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‘Russia as a BRIC: Only a Dream?’

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Russia as a BRIC: Only a Dream?

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The BRICs

The acronym BRIC (Brazil, Russia, India, China) first appeared in print in a 2001 report of the Goldman Sachs Economic Research Group headed by Jim O’Neill.¹ However, it was a paper two years later, *Dreaming with BRICs: The Path to 2050*, that gave the term wide currency.² In distinguishing this set of four countries, the Goldman Sachs analysts did not provide strict criteria: they were simply ‘large developing countries’ with the potential, over the next few decades, to ‘become a much larger force in the world economy.’³ They have this potential largely because they are populous countries, such that even with relatively low per capita incomes, as for example, India and China, the absolute size of the output of their economies will come to occupy a substantial place in the world economy. Another criterion was that they were seen as possessing unusually favourable prospects for economic growth. It was recognised that the four countries have significant differences, but this was seen as part of their potential as a group: ‘The varied composition among the BRICs, the balance between resource-abundance and resource-dependence within the BRICs, and the global demographic tilt towards the BRICs allows these economies the chance to participate in an integral way in the world economy.’⁴ Since the initial Goldman Sachs report, another group of developing countries (termed the N-11, Next Eleven) have been examined to assess their potential to join the BRIC set, but of these only Mexico is identified as a candidate.⁵

Within Russia, the *Dreaming with BRICs* report received considerable publicity. Its main findings were almost immediately presented in the press, notably in the pages of *Expert* magazine, which contacted one of the authors, Roopa Purushothaman, who indicated that the basis of the rate of long-term growth (an average 3.9 per cent per

¹ Goldman Sachs, Global Economics Paper No. 66, *Building Better Global Economic BRICs*, 30 November 2001 (by Jim O’Neill). This paper includes 10-year projections showing the growing share of the BRICs in the world economy. Russia’s real GDP is projected to increase at an annual average rate of 4 per cent to 2011. The central issue of the paper is a revised membership of the G7 to incorporate the BRICs.

² Goldman Sachs, Global Economics Paper No. 99, *Dreaming with BRICs: The Path to 2050*, 1 October 2003 (by Dominic Wilson and Roopa Purushothaman).

³ *Ibid* p.3.

⁴ Goldman Sachs, Global Economics Paper No.134, *How Solid are the BRICs*, 1 December 2005 (by Jim O’Neill, Dominic Wilson, Roopa Purushothaman and Anna Stupnytska), p.3.

⁵ *ibid* pp.7-9. Korea is identified as another possible candidate, but it differs significantly from the other N-11 countries in having a much smaller population and by far the highest current per capita income.

annum to 2050) projected for Russia was a combination of a highly educated labour force, growing investment and stable macroeconomic policy.⁶ For some commentators, it provided welcome external assurance that the country was on the correct track to regaining status and influence in the world economy. However, those who found comfort in the report tended to overlook the fact that it made no assessment of current Russian government economic policy. Rather, it made projections of positive outcomes for Russia potentially available provided that the government remained committed to the pursuit of policies promoting macro stability and openness. The importance of policy was later underlined by Jim O'Neill himself in an interview in the business newspaper, *Vedomosti*. In his view the achievements of the BRIC countries were 'enormously dependent' on the pursuit of policies promoting macro stability, low inflation, openness, and measures promoting labour productivity growth, above all appropriate tax policy and FDI-friendly initiatives.⁷ O'Neill made no criticism of actual Russian policy apart from expressing doubts about the wisdom of attempting to create 'national champions' in some sectors of industry. However, commenting on the interview in *Moscow News*, Marina Pustilnik observed that,

'It is doubtless a source of pride when a foreign economist makes such favourable forecasts about the future of the Russian economy. It is strange, however, that such confidence is based solely on the assumption that the Russian government will conduct the right kind of economic policies. Over the last few years the country's economy has been developing in spite of – rather than thanks to the government's efforts Don't get me wrong. I am not saying that I don't believe in the potential that our country has. I'm just saying that I don't believe this potential can be brought about with the help of the authorities. Economic dolce vita will begin in Russia – once the government learns when to step back and let business rule itself. If it learns this easy trick sometime soon, then there is hope for O'Neill's forecast to materialise. If not, then it will remain just a beautiful dream.'⁸

⁶ Aleksandr Koksharov, 'Rost naperegonki', *Expert*, no.39, 20 Oct 2003, pp.44-48.

