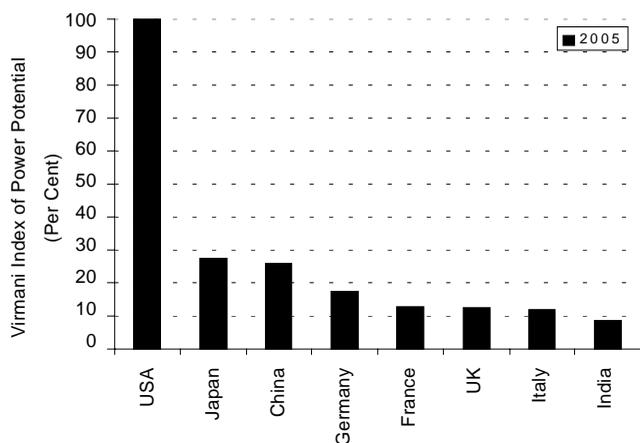
One contentious issue is whether to treat the constituent countries of the EU as individual nations or to consider one single entity called the EU. Strong supporters of the EU in the European academic community assert that 70 per cent of the economic decision-making of these states is in the hands of the EU based in Brussels rather than in the individual nations.⁷ We observe that the EU does operate as a "virtual state" with a common EU view in the context of the WTO negotiations. However, in other contexts such as the World Bank and the IMF, individual nation states continue to play a role, though there may be a large degree of coordination so as to present a common viewpoint. Giving the benefit of the doubt to the EU optimists we can treat the EU as one economic entity. We approximate this entity by the European Monetary Union (EMU), which is indeed much more closely integrated with respect to financial policy, plus the UK.

The US GDP was about 21 per cent of world GDP at purchasing power parity (PPP) in 2005 (down about 1 per cent point from 1975). Figure 1 shows the distribution of economic size among the largest economic powers relative to the US. This figure suggests that the world economy may indeed be considered multipolar today. The size of the EU economy is almost the same as that of the US, while China's economy is 66 per cent of that of the US.⁸ The US, the EU and China therefore have approximately the same size. Japan and India, though half the size of China, have enough bulk relative to the US to count in the world economy especially if they can build coalitions and/or represents the aspirations of other countries. India, a low income country having a large fraction of the poor in the world can clearly play a credible role as the spokesperson/representative of the low income and lower-middle income countries as it has done recently at the WTO ministerial in Hong Kong. Thus an argument can be made that the global economic scene is multipolar rather than unipolar, bipolar or tripolar.

Unipolar Power Structure

The state (geopolitical) power is the "extent that (one) effects others more than they affect [one]" [Waltz 1979]. It is therefore a "combination of its capacity to resist the unwelcome influence of others and conversely to influence others to behave as it wants them to". The geopolitical power depends on economic strength, technological capability and military power. Virmani (2004, 2005a) has developed an index of power potential (VIP²) that combines economic strength and commercial technological capability. This is an approximation of the actual power of nation states that depends on additional factors such as strategic technological capability and assets.⁹ It is difficult to treat the EU as a "virtual state" because in the context of global security and foreign relations each member state is individually represented in every country as well as in the World Bank, the IMF and the UN organisations and acts in

Figure 2: Distribution of Power Potential (VIP²)



its own interests. Even passionate academic supporters of the EU do not claim that it is currently a virtual state but are very hopeful that it would become one in 20-25 years. We, therefore, consider only nation states in this context of global power politics.

The distribution of power potential as measured by the VIP² is shown in Figure 2. The figure suggests that the world is currently “unipolar with a multipolar fringe”. And the US is clearly the “sole superpower” and others a “constrained hegemon”. The second and third ranked powers, Japan and China, have a little over one-fourth the power potential of the US. According to Virmani (2005c) a cut of value of 20 per cent for the VIP² can be used to define a potential global power. Germany the fourth ranked power has only 17 per cent of the power potential of the US and is thus no longer a global power (according to this definition).

According to Virmani (2005e) actual power depends on both power potential (VIP²) and “strategic assets (military, aero-space, nuclear)”.¹⁰ If we account for strategic assets, the actual power of the US vis-à-vis all the countries shown in Figure 2 would be even stronger, while that of Japan and Germany would be much weaker. One indicator is that US defence expenditures are currently more than the sum of the defence expenditures of the next 25 powers. The relative position of Russia (not shown as it is 50 per cent less than India) would however be stronger relative to the other countries, including India and Italy, because of its much larger stock of strategic assets. Thus at the current time it is quite clear the world is unipolar, though there are a number of middle powers that constitute a poly centric fringe that are competing with each other for a distant second position.¹¹

The strategic technological capability and assets of the US are far in excess of those of the other powers.¹² One way in which this manifests itself is the use by European and Japanese military/strategic equipment of critical parts or sub-assembly originating in the US over whose transfer/sale to other countries the US exercises an absolute control. It can plausibly be argued that the US strategic capability is currently equal to or greater than that of all the other powers put together. France, Russia and other countries have strategic technological capabilities in certain areas that match those of the US. But, there are also many areas in which the strategic capabilities of the US are more than a decade ahead of each. India is on the other end of the scale. Despite India’s capabilities in the nuclear and space field, its overall strategic assets are currently a fraction of those of France and

Russia. Thus it is necessary to accelerate an acquisition of strategic technology, skills and critical equipment and materials to move India closer to the global frontier. This requires a two-pronged acquisition strategy:

(a) Where more than one country possess the strategic capability, competition between suppliers should be used to procure the best technology in terms of benefit-cost ratio (appropriate quality-price trade-off).

(b) When only the US has the technology, we must identify critically needed technologies, equipment and materials and procure these from the US through strategic cooperation. This may sometimes require a degree of determination and persistence (even pig headedness) about which we must not be squeamish (in the interest of the nation). No country, even a strategic partner will hand us anything on a platter.¹³

These technologies must then be internalised, adapted to our conditions and used as a base for further development (R&D).

III

New Challenges and Opportunities

The last five years have thrown up new challenges for the US, the sole superpower/constrained hegemon since 1990, and new opportunities for India, which has been facing some of these challenges for decades. Their impact on Europe, Japan and Russia were mixed, throwing up new challenges and opportunities.

