

China and India — The New Growth Engines of the Global Economy?

Lisa Peterskovsky and Margot Schüller

While the leading industrial nations are still recovering from the consequences of the global financial crisis, China and India are already boasting very high growth rates again. In the third quarter of 2009 China's economic growth was 10.7 percent; India's was 7.9 percent. Both countries are again being portrayed as the growth engines of the global economy.

Analysis

Despite their impressive economic successes, China and India face the following social and economic challenges:

In the context of the economic growth, poverty in the two countries, particularly in China, has declined significantly. However, disparities have increased in both China and India.

- High and increasing disparities in income and public goods such as health and education could trigger societal conflicts and endanger social stability. In addition, unequal access to education could hamper human capital formation.
- The migration of the rural population to the cities is bringing about not only positive income and learning effects in both countries, but also considerable burdens on infrastructure and social security systems.
- Both countries are confronted with major environmental challenges, which threaten economic growth. Environmental policy measures often fail due to a lack of implementation at the local level.
- The inadequate expansion of infrastructure continues to be a barrier to growth. This is particularly true of India and the rural areas of China.

Keywords: China, India, disparities, development opportunities, environment

Introduction

Due to the different demographic, social, cultural and political structures in the two countries, and the varying reform efforts of recent years, every comparison between China and India is of limited explanatory value. If undertaken, such comparisons are complicated by differences in the statistical collection and availability of relevant indicators. Despite these limitations, this contribution provides an overview of some of the development problems that China and India face. If they do not overcome these challenges, the continued global ascent of both countries will be threatened.

1. The Dark Side of Economic Ascent

The social situation of China's and India's population in China and India has improved significantly with each country's economic growth. This is reflected in the advancement of the Human Development Index (HDI), which is based on life expectancy, education and purchasing power (see Table 1). While there is a considerable discrepancy in the HDI between China and India, both countries were able to significantly upgrade their rankings within the index in the years from 1990 to 2007, although China was more successful than India.

Despite these successes, the phenomenon of poverty persists. The Headcount Index, used to measure poverty, determines the percentage of a population that lives below the poverty line. The World Bank has set this line at US\$1.25 per day. Since the 1980s China has demonstrated a significant improvement within this index. Between 1981 and 2005 the percentage of people living below the poverty line dropped from 84 percent to 16.3 percent. In India this percentage also decreased, dropping from 59.8 percent to 41.6 percent. If the poverty line is set at US\$2,¹ the percentage of the population affected in China has declined significantly (from 97.8 percent to 36.9 percent); in India this percentage has only decreased from 86.6 percent to 75.6 percent (Ravallion 2009: 31).²

1 The United Nations and Welthungerhilfe use this poverty line alongside the US\$1.25 limit.

2 However, the growth of the Indian population since 1990 has been double that of China (see Table 1). Thus when economic growth is seen as a determinant of poverty reduction, India would have to have achieved significantly higher growth than China simply to balance out the difference in population growth.

Table 1: Development Indicators for China and India

Indicator	China		India	
	1990	2007	1990	2007
Gini Coefficient	29	42	31	37
Human Development Index (HDI)	0.61	0.77	0.49	0.61
Population growth (in %)	1.3 (91)	0.52	2.1	1.4
Literacy rate (in %) ¹	78	93	48	66
Primary completion rate ²	105 (91)	101	64 (91)	85.7
Life expectancy at birth (in years)	68.3	73	59.7	64.7
Infant mortality (per 1,000 births)	29	22	92	72
Access to sanitary facilities (% of the population)	23	65	12	28
Access to drinking water (% of the population)	67	88	71	88
Urbanization (% of the population)	26	46 (08)	27	30 (08)

¹ Among the population over 15 years old.

² This is the ratio of the total number of students successfully completing the last year of primary school in a given year to the total number of children of official graduation age in the population. As a result of drop-outs, among other things, values of over 100 percent result.

Sources: World Bank 1992, 1994, 2009, 2010; ADB 2009; UNDP 2009.

While poverty has declined, income disparity has increased in both countries. China's Gini coefficient³ grew from 29 in 1990 to 42 in 2007, pointing to a strong increase in income disparity within a relatively short period of time. India's Gini coefficient increased as well, but only from 31 to 37 over the same period (UNDP 2009). What are the reasons for this growing inequality? Does it jeopardize the continued ascent of the two countries?