⁷ *Vedomosti*, 3 March 2005.

⁸ Marina Pustilnik, 'Economy. Dolce vita', *Moscow News*, 20 September 2005. (<http://english.mn.ru/english/php?2005-9-20>).

A similar point was made later in 2005 by the economist Ksenia Yudaeva. In her view, actual economic policy, marked by poor business-government relations and growing state intervention in the economy, was not favourable to the realisation of Russia's potential as a BRIC economy.⁹ Perhaps, after all, Jim O'Neill did have doubts. He spoke on the BRICs at the January 2006 Davos meeting of the World Economic Forum. According to a report in *The Moscow Times*, after the session he said he had a confession to make, 'Of the four countries, Russia was the one that worried him most, in large part because he found the government's behaviour difficult to understand. "The motives for the decisions coming out of the Kremlin are difficult for us to understand, although they are not always sinister."' ¹⁰ Regardless of these reservations, the acronym BRIC, sometimes БРИК, is now part of the Russian language, with local variants, 'kirpichi' (from the Russian word for bricks), and *brikomaniya*, exaggerated investor faith in the БРИК potential.¹¹

None of the Russian commentators who have expressed reservations about the conclusions of the Goldman Sachs analysis have gone as far as suggesting that their country should be excluded from the BRIC family. Yudaeva, for example, concluded by suggesting that the growth projected was indeed possible, but was likely to take much longer to achieve. Outside Russia, however, stronger doubts have been expressed. Writing in *Fortune* magazine in February 2006, Ian Bremmer, president of Eurasia group, a political-risk consultancy, argued that BRIC should become BIC, "breakthrough industrializing countries"; 'Russia is quite out of place with that crowd.'¹² In his view the Putin leadership is not interested in opening the economy to market forces but 'in leveraging the country's enormous resource wealth to consolidate state control of Russia's domestic politics and to restore Moscow's international influence'. It was acknowledged that Russia has strong growth potential, but in Bremer's view until its government promotes diversification and becomes more open to globalisation Russia should be viewed as being in a different category from Brazil, China and India. In the author's view, Bremmer's argument is flawed, but it

⁹ Ksenia Yudaeva, 'Lidery budushchego: Obol'shchenie 2050 godom', *Vedomosti*, 29 June 2005.

¹⁰ *Moscow News*, 27 January 2006

¹¹ 'Investory shtampuyut "kirpichi"', *Vedomosti*, 15 March 2006; 'Zakat brikomanii?', *Kommersant daily*, 26 May 2006.

¹² Ian Bremmer, 'Taking a Brick out of BRIC', *Fortune*, 20 February 2006. The article is not without factual errors, e.g. it is claimed that Russia's unemployment rate 'remains in double digits', when in reality it is barely 8 per cent and the current volume of FDI is substantially understated.

raises a serious question: in what sense can Russia be considered a valid member of the BRIC family; is it in some significant respects qualitatively different from the other three countries; does current government policy undermine its case for membership; would it be more accurate, perhaps, to refer to BrICs, rather than BRICs to indicate the existence of meaningful reservations?

Russia as a BRIC

In general terms, Russia does indeed have features in common with the other BRIC countries. As shown in Tables 1 and 2 of the Appendix, it has a population of over 100 million, a GDP in current US dollar terms very similar to that of Brazil and India, and according to the projections of Goldman Sachs this situation will not fundamentally change to beyond 2025, its annual average rate of GDP growth has exceeded 5 per cent for a number of years (a better result than for Brazil), it has a rate of investment comparable to Brazil and India, similar annual volumes of exports and imports, and large, rapidly growing, reserves.