Proliferation and Failed States

The weapons of mass destruction (WMD) acquire a specially menacing aspect when they are in the hands of either failing states, failed states or “rogue” states that have no stake in the modern world and its interlocking system of trade and investment. Taliban Afghanistan with access to proliferating scientists in Pakistan and North Korea, who in turn had access to Chinese technology and materials, fell into this category.¹⁴ Pakistan, the primary destination as well as source and major conduit for nuclear proliferation during the 1990s, seemed to be slipping into the failed state category around the time of the US intervention in Afghanistan. It has now reversed the process and recovered considerably though the fundamentalist Frankenstein created by it continues to thrive. There is therefore a possibility of leakage of WMDs to fundamentalist and a fundamentalist challenge to army power and authority, particularly if the US leaves Afghanistan before a moderate regime is firmly in control of the entire country.¹⁵ Though India has faced the challenge of Pakistani WMDs (nuclear weapons and missiles) for more than a decade, the new found concern of the US about WMDs is welcome and should be used for joint planning and action wherever this is in mutual interest.

India is a close geographical neighbour of many of the heavily populated states that are potential candidates for failure. India with its manpower, military and strategic capability is one of the few countries that can build up the capability to intervene in an explosive situation with the help and cooperation of the US. It is also quite possible that India’s judgment about which states are failing or rogue states may differ from that of the US. Clearly joint action should occur either when our interests coincide or when additional strategic benefits make the benefit-cost ratio to India sufficiently positive.

India has been coping with cross border terrorism since 1980. In the 1990s this cross border terrorism increasingly took on a fundamentalist jehadi character as it targeted Jammu and Kashmir. In the 2000s this cross border terrorism appears to be spreading to the whole of India and has diversified its bases from the west to the north and east, though this may be partly a tactical move by the controllers/handlers/planners across the border.

The US and the west was rudely shaken from its supreme indifference to this phenomenon by 9/11. Their great concern is the global nature and reach of this terrorism in contrast to the national or subnational terrorism seen in earlier decades. This terrorism though merely a limited (fundamentalist and violent) offshoot of Wahabi/Salafi Islam assumes a global character because it seems to rest on the foundation of belief about a Muslim ummah that is above the nation states. It is therefore a threat to many democratic countries with substantial Muslim populations, as well as to the US, which arouses particularly strong emotions among Arabs for its support to Israel's policy towards the Palestinians. The post-9/11 over-reaction by some US authorities has reinforced negative emotions among Muslims.¹⁶

The Indian experience of externally financed and orchestrated terrorism since 1980, the experience of political integration of Indian Muslims into the democratic mainstream is a valuable example for other countries. Further, India is at the geographical centre of the Islamic world with Bangladesh, Indonesia and Malaysia to the west of India and Pakistan, Iran and west Asia and central Asia to the north-west. Historically its was also one of the intellectual centres of Islamic thought (Deoband). There are therefore areas in which India's and US' interests coincide just as there are obvious areas in which they currently differ (Pakistan).

There are however new threats that may limit the extent of cooperation. The external financing and propagation of Wahabi education, Babri masjid and Gujarat riots have planted the seed of discontent that the ISI and other agencies are all too happy to exploit. Thus India has to be extremely careful and cautious in actively supporting military action initiated unilaterally by the US in or against Muslim countries, while being open to jointly determined and managed military interventions against terrorists.

Rise of China

As China is ruled by communist party, its phenomenal growth rate has raised concern among political leaders in the western democracies; given the limited respect such parties have historically had for human rights and the rule of law. A few analysts and leaders have also started worrying about the future imbalance of power in Asia. China's proliferation of nuclear weapons designs and critical technology/equipment/materials to Asian friends (Pakistan and North Korea) and indirectly through them to other countries (Libya, Iran, Syria/Saudi Arabia?) has heightened these concerns.¹⁷ The most recent example is the supply of cruise missiles and its technology to Pakistan in 2004-05.

To what extent can a country that has, (a) for decades tried to undermine its southern neighbour's security and indirectly stymie its rise as a regional power, and (b) exploited its modernised and democratic eastern neighbours' guilt about second world war

to keep it from converting its global power potential into actual power, be believed when it talks about its own "peaceful rise?" Its actions over the next decade will show its real intentions (the proof of the pudding is in the eating). If China supports India's case for access to peaceful nuclear technology at Nuclear Suppliers Group (NSG),¹⁸ supports its case for a permanent veto bearing seat on the UN Security Council and accepts the concept of an inclusive Asian economic community, then its statements would acquire greater credibility.

The US along with Japan has sufficient power to ensure a balance of power in Asia, in the next couple of decades. In the long-term (around mid-century), India is the only country that has the potential to sustain the balance of power in Asia [Virmani 2005b]. The medium-term situation is marked by a great deal of uncertainty and there is a danger that the independence and freedom of action of the smaller states of Asia would be seriously compromised or constrained if the balance of power in Asia was disrupted. This uncertainty can be reduced by accelerating the growth of India's economy and enhancing its strategic capability, thus ensuring a better balance of power in the interregnum.

China's demand for oil and mineral imports is rising rapidly. Its share of world imports of natural resources including oil is likely to rise over the next two decades. As oil, uranium and certain other minerals are owned by US, Canadian and other western countries or their multinational companies, the Chinese are concerned about this increased vulnerability. This perceived vulnerability is sought to be minimised through the purchase of natural assets in other countries. The initial steps in this direction have already raised serious concern in the US and lesser concerns in Canada and a few other western countries.

High rates of saving and reinvestment by its socialist enterprises give China the ability to purchase global assets through such enterprises. Suppression of private consumption by channelling private savings into banks and from there into loss-making socialist units assists this process. China's share of the world's natural resources (oil, minerals) owned and operated/managed by Chinese socialist enterprises is therefore likely to rise over the next 20 years. This will increase China's power/influence over natural and agricultural resource rich countries such as Australia, Iran, Saudi Arabia, Indonesia, Malaysia, Thailand and the natural resource rich countries of Africa and Latin America. High socialist saving rates could also lead to purchase of hi-tech companies and brand icons in the developed world arousing concerns and counter-action in the US and perhaps in other countries.

In contrast, Indian corporate purchase of western companies is viewed as being much more benign, as it is not driven by any national/government geopolitical design. A positive relation with the US will also allow greater freedom to the Indian public sector oil companies to purchase oil assets abroad.

US Economic Risks and Hedging

Education: A developed country like the US can maintain its growth rate only by keeping up the pace of innovation and technological change ("commercial technology"). This depends on, (a) the institutional/market structures for innovation, (b) the level and quality of higher education including associated research, and (c) the average level of education of the population/labour force. The first and second, which also form the foundation

on which US leadership in “strategic technology” is built, are unmatched by any other country and are likely to remain far superior for many decades. The greatest weakness is in the average level and quality of education, particularly in maths and sciences, which (uncorrected) may decline further as the share of Hispanics in the population rises, given the latter’s lower average educational attainment.¹⁹ The average education level and quality of maths/science education of many Asian countries is already superior to that of the US. Though the US government and elites will make an effort to raise the level, there is a significant probability that other countries will catch up and eventually exceed the US. China with its flexible, open (to FDI), pragmatic and result-oriented policy is likely to catch up in a few decades. Given its population/labour force size, this represents a competitive economic threat to the US, in a way that the higher educational attainment of smaller countries do not.

