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India and China

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I. Introduction

This article aims to compare the development strategies and trajectories of the two economic giants of Asia, India and China. There are two ways to approach this task. One is to investigate each case in deep detail on the presumption that each of the two countries is so huge and so unique that comparisons with other, smaller countries may be unhelpful or superfluous. Several thorough case studies have appeared in recent years (e.g., Krueger, 2002, and Lardy, 2003), and so have comparative studies painting the experience of the two countries with a broader brush (e.g., Ahya and Xie, 2004). Here, the strategy will be to compare and contrast the economic growth performance of India and China against the background of the recent literature on the determinants of economic growth around the world. To this end, the article aims to review briefly some of the salient differences and similarities between India and China and to ponder their implications for economic performance over the long haul.

China's national economic output was on par with that of Europe around 1400. In *The Wealth of Nations* (1776), Adam Smith traced the economic stagnation and subsequent decline of China to its policy of virtual isolation and self-sufficiency after 1433, a policy that was not abandoned until 1978. According to Maddison (2001), China was still richer than India in 1820, but thereafter India was the one who grew more rapidly and had one-third higher output per capita than China in 1950. Since then, however, China has grown more rapidly than India, albeit less evenly.

The output trajectories of the two countries from 1975 to 2003 are shown in Figure 1. Measured in constant international dollars valued at purchasing power parity in 2000, China's gross domestic product (GDP) per person grew by 9.4 percent per year on average compared with 3.9 percent growth in India. China's output per person thus increased eightfold during this 28-year period, while India's output per inhabitant increased a bit more than twofold. India was twice as rich as China in 1975. By 2003, however, China had become almost twice as rich as India according to these figures from the World Bank (2005). Other measures of economic and social development

convey a similar picture. In China, life expectancy at birth increased from less than 40 years in 1960 to more than 70 years in 2004, an increase by nine months a year on average. In India, life expectancy increased from 45 years in the early 1960s to 63 years in 2004, an increase by four to five months per year on the average. Both countries have thus made steady progress, but China has advanced more rapidly. Other human development indicators tell a similar story.

Before we start looking for explanations for the different growth paths shown in Figure 1 by reviewing some of the differences between the determinants of growth in India and China, it needs to be noted that the two countries share several similarities that appear relevant for their growth performance in recent years. First, they share a common legacy of foreign influence or domination followed by communism in China and democratic socialism in India. In the two opium wars (1839-1843 and 1856-1860), Great Britain coerced China to open up to trade, partly to facilitate an exchange of British opium for Chinese tea. The Japanese invasion of 1937, followed by civil war and communist revolution in 1949, did not endear the Chinese to foreign commerce, and for a long time afterwards these experiences blunted China's interest in opening up its economy to the outside world. Similarly, India's experience at the hands of the East India Company, which came to dominate India before delivering it to the British Crown in 1857, until recently diminished India's interest in attracting foreign capital to India and to opening up to external trade. These episodes help explain why liberalization of foreign trade took so long to arrive in India and China. In second place, and this point follows directly from the first, India and China commenced their market-friendly reforms unburdened by foreign debts of the kind that have hindered the economic development of Africa since independence. It is easier for a country to grow when the fruits of its reforms can stay at home rather than being dispatched in part abroad to service foreign loans. Economic reform started earlier in China (1978) than in India (1991). So, China has been reforming its economy twice as long as India, and more rapidly and radically. Third, both countries have long coastlines that were conducive to foreign trade and transport as soon as their economies began to open up, as stressed by Sachs (2005). Fourth, both countries have large overseas communities, diasporas, that have proved willing and able to contribute to the economic transformation underway in India and China, through investments, remittances, and other means. These factors have all facilitated economic growth in India and China beyond the possibilities open to many other developing

countries, especially in sub-Saharan Africa.

II. Investment, finance, exports, and education

What are the main determinants of growth that need to be looked at in order to assess the comparative growth performance of India and China? They are, first, saving and investment to build up physical capital; second, education, health care, and family planning to accumulate human capital; third, institutional arrangements and public policies conducive to price stability and the buildup of financial capital; fourth, exports and imports of goods, services, and assets to build up foreign capital; fifth, the promotion of democracy, honesty, and reasonable equality in the distribution of income and wealth to build up social capital; and sixth, diversification away from excessive reliance on natural capital in order to build a broad and secure base for economic activity. Let us now look at these determinants of growth in India and China one by one.