But here the common features come to an end. In many other respects Russia is different. It has the highest per capita income of the family and, according to the projections, this lead will extend to 2025 and beyond, although it will somewhat diminish by 2050. The structure of Russia's exports is distinct, dominated by fuels and with a small share of manufactures. It is the only country of the four to have a large positive fiscal balance, but it also has the highest rate of growth of consumer prices. In a number of authoritative international indices, Russia's standing is the least favourable of the family: it is the least competitive, has the most limited 'economic freedom', and is perceived to possess the most corruption. In demographic and social terms there are also striking features that set Russia apart. It is the only country with a declining population, a decline set to continue throughout the period to 2050, and one the reasons why Russia's per capita income is projected to remain the highest. The other countries will have a significantly larger proportion of young people and a smaller proportion of older people, a fact likely to have significant implications for education, the character of the labour force, and social welfare. While having a higher level of per capita income, life expectancy in Russia is inferior to that of Brazil and China, and if present trends are maintained India will also soon move ahead. This is

one of the reasons why the UN's Human Development Index for Russia declined from the level of 1990, with Brazil and China having almost caught up according to the latest data for 2003. Overall educational standards are clearly much higher in Russia, the other countries, in particular India, still having to tackle the problem of adult illiteracy. Public spending on education is not high in relative terms but this probably reflects the different age structure. Russia also has an extraordinarily low population density and a land mass substantially larger than the others – almost twice that of Brazil and almost six times that of India – with implications for transport, communication and defence.

As shown in Table 3, Russia stands out in possessing relative strength in research and development (R&D), although this lead is now rapidly eroding. High technology exports compare unfavourably with the achievements of Brazil and, especially, China, and uniquely in the case of Russia they consist mainly of armaments. In the new information and communications technologies Russia's position is relatively strong, India being the principal laggard. To a considerable degree, the Russian economy is the most energy intensive of the four, partly reflecting the structure of the economy, with a bias towards energy-intensive forms of materials processing, but also the fact that domestic energy prices are relatively low, with much inefficient and wasteful use. Finally, reflecting the country's vast land mass, its former nuclear superpower status and traditional attitudes to security, Russia has a larger military burden in terms of spending and personnel.

From a formal point of view, none of these differences disqualifies Russia as a BRIC country. The Goldman Sachs analysts did not specify any particular economic, social or other criteria for including or excluding a country other than the fact that it had to 'large'. Rather, the issue is, whether the differences are likely to make difficult the realisation of the growth projections set out by Jim O'Neill and his colleagues for Russia as a BRIC. This relates to the issue of conditions for growth, considered critical to whether the projections can be achieved. In their 2005 paper, O'Neill et al. introduce a new measure, a Growth Environment Score (GES) designed 'to summarise the overall environment in an economy, emphasising those dimensions

that are important to economic growth'.¹³ The GES is constructed from 13 sub-indices covering five basic areas: macroeconomic stability, macroeconomic conditions, technological capabilities, human capital, and political conditions. Countries are ranked on a 10 point scale, 0 being poor condition and 10 ideal. Using data for 2002-03, it was found that Russia had a score of 4.2, behind China with 5.0, but ahead of Brazil (3.8) and India (3.7).¹⁴ In making an assessment of relative performance, the four BRIC are compared with a mean for developing countries. Russia scores well in terms of education (measure, average years of secondary education), fiscal position (surplus/deficit, % GDP), external debt (% GDP), openness to trade (trade as % GDP, but adjusted for population and geographic area), technology adoption (mainline phones, PCs and Internet per 1,000 people), and life expectancy (years), but less well in terms of macroeconomic conditions (investment rate and inflation), and political conditions (stability, rule of law and corruption). The positive assessment of life expectancy is surprising but arises because of comparison with a developing country mean. China scores well on most counts, except technology adoption (use of 2005 data would give a more favourable score) and corruption. The scores of both Brazil and India are weakened by relatively poor performance in education, openness and the fiscal balance, but India has the additional weakness of limited technology adoption.

In the author's view, the GES is useful in assessing the appropriateness of granting BRIC status to additional countries.¹⁵ Measuring trends in the GES over time could also help in assessing the likelihood that BRIC countries will fulfil their potential. However, the limited range of indicators does not adequately capture the more deep-rooted differences between countries that could be decisive to their future growth. There are two issues, to some extent related, that could be decisive for Russia if the BRIC growth potential is to be realised. Firstly, the recent, post-1998, strong growth performance plus macroeconomic stability, which probably played a decisive role in the decision of the Goldman Sachs analysts to include Russia in the family, is based to a substantial degree on the production and export of hydrocarbons and other minerals and materials of a relatively low level of processing. But is this a sound foundation for

¹³ Goldman Sachs, Global Economics Paper No.134, *How Solid are the BRICs*, 1 December 2005, p.10

¹⁴ *ibid.*, p.19.