Though India could follow with a lag, its rigid education policy structure and deteriorating state-dominated and bureaucratically-controlled education system makes it unlikely to do so unless fundamental reforms are carried out.²⁰ A new education policy framework and regulatory system that allows and encourages private and foreign educational institutions (non-profit and commercial) to provide quality education at all levels, could rapidly increase the supply of education to meet anticipated demand increase [Virmani 2005e]. India’s past attainment in higher education, respect for intellectual property, rule of law and its legal system also make it a more reliable and trustworthy partner for collaborative efforts in many areas of medium-high skill labour-intensive R&D. Such partnership can help the US maintain its technological edge vis-à-vis EU, Japan and China while simultaneously helping India acquire technological skills and capabilities at a much faster pace.²¹ Thus if we can reform our education policies and regulations expeditiously, there is enormous scope for export of educated personnel and for mutually beneficial cooperation with the US and other advanced countries in developing commercial technology.

Strategic Technology

Because of the new threats from non-state actors, failing states and their secret supporters, US dissemination of strategic technology is in the process of becoming even more restrictive than before. Even a close US ally like the UK has complained that the US is denying it access to strategic technology developed under a joint fighter development programme. This is because US is unsure whether even an ally such as the UK, which is a part of the EU, will never pass on technology embodied in physical capital to potential adversaries.²² Under the new National Security Strategy, frontier (F) strategic technology is likely to be denied even to allies.²³ Allies and partners of the US may get access to one generation old (F-1) strategic technology, while others will have access only to two generation old (F-2) technology. India’s developing strategic relationship with US will put it in the second category, with access to F-1 technology. We should, however, attempt to access, pre-frontier or F-1/2 technology, particularly, in the areas that will help us meet the non-conventional threats that are motivating the new US strategy. This requires that we position ourselves to contribute technologically to the US development of frontier (F) technology. This may be possible in the areas such as software and information systems and nuclear technology.

Globalisation has increased economic interdependence and thus increased the costs of war and open conflict between major powers. Unlike during the cold war no country stands outside the global economic system or desires to create a separate parallel system independent of the developed countries, the US, Europe and Japan. The degree of interdependence of China (the putative rising power), as well as of other big countries such as India, Russia and Brazil, with advanced/rich countries has increased progressively and is likely to continue to do so. Global trade and capital flows have risen over the past few decades. China’s trade surplus with the US and its accumulation of US government debt creates mutual dependencies. China’s dependence on the US market is matched/countered by US consumer’s dependence on cheap (sometimes subsidised) exports. Even FDI and equity flows from one nation to another instead of creating dependence of the recipient on the source, create mutual inter-dependence. Thus US, EU and Japanese FDI investors in China are among the strongest geopolitical defenders of China in these countries as the profitability of their investment would be affected by any conflict and would be at risk of expropriation in the event of war. Conversely China’s integration into the global economy (high trade share) and its dependence on FDI, particularly export-oriented FDI, makes it less likely to initiate war or open conflict with countries that receive a major part of its exports or are the source of its FDI.²⁴

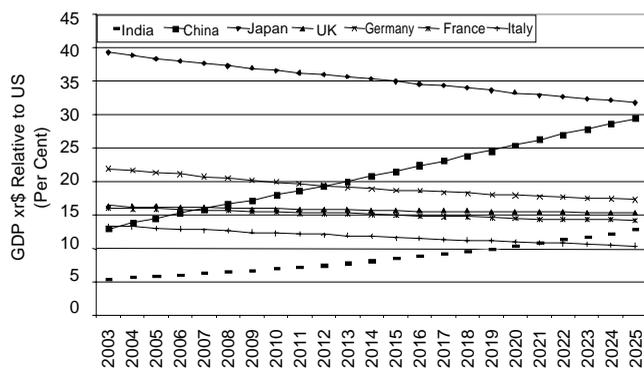
Similarly, China’s large holding of US government debt (\$265 bn or 12 per cent of total) creates interdependence.²⁵ Historically, large public debt and inability to borrow to finance wars has been the reason for the sudden demise of a great power. The US has demonstrated during the Clinton administration that it can solve its government debt problem with relative ease when it politically decides to do so. In my view it can just as easily do so in future when the need arises. There are, however, a few analysts who believe that political consensus on the means to do so will be much more difficult in future.²⁶

One upshot of this rising dependence of the US on China (even though mutual) is that a prudent US government would like to reduce the risk of such dependence through diversification. India provides an ideal hedge to overdependence on China, in terms of opportunities for FDI, equity and debt flows, trade and transfer/sale of technology. To become a true safe haven for the US vis-à-vis China, however, we need a major reform of our policy, rules and procedures to make them “non-corrupt” investor friendly.²⁷

Energy and Environment

Energy supply (prices) and environmental degradation are two global threats that affect all countries though to different degrees and with different consequences. Environment quality (e.g., air) is a superior good that is inherently of greater value to richer people (and countries). Rising energy (oil and natural gas) prices will in contrast have greater negative impact on poor people (and countries). The projected rise in energy demand from China, US (EU, Japan), by accelerating the rise in prices is therefore likely to slow the rise in average income of all energy deficit countries like India. Greater use of nuclear power can moderate the rise in energy prices. As the rise in India’s energy demand will start impacting the world demand significantly only in a couple of

Figure 3: Conventional Wisdom about China and India



decades, the immediate freeing of India's access to uranium and to global nuclear technology, can ensure (given the gestation lags) that the impact of India's rising demand for energy will be minimal. There would also be an additional bonus to the US and other rich countries in terms of reduced output of greenhouse gases and pollutants (e.g., from coal).

Democratic Limits to Military Power

In the 19th and 20th centuries great powers could undertake military campaigns against foreign countries and occupy other nations relatively unfettered by public opinion. The spread of democracy and human rights in the 20th century and the globalisation of information impose limits on the unilateral use of military power by democracies. Democratic countries are severely constrained in their use of fatal force against peoples even those who are citizens of a hostile/enemy nation. Use of murder and torture by a democratic state against its own citizens is banned and is normally unacceptable even in times of conflict or war. Globalisation of democratic values has made such action by a state against the citizens of other democratic countries largely unacceptable. These internal and external democratic pressures limit the power of even militarily strong states to use indiscriminate force, over a prolonged period of time, against opponents when passive civilians (particularly women and children) are likely to be killed or maimed. This limits the ability of a militarily strong nation to occupy another country (whose population does not accept such occupation as legitimate). This has been amply demonstrated in Iraq, where US military victory over the Saddam Hussein's armed forces has been thwarted by individual insurgents that operate among the general public. Even a traumatic event like 9/11 cannot indefinitely sustain democratic support for Guantanamo and Abu Ghariib type of dirty war in the 21st century. Thus, even the US at the height of its power, perhaps the strongest military super power in history, is limited by its own democratic system and the democratisation of the world.²⁸ In this context, the US has aptly been referred to as a "constrained hegemon".