In both countries there are similar factors that have led to the increase in the Gini coefficient:

- *Increasing regional disparities:* Economic growth in both countries has been notably higher in certain provinces and states than in others. In China there are strong disparities between the eastern coastal provinces and the provinces in the

³ The Gini coefficient measures the unequal distribution of income. It uses values from 0 to 100, with 0 representing absolute equality and 100 representing absolute inequality.

country's interior. In the eastern coastal provinces poverty declined by 17 percent on average between 1981 and 2001, whereas in the interior provinces this decrease was only 8 percent (Chaudhuri and Ravallion 2007: 83). In India industrialized states such as Gujarat, Maharashtra and Punjab are the primary contributors to economic growth. In contrast, less developed states such as Uttar Pradesh and Bihar as well as parts of Madhya Pradesh, Orissa and Rajasthan scarcely participate in overall economic development. The average growth rate for individual states (1981–2004) ranged from 1.7 percent in Kashmir to 8.7 percent in Goa (Chaudhuri and Ravallion 2007: 183). Half of the poor population is concentrated in five of the 28 states, and 40 percent of the overall GDP is generated by the five richest states.

- *Increasing urban–rural disparity:* The gap between cities and rural areas is greater in China than in India, and the average income in Chinese cities is more than three times higher than that in rural areas. In India average living expenses in urban areas are only around twice as high as in rural areas (ADB 2009).⁴ In China inequality in rural areas has increased at a rate similar to that of the cities, but inequality within rural areas has always been greater. In India, in contrast, the increase in disparity in the cities has been greater than that in rural areas.
- *Increasing disparities between sectors:* In both countries, the various economic sectors have not grown to the same extent. At the beginning of China's reform period it was the growth of the primary sector which contributed predominantly to poverty reduction. Today it is the secondary and tertiary sectors which are mainly responsible for economic growth. In India it continues to be the tertiary sector, followed by the secondary sector, which generates growth. The importance of agriculture has declined significantly since the 1980s (Chaudhuri and Ravallion 2007: 184).
- *Increasing disparities between social groups:* In India in particular there are large income gaps between the social groups that have emerged from the caste system. In China there are also certain social groups, namely, the ethnic minor-

ities, that are disadvantaged in the distribution of income.

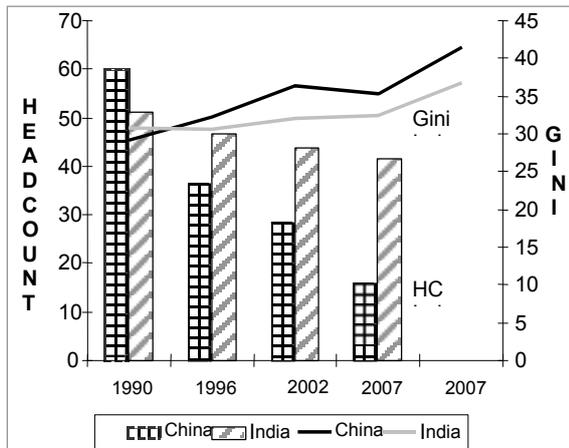
- *High concentration of income:* The number of people with above-average income has increased in both countries, but a greater concentration of income can be identified in China. In 2003 the richest 10 percent of the population in China accounted for approximately 30 percent of the income; in contrast, the poorest 10 percent accounted for only 1.8 percent (World Bank 2009: 33). In India the proportion for the same groups was 31.1 percent versus 3.6 percent (Ghosh 2010: 15).

To what extent do the above-mentioned inequalities represent a problem for continued ascent? Chaudhuri and Ravallion (2007: 193) differentiate between “good inequality” and “bad inequality.” Accordingly, a certain amount of inequality simply reflects the reality of a functioning market economy. Varying levels of education, factor inputs, and readiness to assume risk are thereby honored, and multifaceted incentives are created. However, inequalities can also be the outcome of market failure, poor coordination and inadequate policies that are reflected in a low education level, social marginalization, corruption or economic exclusion. These deficiencies hamper economic growth as parts of the population are left behind. Growth and social change could be seen as negative, and possibly be blocked, by this part of the population. The reduction of disparities is thus a necessary condition for the continued ascent of both countries. However, in addition to growth-oriented strategies, sociopolitical policies are also required. Ravallion (2009: 13) assumes that, in contrast to the case for India, a redistribution of income through the tax system could significantly reduce inequalities in China.