¹⁵ Mexico has a GES of 4.6, higher than Russia's 4.2, but lower than China's 5.0.

sustained long-term economic growth and stability? If not, does Russia have good prospects of diversifying the economy successfully to secure more broadly based growth? Secondly, Russia faces extremely unfavourable demographic trends to 2050 and beyond. This will be an ageing society, with predictable consequences for health and welfare provision, with a declining cohort of young people entering the labour force or available to serve in the country's armed forces. Without new sources of productivity enhancement it will be difficult to sustain high rates of economic growth. This is recognised by Goldman Sachs: in their 2005 reassessment of the BRICs, Russia's forecast real rate of growth of GDP was projected to fall from an annual average 3 per cent in 2025-30, to 2.2 per cent in 2035-40, 1.8 per cent in 2040-45 and only 1.5 per cent in 2045-50. In contrast, for India growth in 2045-50 was projected as 4.9 per cent, Brazil 3.4 per cent and China (then also with a forecast population decline), 2.8 per cent.¹⁶

Russian leaders have started to boast that their country is an 'energy superpower'.¹⁷ Whereas in the recent past it was common in Russia to speak of the danger that the country would become an 'appendage' of the West, reduced to being a 'mere' supplier of energy and other natural resources, a status generally considered demeaning, now with high energy and commodity prices and mounting worries about future security of supply, the political elite has begun to realise that the resource wealth of Russia brings increasing influence on the world stage.¹⁸ However, this new confidence may prove to be based on weak foundations. There is mounting evidence that without substantial additional investment in the medium-term Russia could face stagnation or even decline in oil and gas production and exports, with predictable consequences for economic growth.¹⁹ As the Russian energy specialist Vladimir Milov has argued, it is also questionable whether oil and gas can be an adequate basis for economic development at a rate sufficient to resolve successfully the socio-economic problems faced by the country. In Milov's view, the 'petrostate' option

¹⁶ Goldman Sachs, Global Economics Paper No.134, *How Solid are the BRICs*, 1 December 2005, p.21. Note, in the original BRICs report of 2003 Russia's growth in 2045-50 was projected as almost 2.0 per cent, down from around 3.6 per cent for 2025-30.

¹⁷ E.g. Sergei Ivanov, defence minister and deputy prime minister ('Triada natsional'nykh tsennostei', *Izvestiya*, 13 July 2006).

¹⁸ See Lilia Shevtsova, 'Putin's Legacy: How the Russian Elite is Coping with Russia's Challenges', *Carnegie Moscow Center Briefing*, vol.8, issue 4, June 2006, pp.3-4.

¹⁹ Milov, Vladimir, Leonard L Coburn and Igor Danchenko, 'Russia's Energy Policy, 1992-2005', *Eurasian Geography and Economics*, vol. 47, No.3, pp.285-313.

cannot be viable for Russia as it has a relatively large population. Whereas Qatar, United Arab Emirates, Kuwait and Norway, wealthy countries with populations of five million or less, have annual net exports of hydrocarbons of 40 to 60 tonnes (oil equivalent) per capita, in Russia the total is barely three tonnes.²⁰ There is also the question of Russia's vulnerability in the event that oil prices decline sharply. The country's stabilisation fund should provide a measure of protection, but if significantly lower energy prices were to extend beyond two to three years the consequences for the economy could become serious. Indeed, such a scenario could be triggered by developments in another BRIC country. Other things being equal, in the event of economic problems in China, for example, it is likely that world oil prices would decline, perhaps to a significant extent.

In sectors of industry other than minerals and materials processing Russia is not competitive and now faces formidable problems of restructuring declining branches still employing a total of several million workers, including the motor and aviation industries, shipbuilding, machine tool building, electronics, and light industry, in particular textiles and footwear.²¹ The service sector is also still relatively underdeveloped but offers potential for future growth. In these circumstances diversification presents major problems: should it focus on sectors other than hydrocarbons and materials, or through new activities within or close to these sectors? Should the government attempt to implement some form of industrial policy and resort to state ownership and investment, which appears to be the preference now for sectors considered 'strategic' to the economy, or should diversification be market driven, promoted by strong domestic demand fuelled by rapidly rising real incomes?