The US therefore, needs to garner democratic support from across the world, particularly from other democratic countries, to sustain its own and global public opinion in the 21st century conflicts. The support of democratic India constituting one-sixth of the world population (projected to be the most populous country in 25 years), can therefore, be vital in shaping global public opinion on military actions against common threats like Jehadi terrorists, failed states, WMD proliferation and aggressive non-democratic/dictatorial states. At a practical level the US and

India will have a different hierarchy of specific threats to each and the general unity of purpose must be translated into a clear understanding of individual threats to each country. This will ensure that any Indian support for US actions against threats that are of greater importance to it are balanced by US help and support for Indian action against those threats of greatest importance to it. Without such understanding and mutual support, a supportive public opinion cannot be maintained indefinitely for another country's use of fatal force.

IV Emerging Scenario

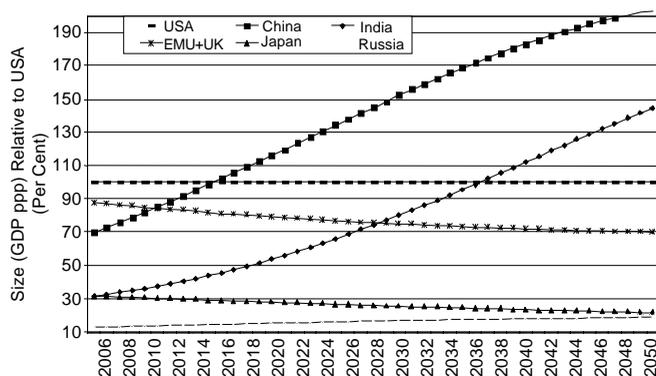
Conventional Wisdom Circa 2004

The CIA by itself or through various think tanks in the US is known to analyse the development of the world economy and its impact both on the US economy and on its global power. Declassified reports have also periodically appeared on the official web sites and in the press based on these studies. The conventional wisdom as of early 2004 (CW2004) was very similar to that represented in the following figure. Figure 3 shows the GDP in local currency and prices of the large countries converted to US\$ value using the exchange rate prevailing in 2003 as a proportion of US' GDP. The GDP of each country is projected over the first quarter of the 21st century using the author's projections of the real growth rate of these economies.²⁹ Real growth rates can be derived either from GDP at constant prices in local currency units or from GDP at PPP at constant prices, and analysed and projected forward based on historical comparative data.³⁰ The application of these real rates to GDP at current exchange rates and their projection and application to the same gives incorrect results for the future. It is nevertheless presented here for comparability.³¹

Figure 3 brings out elements of the conventional wisdom (CW), namely, the rise of China's economy and the slower rise of India's economy as well as the relative decline of Japan.³² The implications drawn by the rest of the world (CW) was that for the foreseeable future (i.e., next 20 years) China is not a competitive challenge to the US, though it may be for Japan and the advanced European countries (Germany, France and UK). It was also believed/hoped that the contradictions between a relatively free market economy and a very closed political system would manifest themselves in a gradual political liberalisation and movement towards democracy.³³ Thus, most US and many European analysts believed till early 2004 (and many still believe), that US geopolitical predominance in the world would remain unchallenged during the first half of the 21st century. The same analysts also thought of India's development and rise as a global power, a very distant prospect. It was therefore (as per CW2004) not to be taken very seriously as an Asian power, much less a global power. The only exception were the neo-conservatives in the US, particularly those that were part of the group of "Vulcans" who advised the Republican candidate George Bush, some of whom envisaged India having 15 per cent of US GDP by around 2025 and thus becoming a "swing state" in the Asian/global context. The CW, with minor variations, appears still to be the predominant view in the US as revealed through comments on the signing of historic nuclear agreements between the two countries in July 2005 and March 2006.

Virmani (2004) showed that such projections using GDP at current exchange rate as the basis for comparison gave an incomplete and misleading picture about the rise of China and

Figure 4: Quadripolar or Multipolar World Economy



India. A new CIA report in December 2004 also contradicted the existing CW by naming India as a potential stabilising force in the balance of power in Asia.

A New View 2005

Virmani (2005a, 2005e) has projected the economic size and power of the large countries into the future (Figures 4 and 5 and Tables 1 and 2). These should be viewed as the author’s estimate of the mean or most probable scenario (with a probability of about 0.75). Other scenarios presented by different scholars, such as, (a) A dramatic slowdown in China’s growth rate, either due to pressures for democratisation or to internal disturbances because of rising inequality, (b) A higher growth trajectory for China than observed historically in the fast growing countries of east Asia, is not ruled out but is judged by us to have low probability. Similarly for India, a deceleration in growth due to weakness/deterioration in governance or faster growth due to accelerated reform is also possible but is judged to be of low probability.³⁴

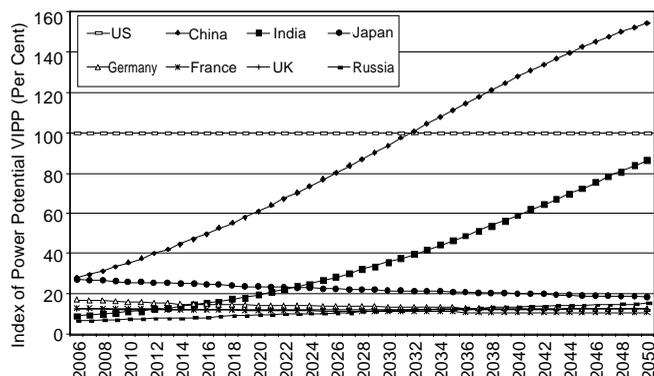
Future of World Economy

The US share of world GDP (at purchasing power parity) will decline from about 21 per cent to between 16 per cent and 17 per cent by 2050. Figure 4 and Table 1 show that the multipolar or polycentric nature of the world economy will be enhanced over the next two decades with the US, the EU and China being joined by India as a major economic pole. Russia will join relatively reduced Japan as a significant economy in a reasonably non-concentrated economic system. The economic and technological competition between the US and the EU would therefore continue and perhaps intensify.