Figure 2 shows the evolution of gross domestic investment as a percentage of GDP from 1960 to 2004. The figure shows a gradual upward trend in India where, since the mid-1980s, investment has fluctuated between 20 percent and 25 percent of GDP. The figure also shows a much more rapid increase in investment relative to GDP in China where, since 1978, investment has fluctuated between 35 percent and 45 percent of GDP. Clearly, more investment has been associated with more rapid economic growth in China. This means that, in China, it takes almost twice as much investment as in India to grow roughly twice as fast. China's state-run banks have more nonperforming loans on their books than Indian banks and, as is often the case with politically motivated commercial banks, their financial position and prospects appear uncertain. Even so, China seems to afford a more business-friendly climate than India. In China, it takes 41 days to obtain the licenses necessary to start a business whereas in India it takes 89 days. Gross foreign investment has likewise increased in both countries. In India, it rose from next to nothing in the early 1990s to almost one percent of GDP in 2003 whereas in China it increased to almost five percent of GDP in 2004. Thus, China has attracted far more foreign capital than India, especially through joint ventures with foreign companies.

In Figure 3, we see how the monetization of economic life has progressed in the two countries. The ratio of broad money (M_2) to GDP has increased less rapidly in

India than in China, which in 2003 had the world's third highest ratio of broad money to GDP, second only to Hong Kong and Lebanon. Low inflation in China helps explain this difference; in China, the GDP deflator increased by 3 percent per year from 1961 to 2003 compared with nearly 8 percent annual inflation in India. Liquidity reflects an important aspect of financial maturity, or financial depth: without enough money to grease the wheels of production and exchange, the economic system begins to stall like engine without enough oil. China's market capitalization of listed companies increased from virtually nothing in 1991 to nearly 50 percent of GDP in 2003. India's figure is about the same, or a bit less than 50 percent.

Figure 4 shows the development of exports of goods and services relative to GDP from 1960 to 2004. India's exports have risen since the early 1960s from the equivalent of five percent or less of GDP to fifteen percent. China's exports, on the other hand, have risen from an even lower initial level to the equivalent of most 35 percent of GDP, a large figure for such a large country because large – i.e., populous – countries tend to depend less on foreign trade and investment than smaller ones. For a long time, India produced virtually all its cars behind a thick shield of tariff protection. This is now changing, but not as rapidly as in China where many foreign car manufacturers have set up assembly plants to produce cars for the rapidly growing local market where cars are now in the process of replacing bicycles as the main mode of private transport, as well as for export. In China, taxes on trade in 2001 amounted to nine percent of government revenue compared with sixteen percent in India.

In Figure 5, we see the advance of female literacy in both countries since 1960. Once again, China has moved ahead faster, and reached a point where almost 90 percent of all females know how to read and write compared with less than a half in India. For comparison, the youth female literacy rate – i.e., the rate of literacy among 15 to 24 year olds – is 99 percent in China compared with 65 percent in India. Moreover, China sends almost 70 percent of her youngsters to secondary school compared with 50 percent in India. All this matters for growth because education improves the labor force and also because it is a necessary condition for the migration of labor from low-paid work or self-employment in agriculture to better paid jobs in manufacturing, trade, and services. Successful industrialization is a *sine qua non* in economic development. China has, in fact, done more than India to facilitate the necessary transfer of labor from the land. In China, the share of agriculture in GDP has declined from about 40 percent in 1970 to about fifteen percent in 2003. Rural

workers in China have flocked into manufacturing in the cities, mostly along the country's coast. In India, the process has been slower. There, the share of agriculture in GDP has declined from almost a half in the 1960s to a bit more than a fifth in 2003. While India's services sector has expanded rapidly, its manufacturing sector has remained stagnant at around fifteen percent of GDP since the 1960s. This means that labor has moved from agriculture to services without making a stopover in manufacturing, as is common elsewhere. This seems to be the result of the farsighted decision made by India's government in the early years following independence in 1947 to build up a number of high-quality institutes of technology that to this day remain among the world's best. These institutes have been an important source of technical manpower for the international technology industry in Bangalore as well as in Silicon Valley. China did no such thing, and this helps explain why China has excelled in producing hardware rather than software as in India.