One option now being promoted by Putin, German Gref, economics minister, and other government leaders is transition to a more knowledge-based path of development. Prospects for such a transition have been assessed by the author in another recent work. This compared Russia's situation with ten other populous emerging economies, including Brazil, China and India.²² The conclusions are not

²⁰ Milov, Valdimir, 'Mozhet li Rossiya stat' neftyanym raem?', *Pro et Contra*, 2006, March-June, p.11.

²¹ Cooper, Julian (2006), 'Can Russia Compete in the Global Economy?', *Eurasian Geography and Economics*, vol. 47, no.4 (forthcoming).

²² Cooper, Julian (2006), 'Of BRICs and Brains: Comparing Russia with China, India, and Other Populous Emerging Economies', *Eurasian Geography and Economics*, vol. 47, no.3, pp.255-284.

optimistic. Negative factors identified include a highly ineffective national innovation system, unfavourable demographic trends, excessive, or simply inappropriate, state involvement, an unwillingness to learn from others, and security practices and attitudes inherited from Soviet times. In developing knowledge-based activities it was found that Russia is being caught up rapidly by China; Brazil, Mexico and Turkey are narrowing the gap; and Indonesia and Vietnam may represent challenges in the longer term. This raises an issue of potential significance not considered by the Goldman Sachs economists. It is assumed that the four BRICs, and other emergent economies of equivalent status such as Mexico that appear in future years, can all grow as partners, becoming stronger economic powers in parallel. However, the reality may be that one or more of the BRICs may develop in such a manner as to rival the others, securing competitive advantage making it difficult for others to realise their growth potential. This may already be happening as an outcome of China's dynamic development. This is pertinent to the case of Russia. If Russia were to embark seriously on economic diversification, which activities are likely to offer competitive opportunities? The problem here could be that the activities which may appear to offer possibilities, in particular in the manufacturing sector, may turn out to be ones in which China has already established a clear lead. According to research undertaken by Deutsche Bank analysts, there is evidence that China is now moving successfully up market: the country's exports are increasingly of high value added products such as vehicles, machinery, telecommunications equipment and electronic components.²³ Given China's low production costs, this development could pose problems, not only for Russia, but also for Brazil.²⁴ Similarly, Russia has shown mounting interest in developing strength in the dynamic business of outsourced software development and business services, but in this activity India has already gained a strong lead which will be difficult for Russia to challenge.

²³ *Financial Times*, 5 July 2006. <http://www.chinaview.cn>, 6 July 2006 ('China to see soaring high value exports'). The same trend has been observed by IMF economists, see, e.g., Javier Silva-Ruete, 'The Development of China's Export Performance' (<http://www.imf.org/external/np/speeches/2006/030706.htm>).

²⁴ Thus, 'Low labour costs and rapid technological upgrading are set to transform China into a formidable competitor for Brazil's light manufacturing sector.' However, it is also recognised that increased Chinese demand for commodities may provide Brazil with an opportunity to move up the value chain in commodity-related sectors, Deutsche Bank Research, 'Brazil: *O pais do futuro?* Economic scenarios for the next 15 years', 20 May 2006 (by Markus Jaeger), p.7.

In the author's view there are valid grounds for reservations concerning Russia's credentials as a BRIC economy. To argue against Russia's membership of the family on the basis of short-term policy considerations, in particular the apparent turn under Putin to greater state intervention, is surely not appropriate. The Goldman Sachs analysts have been concerned above all with the longer-term potential of the world's populous emerging economies. If over the next ten-twenty years Russia were to entrench a growth environment not conducive to the realisation of the country's growth potential then the time may indeed come when BICs (or, by then, some other combination) would be more appropriate than BRICs. It would then have become clear that for Russia at least BRIC status had indeed been only a dream.