China’s economy will become larger than the US’ around 2015. The economic competition between China and the US will therefore rise sharply over the next decades. China will also be looking actively to acquire technology, both commercial and strategic from the US and the EU to strengthen its economic and strategic capability. This search will heighten progressively and become intense after China reaches upper-middle income level in a decade and will reach a peak after China becomes a high-income country in about three decades.

The Indian economy will become larger than the US in about 30 years (Figure 4 and Table 1). India will transit from being a “low income” to a “lower-middle income” country within the current decade, but will take a couple decades after that to reach

Figure 5: Emerging Tripolar Power Structure



“upper-middle income” level. It therefore poses the lowest competitive threat to the US and the EU from among the current and potential economic powers. Given the evolution of global demographics with declining and aging labour force in the EU and a shortage of young educated/skilled labour in the US and a corresponding acceleration in the labour force growth in India and the availability of young knowledge workers, the latter could also be the best partner for the former.

As the US will no longer be the largest economy in the next decade, it is useful to recalibrate the picture by measuring the smaller economies relative to China. In this case the global economy would be better described as quadripolar in 2025, as Japan would be one-fifth of the size of China’s economy. In this projection (based on the data available in 2004), the Russian economy is about the size of Japan’s by 2050. A sharp rise in oil prices over the last year and a half has raised the size of its economy relative to Japan. It is also possible that rising prices of oil over the next several decades and the increased demand for raw materials will give a further boost to the Russian economy relative to Japan’s. It is therefore within the realm of possibility that Russian economy will become larger than that of Japan earlier than indicated in Figure 4.

Geopolitics: Emerging Tripolarity

Virmani (2005c) index of power potential VIPP² is used to derive the future power potential of the large countries (Figure 5 and Table 2).³⁵ According to this projection China would become

Table 1: Relative Size of Large Countries, Current and Future (Per cent)

	GDP PPP Relative to US				
	2005	2015	2025	2037	2050
US	100	100	100	100	100
China	66	98	134	175	203
Japan	32	29	26	24	21
India	31	44	66	102	144
EMU+UK	88	82	77	73	70
Germany	20	18	17	15	15
France	15	14	13	13	12
UK	15	14	14	14	14
Italy	14	12	11	10	9
Spain	9	9	9	9	8
Russia	13	14	16	18	19
Brazil	12	12	11	11	11
Korea S	8	10	12	13	13

Note: Under alternative scenario, Brazil’s ratio could rise to 14 per cent. Source: Author’s projections based on data from UN and World Bank (WDI).

a potential great power by 2020 with its power potential equalling that of the US by 2030 and the world would become bipolar between 2020 and 2030. China may therefore challenge US power in Taiwan and the South China sea, through economic inducement and pressures, as well a build up of naval forces, military and strategic assets. In the absence of any countervailing power a communist party ruled China may be emboldened to undermine the power of India and Japan, encourage migration into Russian Siberia, put pressure on Taiwan to surrender its freedom and unilaterally exploit the resources of the South China sea. The period between 2025 and 2040 could potentially be a period of power imbalance in Asia and heightened risk for all of China's neighbours.

As per these projections, India will become a global power by 2020, and a potential great power between 2030 and 2040.³⁶ With three great powers the world could become tripolar as early as 2035 and is highly likely to become tripolar by the middle of the century. Of the three poles US, China and India the last is expected to be the weakest pole. If the EU becomes a "virtual state" some time after 2025 it would be a fourth "great power" making it a quadripolar power structure in 2035. It is unlikely that either Japan or Russia would have sufficient power relative to the US/China for the world to be called multipolar.³⁷

Even with the optimistic assumption (from the US perspective) that the US-Japan alliance will remain strong, there is a significant probability that the US will be forced to accommodate China's interests in the east and south-east Asia and surrender its primacy. This is less likely to happen if the democratic nations of Asia partner the US in maintaining the balance of power in Asia. The US-India cooperation in strengthening India's strategic capability and overall power is thus in the interests of both countries. This would also help preserve the independence and freedom of action of India as well as the other countries in Asia. Ideally, the US and India should work towards a situation in which the period of bipolarity is shortened or eliminated.

Though some analysts have asserted that a bipolar geopolitical structure is more stable than a tripolar one, this is valid only if all three are completely different from each other. It is not necessarily true of a tripolar structure in which two poles share the same human and democratic values while the third pole has little respect for these values. Two independent democratic poles are more likely to ensure the rule of law and respect for human rights, while deterring the non-democratic third pole from aggressive or adventurous foreign policy. By this reasoning the existence of a fourth pole (the EU) that shares the same human, democratic values of two of the other three poles, would add to global stability and increase the probability of a peaceful world, rather than increasing instability. This does not, however, rule out an economic and technological competition among the democratic poles, nor does it ensure that they would always cooperate in propagating the rule of law, democracy and human rights. Depending on national interest, they may do so in some countries but not in others. They are, however, very unlikely to engage in an open conflict with each other.

V

Globalisation of National Security

The changing role of India in the global environment requires a change in the institutional arrangements and approaches that we have for interacting with the current and potential global

powers as well as with other countries and regional organisations. Over the next decade or so we have to change our approach from one in which we react to the actions of other more active and hyperactive countries to one in which we try to influence the policies of others. We need to bring about a greater conceptual clarity to our foreign policy and revamp our international intelligence capabilities. We also need to ensure that the rise in the "actual power" of India is commensurate with the rise in "power potential", by developing a comprehensive approach to the strategic technology. Among the changes needed are the following:

Foundation: Internal Security

The most fundamental role of the state or the government that claims to govern it is to provide security of life, limb and property to all its citizens. The state is defined by its monopoly over violence. In return, it must provide physical security to all. Only the latter can legitimise the former. The rule of law is a basic foundation of a modern market economy. It is a prerequisite for development and equitable economic growth. A country that cannot ensure the rule of law and public security within its borders cannot become a global power. The writ of the government must be established over the Naxalite-dominated interiors of the country and lawlessness (kidnapping and murder industry) eliminated from the states/regions where it has become prevalent, because of the abdication of responsibility by the political rulers of these states and the gross failure of governance. Given the limited capabilities of the governments in these states/regions, they must focus on the universal provision of the basic public goods (and quasi-public goods) such as police, courts, roads, (water) aquifer development and management, public health, primary education, civic/urban planning and public utilities, connectivity, access to information/knowledge. Citizen's organisations (NGOs, non-profit organisations (NPOs)), the media and the higher judiciary should focus their public efforts on increasing the accountability of the rulers/administrators with respect to these basic and essential functions of government.