- *Migration as an opportunity and a challenge:* Migration represents a particular challenge for both countries. The UN estimates the number of internal migrants to be 136 million in China and 42 million in India (UNDP 2009: 106). From an economic perspective this migration can be desirable because it promotes labor mobility. The remittances from migrants to their home villages contribute to prosperity in rural areas; human capital and labor productivity increases; and a transfer of knowledge to the rural areas takes place.

⁴ The official statistics for China provide information on the income of the population. For India, in contrast, they provide information on the living expenses.

Figure 1: The Poverty Line and the Gini Coefficient



Sources: UNESCP 2008; UNDP 2009.

The dark side of migration relates first and foremost to the worsening of living conditions in the overpopulated cities, where the infrastructure is overburdened. The migrants themselves are the most affected.

In China migration takes place between rural areas and cities, both within provinces and across provincial borders from the central and western provinces to the industrial metropolises on the east coast. The high economic growth in the latter area has created a strong demand for labor, particularly in the construction sector. However, the rural migrant workers and their families are not treated like the urban workforce. They are still not integrated into the social security system of the cities and have limited or no access to the education system.

Due to language and cultural barriers, migration in India is relatively limited in comparison. In 2001 migration between various states represented 13 percent of the population, thus affecting five million people. A large part of the migration movement takes place in the industrialized states such as Punjab, Gujarat and Maharashtra, primarily from rural areas to cities. In less developed states such as Uttar Pradesh or Bihar, in contrast, migration within rural areas predominates. It is estimated that the population will grow by 1.5 percent annually (China: 0.65 percent) until 2026. As a result of this growth, as well as because of increasing rural-to-urban migration, the urban population will further increase. The strain on urban infrastructure and the social security system will

thus increase in India as well. Many Indian cities already face greater problems than Chinese cities.

In both countries the state has in recent years made efforts to improve the social situation of the population. For example, in China the Western Region Development Strategy is intended to reduce regional disparities. Additionally, the Minimum Livelihood Guarantee Scheme has been introduced to guarantee migrant workers a minimum income. In India the National Rural Employment Guarantee Act has been in effect since 2005. It is intended to facilitate 100 days of work annually at a minimum wage for uneducated workers. These are only some of the policy measures which demonstrate how seriously social disparities, poverty and the challenges of increasing migration are now being taken in China and India.

2. The Ecological Challenge

China's and India's economic ascent is accompanied by enormous environmental impacts. The greatest challenges for the two countries are as follows:

- *Energy use and air pollution:* With burgeoning economic growth, energy use in both countries has increased. The energy intensity is, however, very high: 0.78 in China and 0.69 in India.⁵ While both countries have been able to reduce these ratios, there is a large energy intensity gap compared to the EU, which has a ratio of 0.15 (IEA 2007). As a result of the energy mix, higher energy use means more severe environmental problems. In both China and India a large proportion of energy requirements are met by utilizing fossil fuels, primarily coal. The proportion of oil employed is also continually increasing. The input of fossil fuels to produce energy is responsible for 83 percent of emissions worldwide. These emissions contain greenhouse gases, including carbon dioxide and nitrous oxide, which can cause major health problems among the population and, as a result of acid rain, lead to soil infertility, forest degradation and desertification. According to the World Bank, 20 of the 30 cities with the worst air quality worldwide are located in China (World Bank 2007: 174). A further four are located in India.

⁵ Energy intensity indicates how much energy must be used to generate a particular unit of GDP. The higher the energy intensity, the more inefficient the production.

- *Water pollution:* It is estimated that 90 percent of the bodies of water in Chinese cities are polluted (*China Daily* 2009). In India the situation is almost as serious. The Indian Ministry of the Environment has stated that 70 percent of the country's ground water and its bodies of water are contaminated. This is due to the fact that unfiltered industrial effluent is often discharged into rivers. In China only approximately one-quarter of effluent is treated in purification plants (Teichert and Wilhelmy 2007). In India this figure is also roughly 25 percent (German Trade and Invest 2009). Water pollution results from the excessive use of fertilizers and pesticides, as well as from industrial effluent and private urban households' waste water. The consequences include illnesses, particularly gastrointestinal ailments, and an increase in the cancer rate as a result of industrial effluent.
- *Waste disposal issues:* Urbanization also leads to waste being concentrated in the cities. It is estimated that in the coming years the amount of waste in India will increase significantly. China already produces 16 million tons of waste annually, a quarter of the global total. This waste is deposited in large part in dumps, but has increasingly been being burned. Both methods are associated with considerable environmental damage: the sludge gas that results from the large-scale dumping is 20 times more detrimental in terms of climate change than carbon dioxide.