Finally, will the citizens of the BRIC countries be happy and content with their lives? A few years ago this would have seemed a strange question to ask but the 'gloomy science' has recently shown a lively interest in happiness.²⁵ In Table 1 of the Appendix an additional indicator could have been shown. The UK-based New Economic Foundation has developed a novel Happy Planet Index of well-being based on results from surveys of people's life satisfaction, life expectancy and the 'ecological footprint' of a country, the latter measuring the amount of land required to sustain the population and absorb its energy consumption. The top three countries are Vanuatu with a score of 68.2, Colombia 67.2 and Costa Rica 66.0; the bottom three, Zimbabwe 16.6, Swaziland 18.4 and Burundi 19.0. For the BRIC countries, the index gives the following results, showing once again that Russia may be exceptional: China 56.0, India 48.7 and Brazil 48.6, but Russia only 22.8.²⁶ What the scores will be in ten years time, let alone 2050, is, one suspects, a projection too far for even the most gifted and far-sighted BRICologist. But the Goldman Sachs research group itself is the first to acknowledge that this is far from being an exact science: for them the BRICs, all four of them, remain a 'dream.'²⁷

²⁵ See, e.g. Richard Layard, *Happiness: Lessons from a New Science*, Allen Lane, 2005.

²⁶ [Http://www.happyplanetindex.org/list.htm](http://www.happyplanetindex.org/list.htm). Taking the Life Satisfaction index only, Russia's position is not as bleak: Russia 4.3, India 5.4, Brazil and China both 6.3; cf. Denmark and Switzerland, both 8.2 (top) and Burundi 3.0 (bottom).

²⁷ In 2006 Goldman Sachs Global Economic Group issued a book bringing together all their work on the topic, *The World and the BRICs Dream*. The author is grateful to Jim O'Neill for supplying a copy.

Appendix

Table 1

BRICs - Economic Indicators

	Units	Russia	Brazil	China	India
GDP 2005 current US\$	US\$bn	764	794	2,229	786
GDP 2005 PPP	PPP\$bn	1,532	1,543	8,608	3,787
GNI p.c., 2005 (WB Atlas)	US\$	4,460	3,460	1,740	720
GNI p.c., 2005 PPP	PPP\$	10,640	8,230	6,600	3,460
Growth GDP, 1998-07F	%	5.3	2.3	8.9	6.5
Consumer prices, 1998-07F	% an av	21.3	6.8	0.9	5.1
Goldman Sachs projections:					
GDP (2005 US\$), 2025	US\$bn	2,873	2,280	11,677	3,617
GDP (2005 US\$), 2050	US\$bn	6,162	8,028	48,571	27,235
GDP p.c (2005 US\$), 2025	US\$	22,013	10,466	8,035	2,656
GDP p.c. (2005 US\$), 2050	US\$	55,630	35,143	34,105	17,011
Structure of economy, 2000					
- Agriculture	% GDP	5	10	13	21
- Industry	"	35*	40	46	27
- Services	"	60*	50	41	52
Gross capital formation, 2004	% GDP	21	21	39	24
Gross savings, 2004	% GDP	31	23	42	23
External trade, 2004					
Vol. merchandise exports	US\$mn	183,452	96,475	593,329	75,595
Vol. merchandise imports	"	96,307	65,921	561,230	97,339
Structure of exports, 2004					
Food & agricultural materials	% expts	4	32	5	11
Fuels	"	50	5	2	9
Ores & metals	"	8	8	2	7
Manufactures	"	21	54	91	73
Exports of goods & services	% GDP	35	18	34	19
Structure of imports, 2004					
Food & agricultural materials	%impts	18	7	8	7
Fuels	"	3	19	8	35
Ores & metals	"	3	4	7	5
Manufactures	"	69	70	77	53
Imports of goods & services	% GDP	22	13	31	23
Current ac balance, 2005	US\$bn	56.6	14.2	158.6	-19.0
Total reserves, 2005	US\$bn	186.4	53.6	824.0	136.7

* Probably overstates the share of services and understates industry due to transfer pricing schemes that result in a switch of part of oil profits to trade.

Table 1 continued

	Units	Russia	Brazil	China	India
Foreign direct investment, 2004					
Volume, flow	US\$m	11,672	18,166	60,630	5,333
Volume, stock	"	98,444	150,965	245,467	38,676
FDI stock, share GDP	% GDP	16.9	25.2	14.9	5.9
FDI stock per capita	\$	683	836	189	4
Fiscal balance, 2005	% GDP	+7.4	-3.8	-1.3	-4.1
Market capitalisation of listed companies, 2004	% GDP	46	55	33	56
Growth Competitiveness Index, 2005 (WEF)	Rank, n=117	75	65	49	50
Index Economic Freedom, 2006 (Heritage)	Index*	3.50	3.08	3.34	3.49
Corruption Perceptions Index, 2005 (Transparency I)	Rank n=158	126	62	78	88

* The higher the index, the less the economic freedom.