Foreign Policy Constructs

If India is to play the balance of power game to its advantage, the perspective planning functions, intellectual effort/output, information/knowledge base and training systems for operational personnel must be reoriented and strengthened. Similarly, the

Table 2: Power Potential of Nations (Relative to US)
(Per cent)

	Virmani Index of Power Potential: VIP ²				
	2005	2015	2025	2040	2050
US	100	100	100	100	100
Japan	27	25	23	20	19
China	26	47	77	128	154
Germany	17	15	14	13	13
France	13	12	11	11	11
UK	12	12	12	12	13
Italy	12	10	9	8	7
India	9	15	27	59	86
Spain	7	7	8	8	8
Russia	6	8	11	13	15
Korea S	6	8	10	13	13
Brazil	6	5	5	4	5

Note: Under an alternative scenario, Brazil's VIP² could rise to 7 per cent. Author's calculations based on projection given in Table 1.

conceptual basis of our foreign policy approach to our regions (south Asia, east and south-east Asia and west and central Asia) must be widened and developed with greater sophistication.

To illustrate, if we define south Asia as the land mass from Afghanistan to Myanmar plus the Arabian Sea, Bay of Bengal and the northern Indian Ocean, our foreign policy objectives regarding south Asia could be defined as follows:

- (a) To create a south Asian economy that is regionally integrated, globalised and fast-growing. This requires good quality multimodal transport infrastructure and communications within the region and with the rest of Asia and the Indian Ocean littoral.
- (b) To have a south Asia in which all citizens are educated to the best of their ability, progressive, fully empowered with respect to human rights and modernised yet grounded in their great cultural/religious heritage.
- (c) To make south Asia a terrorist-free and terrorism-free zone.
- (d) To ensure that there is no proliferation of WMDs from this region to others (and from one country to another within the region).
- (e) To ensure that countries from outside this region do not proliferate WMDs to this region (i.e., clandestinely violate their freely/voluntarily entered international treaty commitments).

Once the goals are enunciated they should be discussed with powers who share our democratic principles and goals and who can influence the other countries of this region. Our diplomacy must persuade them that such a south Asia is in their own long-term interests even though short-term interests may differ in some respects. A short, medium and long-term plan of action must be drawn up and jointly implemented to achieve these objectives.

Global Intelligence

The Subrahmanyam committee long ago recommended the revamping of institutional structures for intelligence collection, integration, analysis and assessment and others have reiterated these recommendations since then. This becomes even more imperative in the changing context. Modern technology must be introduced to upgrade and widen the intelligence network (satellite, internet, radio waves) while strengthening the traditional methods of human intelligence (e.g., foreign language training). We must develop an extensive capability for covert action to address asymmetric threats from non-state actors, fundamentalist terrorists, their handlers/controllers/motivators/financiers.

Strategic Technology and Assets

Strategic technology and assets (major defence platforms (like submarines, fighter aircraft), nuclear and aerospace technology, robotics, communication (interception/eavesdropping), internet (pattern recognition), radar (stealth, ECM)) are critical to India's becoming a global power in the next 15 years or so. This requires better planning of procurement and development of strategic technology and an integrated view across different organisations and departments currently engaged in them. The issues like the nature and amount of offset purchases and the trade-offs between acquisition and development would have to be addressed. Attention has to be given to the specialised education and training of scientists and technicians (perhaps inhouse) in nuclear, space, oceanic and other technologies. The National Security Council should have a special wing that carries out the planning and monitoring of the development of strategic technology and skills.

Defence: Flexible Response

The nature of the challenge facing India has been evolving over the years. The nature of constraints under which defence and foreign policy operate will also change – some will loosen and others will tighten. As open violent wars between major powers becoming increasingly unlikely, those who wish us ill have developed indirect means of undermining our security. We need to increase the range of options available to us to attack the source or fountain head as well as to pay back in the coin that they choose to use or which are more cost-effective from our perspective and reduce the potential adversary's benefit-cost ratio. This requires a sharp increase in capability for unconventional warfare and unconventional means of defence. A wider range of options must also be developed and/or enhanced for dealing with asymmetric threats from non-state actors, fundamentalist terrorists, their handlers/controllers/motivators/financiers.

Economic Interdependence

In this age of globalisation the size of the market you offer for other countries' exports is a measure of the (actual or potential) influence you have over them. It is easier to switch most imports from one country to another than to switch exports from an established buyer/country to others.³⁸ Thus, paradoxically the size of a country's imports is a better measure of its economic power over others than the size of its exports. In some cases the latter can even be a source of dependence and weakness in terms of power relations.

In 2005, the US imported 16.1 per cent of the world's merchandise imports, ranking it as the biggest importer of goods. It is therefore the largest market for global exporters and exporting countries and this is a factor in the economic influence and power that it has over others. The share of the second largest importer, Germany at 7.2 per cent was about 45 per cent of that of the US and that of China at 6.1 per cent the third largest importer was less than 40 per cent of that of the US. The next three largest importers, Japan (4.8 per cent), UK (4.7 per cent) and France (4.6 per cent), import 30 per cent or less of that of the US. They are followed by another group of importers with a group of countries with around 20 per cent of the imports of the US (Italy (3.5 per cent), Netherlands, Belgium, Canada (3 per cent)). Thus for the world, these countries would be ranked high as destination for their exports. In contrast, India's (and Russia's) imports constituted only 1.2 per cent of world imports placing it at 17th (19th) position. If we want to increase the economic influence of India over other countries we must aim to increase our share of world imports above 3 per cent so as get into the top 10.³⁹ What is true globally also applies bilaterally. A progressive and corresponding increase in Indian imports from the US will also increase the dependence of US exporters and US economy on the Indian market. Though world imports of commercial services are 21 per cent of merchandise imports, India with 2.9 per cent of world imports is ranked 10th.

The picture changes somewhat if we treat the EU as a single economic entity. The WTO has carried out the exercise of eliminating intra EU trade (i.e., among the 25 members) to obtain its trade with the rest of the world. The US is the largest importer with 21.4 per cent of world imports, a share that is higher than its share of world GDP at PPP. As noted earlier this is an important component/channel for the US' economic influence on the rest

of the world. The EU(25) is the second largest importer from the rest of the world with an 18 per cent share of world imports. Though the import ranking of these two entities is the same as their GDP (at PPP) ranking, the US' share of world imports was higher than its share of world GDP (20.7 per cent), while that of the EU(25) was lower (20.4 per cent). Next in the ranking are China and Japan with world import shares of 8.2 per cent and 6.4 per cent respectively. India with an import share of 1.6 per cent and Russia with 1.5 per cent are ranked 11th and 13th respectively. We must reach the top five by 2020, by exceeding the 4 per cent share of 5th ranked Canada.