The governments of China and India are now fully aware of these environmental problems. However, in international fora they continue to argue that their per capita energy use and emission levels are lower than those of Western industrialized nations and Japan.⁶ Nevertheless, this declaration doesn't solve any of the above-mentioned environmental problems, which could be reduced through the use of alternative energies. Seven percent of China's energy is currently derived from renewable energy sources. This proportion is to be increased to 15 percent by 2020 (*China FAQs* 2009). In addition, energy efficiency is to be increased through, among other things, the development of alternative drive systems for the auto-

motive industry and the general promotion of renewable energies. However, due to large domestic coal deposits and low prices, China will continue to depend on coal as its most important energy source. The damages that can be ascribed to air pollution—especially pollution resulting from the use of coal—are estimated at 3 to 4 percent of the GDP (*China Daily* 2009). Because the country continues to emphasize strong economic growth and exports, it is unlikely that environmental costs will be included in the product prices in the short run.

The development of more environmentally friendly coal-fired power plants has already begun in China, even though there are still almost no incentives to do so. Such efforts are also occurring in the industrial sector, which contributes significantly to water pollution through its unfiltered effluent. The central government has recognized that solving all these environmental problems is an important task and has included it in the five-year plan. However, it is the local governments—for whom the interests of their own province play a primary role—that are responsible for the enforcement of environmental policies. The implementation of environmental policies is also made difficult by the inflated bureaucracy.

The Indian government also faces the challenges of solving the problems of effluent and waste in the cities and promoting the use of alternative energies. Only half of India's households are currently connected to the electric grid. Power production still relies heavily on coal, up to 65 percent of which has to be imported (Boillot and Autheman 2009: 33). The pollution that results from burning coal is already significant, and thus alternative energies urgently need to be adopted. Renewable energies would reduce India's contribution to global climate change and simultaneously create new fields of growth for the national economy.

According to the Asian Development Bank (ADB), the expansion of renewable energies even represents a precondition for continued growth. Experts believe that India is pursuing a different development path than Western industrialized nations and that it can transition directly from traditional energy sources to highly developed technologies in order to satisfy its energy requirements. As is the case in China, however, India also experiences problems with the implementation of the various policies. Additionally, the necessary technologies must be imported from other countries. The environmental awareness of the popu-

⁶ This claim is easy to support with figures. When one adds up the total emissions from 1900 to 2005, China and India account for only 10 percent, whereas the USA and the EU account for 50 percent (*World Energy Outlook. China and India Insights*, IEA 2007).

lations of both countries is still very limited. New technologies for waste recovery are also lacking. Because the costs of environmental pollution have to date not been included in the prices of goods and energy, there is little incentive for the development of such technologies.

The social and ecological problems confronting China and India thus represent major challenges for the two countries. Against this backdrop, development experts are calling on both countries to work more determinedly towards the following goals:

- *Increased income for the rural population:* The general conditions for higher labor force mobility should be relaxed and improved.
- *Infrastructure expansion:* The expansion of infrastructure is particularly important in rural areas. For instance, the modernization of infrastructure in China has primarily benefited the eastern provinces. In some parts of India it is not so much the expansion but rather the building of infrastructure that is necessary in order to support economic development. To finance such efforts foreign capital has to be introduced in addition to the investment by the Indian government.⁷
- *Provision of health care and education:* Access to health care and to the education system should be guaranteed. Because of their demographic characteristics, both countries face particular challenges. In China the aging population will soon represent a heavy burden for the social security system. According to prognoses from Deutsche Bank Research, the number of retirees will increase dramatically in the next 40 years (DB Research 2006). In contrast, India's population is very young; approximately 50 percent of the country's citizens are under 25 years old. For this reason it is very important to improve access to education and to develop the urgently required human capital stock. By 2020, however, the number of people over age 60 will double; the pension and health-care systems remain unprepared for this.

Should the challenges mentioned here not be tackled, or only be partially tackled, China's and India's continued ascent appears in no way guaran-

teed, and also highly unlikely to be as smooth as is often suggested in the Western media. Both countries have enormous potential for renewable energies. However, experts see possibilities for India in particular to replace traditional energy sources. The step-by-step reduction of environmental problems could trigger a multiplier effect which would further support the growth of their economies.