Table 2**BRICs: Demographic and Social Indicators**

	Units	Russia	Brazil	China	India
Demographic and social					
Population 2005	000	143,151	186,405	1,304,500	1,094,483
Forecast population 2025	000	129,230	227,930	1,441,426	1,395,496
Forecast population, 2050	000	111,752	253,105	1,392,307	1,592,704
Land area					
Populations density, 2004	000km ² per km ²	16,888 8	8,459 21	9,327 137	2,937 341
Population under 15 years					
2003	%	16.2	28.4	22.7	32.9
2015 forecast (UN)	%	16.4	25.4	18.5	28.0
Population over 65 years					
2003	%	11.5	4.9	5.9	4.1
2015 forecast (UN)	%	13.3	7.8	9.6	6.2
Year 65+ reaches 15% popn	Year	2020	2040	2030	2050
UN Human Development Index					
2003	HDI	0.795	0.792	0.755	0.602
1995	"	0.770	0.747	0.683	0.546
1990	"	0.817	0.719	0.627	0.513
Life expectancy at birth					
2003	years	65.3	70.5	71.6	63.3
1990	"	69.5	64.5	67.1	57.4
Probability at birth of living to age 65, 2000-05					
Males	%	44.7	62.7	74.2	59.2
Females	%	76.3	77.7	81.3	67.4
Infant mortality rates, 2000					
Adult illiteracy, 2004	%	18.0	35.0	32.0	68.0
	%	0.5	13.1	14.8	42.8
Public spending, on education, 2000-02					
	% GDP	3.8	4.2	n.d.	4.1
Inequality, 2000					
	Gini c.	39.9	59.3 ^a	44.7 ^a	32.5 ^b

a. 2001 b. 1999

Table 3**Science, Technology, Communications, Energy and Military Burden**

	Units	Russia	Brazil	China	India
R&D expenditure,2002					
US\$ bn	US\$bn	14.7	13.1 ¹	72.0	20.8 ¹
% GDP	%GDP	1.3	1.0 ¹	1.2	0.7 ¹
per capita	\$	102.3	75.0 ¹	56.2	19.8 ¹
Researchers – number	000	491.9	54.9	810.5	117.5 ²
Per million population		3,414.6	314.9	633.0	112.1 ²
High technology exports,2004					
US \$ mn	US\$m	3,432	5,529	161,603	2,840
% manufactured exports	%	9	12	30	5
Information & communications technology expenditure,2004					
% GDP	% GDP	3.3	6.3	4.4	3.8
\$ per capita	\$	135	208	66	24
Main telephone lines, 2005	per 100	27.9	23.5	26.6	4.4
Mobile phone subscribers, "	per 1,000	836	463	299	69
Personal computers, 2004	per 1,000	132	105	41	12
Internet users, 2004	per10000	1,110	1,218	723	324
Broadband subscribers, 2004	per10000	9	124	165	6
Internet hosts, 2004	per10000	59.2	193.0	1.25	1.33
ITU Digital Opportunity Index, 2005 ³	0-1 scale	0.34	0.27	0.31	0.14
Energy use per capita, 2003	kg oil eq	4,424	1,065	1,094	520
GDP per unit of energy use	\$ per " ⁴	1.9	6.8	4.6	5.0
Military expenditure, 2004	% GDP	3.9	1.4	1.9 ⁵	2.3
Armed forces personnel,2004	% lab for	2.0	0.8	0.5	0.6

1. 2000

2. 1998

3. A comprehensive index covering opportunity, infrastructure and utilization. Top country, Republic of Korea, 0.76.

4. 2000 PPP US\$ per kg of oil equivalent

5. Estimate: true scale of China's military spending uncertain.

Sources

All data from World Bank, World Development Indicators; UN, Population Division, *World Population Prospects; The 2004 Revisions*; UN, *Human Development Report*, 2005; International Telecommunication Union statistical data; IMF, *World Economic Outlook*, April 2006; UNCTAD, statistics on FDI; indexes of World Economic Forum, Heritage Foundation and Transparency International; Goldman Sachs, Global Economics Paper No.134, *How Solid are the BRICs*, 1 December 2005.