Germany (9.3 per cent), US (8.7 per cent) and China (7.3 per cent) are also the three largest exporters in the world.⁴⁰ The US is however least dependent on exports while Germany and China are much more dependent on exports for their growth than the US is. Fourth ranked Japan (5.7 per cent) falls in the former category, while fifth ranked France (4.4 per cent) falls in the latter category. Similarly, 13th ranked Russia (2.4 per cent) and 29th ranked India (0.9 per cent) fall in the former and latter category, respectively. Though world exports of commercial services are 23 per cent of merchandise exports, India with 2.8 per cent of world exports is ranked 10th in both. If the EU is treated as a single entity the export shares are EU (17.2 per cent), US (11.7 per cent), China (9.9 per cent) and Japan (7.7 per cent). Russia (3.2 per cent) and India (1.2 per cent) are ranked 8th and 20th respectively. The EU, US and India are less dependent on exports while China, Japan and Russia are more dependent on exports for their growth.

FDI inflows into an economy also measure the relative attractiveness of an economy.⁴¹ Though the stock of FDI, equity and debt owned by foreigners in an economy denote a mutual dependence of the host and the source country, once invested and to the extent they are difficult to disinvest, the balance of advantage shifts to the host country. Thus, the share of a country in the world FDI is an indicator of its economic power over the rest of the world. China with 9.3 per cent of world FDI flows was the second largest recipient in 2003, followed by France in third place with 8.3 per cent and US in fourth place with 7 per cent. Germany (2 per cent), Russia (1.4 per cent), Japan (1.1 per cent) and India (0.7 per cent) were ranked at 14th, 17th, 22nd and 23rd. India's share of FDI has risen significantly over the last two years, and is expected to rise further with the removal of sector FDI share limits in telecom, insurance, real estate, banking and retail trade. In particular, a sharp increase in FDI from the US would increase the interdependence of the two economies and thus help reducing the asymmetry in economic power.

VI Conclusion

In the 21st century all major countries recognise that international trade and financial flows are in the interests of both the source and destination countries. All countries therefore promote economic relations between themselves for mutual gain. The intensity of these relations may differ because of history and the relative economic gains from competition and cooperation. Any economic or political risks from an excessive economic dependence on any one country (whether in terms of oil imports, trade or FDI), are best addressed through diversification across countries and the development of hedging strategies. This is an

application to countries of the well known and accepted principles of portfolio diversification and hedging of risk.

Strategic cooperation and competition is in contrast a different matter depending on strategic perceptions. These perceptions are based not just on current threats and power relations, but also on potential threats and relative power. Though the future is inherently uncertain, each country must formulate a view of the future and base its actions on it. In this paper we have argued that China and India will play a critical role in the future balance of power. It has been shown that China is likely to become the second pole in the global power system within 20 years and India a third pole in about 35 years. Thus, a great power like the US must pay great attention to the potential threat and the potential gain from closer relations with each of these countries.

The Bush administration has made such an evaluation and has come to the conclusion that closer strategic collaboration with India is in US long-term interest. Thus, the US government seems prepared to make a strategic investment in India, whose returns will accrue to the US after a decade or two in terms of a more stable balance of power in Asia and consequently a more peaceful Asia. This will also reduce the risk that a couple of decades hence an aggressive power may overtly or covertly undermine its technological and geopolitical leadership. Many strategic analysts in the US do not yet share the Bush administration's assessment that India will become a global power, which can help reduce the future risk to US global leadership. These US analysts therefore believe that the Indo-US nuclear agreement is a bad bargain for the US.⁴² In contrast, Indian analysts who appreciate the potential of strategic cooperation predict a setback to Indo-US cooperation, if the US Congress fails to make the necessary legislative changes to allow India to access uranium ore and civilian nuclear technology. This is because a complete and comprehensive elimination of technology denial to India is a litmus test, which will determine the degree of trust in and support for the US in democratic India.

Given the enormous gap between the US and Indian strategic capability and assets, India has (potentially) more to gain in the next two decades from genuine strategic cooperation with the US than the latter can gain from India (including profits from sales of defence equipment). It is in India's interest to use the opportunity provided by the Bush administration, to enhance India's strategic capability and global power. This does not mean abandoning traditional sources of strategic technology like Russia, but widening and deepening the sources of supply so that we can get a better bargain for ourselves. The paper shows that Russia and Japan are unlikely to be the global powers 20 years from now though their regional influence will remain significant. Nevertheless, these countries along with Germany, France and UK currently have strategic capabilities that would be more readily supplied to India at reasonable price because of competition from the US. We must obtain the most appropriate strategic technology from the most cost-effective source and build upon it. This will allow us to accelerate acquisition and development of strategic technology within the allocated resources.

Better relations with the US will also open the door to better relations with many US friends and former allies in Asia and Africa, such as Saudi Arabia and Indonesia. It may also encourage China to take a more positive view of genuine (transparent) friendship with India and perhaps, abandon what some analysts have called the "containment of India" through creation of Trojan Proxies in south Asia. The benefits that accrue to India will

depend on the skill with which we play the balance of power game. Despite the heritage of Bhisma and Kautilya, there is a lot that our administration and political system have to learn to maximise the global advantage to India.

Though there are strong interest groups in both countries arguing for a slow, ultra-cautious pace of development of Indo-US relations, the benefit-cost ratio is currently favourable. Though India's share of the world economy and its relative power will likely increase over time (and US bargaining power correspondingly decline), India can accelerate its rise to power if it reaches a good deal with the US, when the political attitude of the US president and his secretary of state is so positive. [FV]

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Notes

[Views expressed in the paper are the personal views of the author and do not represent the views of the organisation for which he works, nor should these views be attributed to the organisation.