The experiences of the global financial crisis have demonstrated how important it is to reduce social deficiencies, especially with regard to the social security system. The crisis impacted China primarily through the slump in demand on the export market, which caused millions of migrant workers to lose their jobs. The government was able to head off social unrest primarily through state-financed infrastructure projects which stimulated employment and domestic demand.

India was also affected by the crisis, particularly as a result of uncertainty on the financial markets and the slump in global demand for exports. Through the use of both fiscal and monetary measures the government was able to maintain growth of 7 percent in 2008.

The reactions of both countries to the global financial crisis clearly demonstrate the relevance of social deficiencies, which could endanger domestic stability. The reduction of disparities and poverty thus appears to be urgently necessary for the continued ascent of both India and China.

3. Conclusion

The awe with which the rapid ascent of China and India is viewed is often combined with the fear that these two countries represent a threat. This became apparent again in the comments regarding China's surpassing of Germany as the "global export champion" in 2009. A rapid global ascent is also expected of India, particularly in the areas of new technologies and IT services, something that could threaten jobs in Western countries' high-tech sector. The USA, Japan and the EU remain the technological leaders, but competition from Asia has intensified in recent years. Alongside the impressive growth achievements of China and India, however, are the enormous social and ecological challenges. The success with which these are overcome will have a decisive impact on the development of the two countries, and thus on their global influence.

⁷ This also has to do with the situation on the financial market and the savings rate. In India the savings rate is significantly lower than in China and other Asian countries. The rate should be increased over the long term in order to make further investments possible.

Because of their increasing import demand on global markets, China and India have already gained importance. However, the effects of economic developments in both countries on the global economy remain relatively limited. In its 2010 spring report the German Institute for Economic Research (Deutsche Institut für Wirtschaftsforschung – DIW) cites the fact that both countries only absorb approximately 10 percent of industrialized countries' exports as a reason for this. Based on the analysis of the relation between China's growth rate and the growth rates of the various economic regions in the global economy, even the more economically advanced China is not, according to the DIW, an economic driver of the global economy yet (Dreger 2010: 6). Nevertheless, China's and India's economic ascent does increase the competitive pressure facing the traditional industrialized countries. However, many uncertainties exist with respect to the former's development. These will have to be addressed if China and India are to become the new growth engines of the global economy.

References

- ADB (2009), *Key indicators for Asia and the Pacific 2009*, Manila, August.
- Boillot, Jean-Joseph and Nicolas Autheman (2009), Energy and environmental issues: India's energy model by 2030, in: Lesourne, Jacques and William C. Ramsay (Eds.), *Energy in India's Future: Insights*, IFRI, 9-58, online: www.ifri.org/files/Energie/Energie7.pdf (30 March 2010).
- Chaudhuri, Shubham and Martin Ravallion (2007), Partially Awakened Giants. Uneven Growth in China and India, in: Winters, L. Alans and Yusuf Shahid (Eds.), *Dancing with Giants*, online: www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2007/01/10/000020953_20070110150325/Rendered/PDF/383390Dancing0with0giants01PUBLIC1.pdf (2 March 2010).
- China Daily (2009), *Water, air pollution in China is still serious*, Shanghai, February.
- China FAQs (2009), *A Quest to Curb Coal Use. Coal Use in China. The Hidden Coast of Cheap Fuel*, World Resources Institute, November.
- Deshingkar, Priyar and Shaheen Akter (2009), *Migration and Human Development in India*, Human Development Reports Research Paper, 13, April.
- Deutsche Bank Research (2006), *China's pension system. Caught between mounting legacies and unfavourable demographics*, Frankfurt, April.
- German Trade and Invest (2009), *Indien setzt beim Wassermanagement auf private Investoren*, online: www.gtai.de/ext/Einzelsicht-Druck/DE/Content/SharedDocs/Links-Einzeldokumente-Datenbanken/fachdokument,templateId=renderPrint/MKT200901198009.html (24 March 2010).
- Dreger, Christian (2010), *Frühjahrsgrundlinien 2010*, Wochenbericht des Deutschen Instituts für Wirtschaftsforschung DIW, 15.
- Ghosh, Jayati (2010), *Poverty reduction in China and India: Policy implications of recent trends*, DESA Working Paper, 92, New Delhi, online: www.un.org/esa/desa/papers/2010/wp92_2010.pdf.
- IEA (2009), *Key world energy statistics 2009*, Paris.
- IEA (2007), *World Energy Outlook. China and India Insights*, Paris.
- Ravallion, Martin (2009), *A comparative perspective on poverty reduction in Brazil, China and India*, Washington, October.
- Teichert, Volker and Wilhelmy, Stefan (2007), Der Wirtschaftsboom in China und Indien: Das Konfliktpotenzial der Umweltfolgen, in: Schoch, Bruno et al. (Eds.), *Friedensgutachten 2007*, Münster.
- The Economist* (2010), *Clear diagnosis, uncertain remedy*, 20 February.
- UNESCP (2008), *Statistical Yearbook for Asia and the Pacific 2008*, Thailand.
- UNDP (2009), *Human Development Report 2009*, New York.
- World Bank, *World Development Indicators 2007*, online: http://siteresources.worldbank.org/DATASTATISTICS/Resources/table3_13.pdf (26 February 2010).
- World Bank (2009), *From poor areas to poor people: China's evolving poverty reduction agenda. An assessment of poverty and inequality in China*, Beijing, March.
- World Bank, *World Development Report, 1992, 1994, 2009, 2010*.