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- 1 Many observers have pointed out that the US government's approach to India started to change in the last years of the Clinton administration, after the Indian nuclear tests of 1998. To what extent the hearts and minds of those connected with that administration have changed is unclear!
- 2 The Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), the Wassaner agreement to control dual use technologies, initially directed against India.
- 3 Some of this was in response to US queries and dialogue with US interlocutors over the last two years. For instance, the Pentagon had hired independent consultants such as Booz Allen Hamilton, US, who visited India and met many strategic analysts and thinkers during 2004. In addition, numerous US government officials and congressmen visited India and interacted with Indian think tanks during 2004 and 2005.
- 4 A la the vulcans including Robert Blackwell and Condoleezza Rice and the latter's foreign affairs magazine article in 2000 and its references to the emerging importance of India in global matters.
- 5 This reassessment was apparently made some time in 2004 and culminated in a new CIA national security paper in December 2004 that explicitly mentioned a new global role for India.
- 6 Most analysts have used the GDP of a country converted to US\$ using the current exchange rate, both for a comparison with the US and for deriving world aggregates. This in our opinion gives a misleading view of a country's relative economic and global power.
- 7 Academics from France and Netherlands seem to be the most optimistic.
- 8 A 16.5 per cent increase in size (as proposed by China's statistics bureau) would raise this to 77 per cent.
- 9 Strategic assets include military, nuclear, aerospace assets and the technological capability to develop these. They are difficult to quantify/measure for a large number of countries [Virmani 2005e].
- 10 He defines an index of power (VIP) that incorporates both VIP² and "strategic assets/technology" and shows how the latter differs from the "commercial technology" included in the former. See also Virmani (2005c).
- 11 By analogy with the economic structure called "monopoly with a competitive fringe".
- 12 For instance, the US is a leader in the revolution in military affairs (RMA), anti ballistic missile (ABM) technology, space weapons, remote intelligence gathering and electronic counter-measure (ECM) technology.
- 13 Rosy views about the days of strategic partnership with USSR are just that. There was no dearth of problems and difficulties even with this much-vaunted friend. But we must be realistic enough to accept this as a part of the geopolitical game.
- 14 Virmani (2006) forthcoming.
- 15 It is not outside the realm of possibility that a similar situation develops in Iran.
- 16 In truly democratic countries such negative departures are usually corrected through the political process and the same is likely to happen over the next three years in the US.
- 17 See Milhollin and White (1991, 1995), Gelb (1984), Gertz (1996), Shuey and Kan (1995) and Albright et al (1997). See also Weissman and Krosney (1981). See also Virmani (2006) forthcoming for a historical review.
- 18 Without trying to muddy the waters by supplying additional, new nuclear power plants to Pakistan.
- 19 Their share of the US population would nearly double, from 12.6 per cent in 2000 to 24.4 per cent in 2050 as per US census projections: www.census.gov/Press-Release/www/releases/archives/population/001720.html.
- 20 This makes it almost impossible for sincere and honest educational entrepreneurs and non-profit institutions to enter and survive while permitting quasi-legal, low quality, educational institutions, including many set up and run by politicians, to flourish.
- 21 The competitive economic threat to the US from these three is greater than that from India and this relative situation is unlikely to change for many decades.
- 22 Major non-NATO ally Pakistan gave China uranium enrichment technology that A Q Khan had stolen from Urenco in Netherlands, in return for Chinese weapons designs, HEU and Tritium for weapons. More recently it is reported to have given unexploded Tomahawk cruise missiles that landed in Pakistan in 2004-05 to China for reverse engineering, in return for Chinese cruise missiles and related technology.
- 23 The JSF or F-35 is currently underdevelopment. The F22A Raptor entered service in 2004 and can be considered at the frontier today. The Stealth Bomber B2 which became operational in 1993 is F-1 technology. The F18 (F117A) that entered service in 1983 (1982) has F-2 technology base with upgrades having varying degrees of F-1 technology.
- 24 We can similarly increase US dependence on us by sharply raising the level of FDI flows from and related trade with the US. There are great opportunities for trade in services such as healthcare where US costs are rising rapidly, resulting in declining health insurance coverage and rising pension costs. Joint ventures between US and Indian companies to provide healthcare to the old and poor US citizens in India can also help moderate pension costs and increase the competitiveness of US industry.
- 25 The second highest holding after Japan with \$673.1 bn at end-February 2006. India's were \$12.1 bn (1 per cent of total). *Source:* www.ustreas.gov/tic/mfh.txt
- 26 The new political divisiveness between the Christian right and the liberal left and independents as well as between democrats and republicans who support cuts on income from capital are also a source of concern by themselves, as is the rising level of income inequality driven by the rising share of the top 1 per cent.
- 27 The alternative, a pro-foreign investor or FDI biased model is less acceptable in democratic India.
- 28 A dictatorship is less constrained about human rights internally and abroad and its effective military power, to suppress and subjugate domestic and foreign populations, is therefore greater.
- 29 With no adjustment for real exchange rate appreciation.
- 30 Based on this analysis, the growth rates of China, India and Russia are projected to decline as the gap between their per capita income and that of the US is reduced.
- 31 A few prominent recent studies have estimated the cross-sectional convergence of GDP at current exchange rates to GDP at purchasing power parity as per capita income rises and applied these to inter-temporal data. The inter-temporal data for fast growing (mainly Asian) economies since 1960, however, shows little evidence of systematic convergence. The application of cross-sectional ratios to inter-temporal data is flawed. An unpredictable degree of convergence will however take place, so that the GDP of India and China at current exchange rate will eventually be higher than that projected here, even if the real growth rate is exactly as assumed.
- 32 The US share of world GDP (xr \$) will decline from over 28 per cent to between 22 per cent and 23 per cent by 2050.
- 33 As had happened earlier in Japan and South Korea.
- 34 Please see Virmani (2005f) for the strengths and weakness of China and India and its likely impact on future growth. An even more detailed evaluation of the Indian economy is in Virmani (2005d).
- 35 $VIP^2 = (Y/Y_{usa}) * (y/y_{usa})^{0.5}$. Y and y are the GDP at purchasing power parity and the per capita GDP at PPP of the country. Y_{usa} and y_{usa} are the GDP and the per capita GDP of the US, respectively.
- 36 The USSR was a "great power" with a VIP² of 40 per cent while China is likely to need a VIP² of 60 per cent [Virmani 2005e]. India would need an intermediate power potential of about 50 per cent (say).

- 37 Even if the per capita income of either one or both is 50 per cent more than we have projected. See Virmani (2005b) for an exposition of why only two nation states, have the possibility of matching the power of the US during the 21st century. Indonesia is a third possibility but only towards the end of the century.
- 38 Perhaps the only exception is oil imports, where there is a monopoly/oligopoly (OPEC cartel) with a small competitive fringe. It is highly misleading to treat the highly volatile spot and futures markets where most of these small competitive suppliers operate as the market for oil.
- 39 The share has increased by less than 1 per cent in 10 years. At this rate it will take at least two decades.
- 40 Numbers in brackets are shares of world exports.
- 41 Luxembourg has shown a surge of investment as many European MNCs have shifted their headquarters to it in recent years.
- 42 They believe that India would have been satisfied with a permanent seat on the UNSC. Analysts like Strobe Talbot perhaps base such an assessment on their interaction with the Indian government during the Clinton administration.

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June 30, 2006

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