■ The Authors

Dr. Margot Schüller is a senior research fellow at the GIGA Institute of Asian Studies and a member of the institute's Research Programme 3: Socio-economic Challenges in the Context of Globalisation. Her research focuses on China's economic development.

Lisa Peterskovsky is a graduate of the Economics and Politics of East Asia Program at the Ruhr University at Bochum. She is currently studying at the School of Oriental and African Studies at London University.

E-mail: schueller@giga-hamburg.de; lisa.peterskovsky@web.de

■ Related GIGA Research

Dr. Daniel Neff researches India's economic and social development. His research topics include, among others, the influence of education on the welfare of the populations of India and Vietnam, as well the analysis of the concept of subjective well-being in the Indian context.

Dr. Margot Schüller is responsible for research on economic development in the People's Republic of China. Her research topics include China's role in Southeast Asia and the internationalization of Chinese businesses.

Bianca Stachoske, M.A., is completing her doctorate on the topic of sociopolitical development in India by looking at the example of regional labor markets in the Indian states.

■ Related GIGA Publications

Barrientos, Armando and Daniel Neff (2010), Attitudes to Chronic Poverty in the "Global Village," GIGA Working Papers, 134, May.

Schüller, Margot and Yun Schüler-Zhou (2009), China's Economic Policy in the Time of the Global Financial Crisis: Which Way Out?, in: Journal of Current Chinese Affairs, 38, 3, 165-181.

Schüller, Margot (2009), China in der globalen Finanzmarktkrise: Wirtschaftspolitische Strategien und Strukturprobleme, GIGA Focus Asien, 4, Hamburg.

Betz, Joachim (2008), Weltwirtschaftliche Schwerpunktverschiebung nach Asien?, GIGA Focus Global, 2, Hamburg.



The GIGA *Focus* is an Open Access publication and can be read on the Internet and downloaded free of charge at www.giga-hamburg.de/giga-focus. According to the conditions of the Creative Commons licence Attribution-No Derivative Works 3.0 at <http://creativecommons.org/licenses/by-nd/3.0/de/deed.en>, this publication may be freely duplicated, circulated and made accessible to the public. The particular conditions include the correct indication of the initial publication as GIGA *Focus* and no changes in or abbreviation of texts.



The GIGA German Institute of Global and Area Studies – Leibniz-Institut für Globale und Regionale Studien in Hamburg publishes the monthly *Focus* series on Africa, Asia, Latin America, the Middle East and global issues. The GIGA *Focus* International Edition is edited and published by the GIGA. The views and opinions expressed are solely those of the authors and do not necessarily reflect those of the institute. Authors alone are responsible for the content of their articles. GIGA and the authors cannot be held liable for any errors and omissions, or for any consequences arising from the use of the information provided.

Editors: Hanspeter Mattes and André Bank; Series Editors: Hanspeter Mattes and André Bank

Translation: Melissa Nelson; Editorial Department: Vera Rathje

Contact: giga-focus@giga-hamburg.de; GIGA, Neuer Jungfernstieg 21, 20354 Hamburg, Germany

G I G A *Focus*
German Institute of Global and Area Studies
Leibniz-Institut für Globale und Regionale Studien

IMPRINT