To summarize the main points made thus far, China saves and invests more than India, attracts more foreign capital, has less inflation and more liquidity, exports more goods and services, teaches more females how to read and write, and transfers its workers more rapidly from agriculture to manufacturing and services. It is, perhaps, small wonder then that China has grown more rapidly than India and continues to do so, even without democracy to which we now turn.

III. Democracy, corruption, equality, and fertility

One glaring difference between India and China is that India is a democracy and China is not. Does democracy impede economic growth?

There are two ways to look at the question about democracy's effect on growth. On the one hand, democratization can be viewed as an investment in social capital that increases communal cohesion and with it economic efficiency and growth. In this view, democracy is an important ingredient in the glue that holds society together and keeps it working well and smoothly. For example, democracy fosters efficiency and growth by facilitating the peaceful replacement of bad governments by better ones. On the other hand, it can be argued that excessive democracy can play into the hands of selfish pressure groups that tend to abuse their power to enrich themselves at public expense and to use their ill-gotten gains to sway government policies and institutions against the public interest. If so, democracy impedes growth. And then, of course, as

Lipset (1959) argued, growth is good for democracy. Hence, the relationship between democracy and growth must be analyzed by empirical methods.

Figure 6 shows the cross-country relationship between a widely used index of political liberties and economic growth per capita from 1965 to 1998. The political liberties index shown on the horizontal axis in the figure is an average for the years 1972-1990 and is taken from Przeworski *et al.* (2000). The index ranges from one (full political liberties) to seven (negligible political liberties). The growth rate has been adjusted for initial income: the variable on the vertical axis is that part of economic growth that is not explained by the country's initial stage of development, obtained from a regression of growth during 1965-1998 on initial GNP per capita (i.e., in 1965) as well as natural capital. Of the 85 countries in the sample, about two thirds are developing countries and the rest is industrial countries. They are all represented by one observation each for each variable, an average for the entire sample period, 1965-1998. The regression line through the scatterplot in Figure 6 suggests that an increase of about two points in the political rights index – i.e., away from democracy towards an authoritarian form of government – is associated with a decrease in per capita growth from one country to another by one percentage point per year on average. The relationship is significant also in a statistical sense (the rank correlation is -0.62), and conforms to the partial correlations that have been reported in recent multiple regression analyses where other relevant determinants of growth (investment, education, etc., as well as initial income) are taken into account. Figure 6 thus accords with the view that democracy is good for growth and vice versa: there is no visible sign here that democracy stands in the way of economic progress. Indeed, China is an outlier in the figure. Political liberty is good for growth because oppression stifles creativity and innovation and thus breeds inefficiency.

And so does corruption. Of the two countries, China appears to have less endemic corruption: 27% of managers in China view corruption as a major constraint compared with 37% in India (World Bank, 2005). Transparency International's corruption perceptions index points to the same conclusion: in 2004, on a scale from one (pervasive corruption) to ten (squeaky clean), India scored 2.8 like Russia and China scored 3.4 like Saudi-Arabia. This difference between the measurements of corruption in the two countries is not large, however, and hardly matters for the observed growth differential between them. Even so, empirical evidence suggests that corruption is inversely related to economic growth across countries. Figure 7 shows

the cross-country relationship between the corruption perceptions index in 2000 and per capita growth from 1965 to 1998, measured as in Figure 6. Most countries move slowly up or down the corruption perceptions list, so the year in which the extent of corruption is recorded is probably immaterial; the index is relatively new, so that averages over long periods are not available. Figure 7 accords with the view that honesty is good for growth because corruption creates inefficiency. Specifically, an increase in the corruption perceptions index – i.e., less corruption – by four points from one country to another goes along with an increase in per capita growth by more than one percentage point per year on average. The rank correlation is 0.40. If Figure 7 is taken at face value, India and China could both expect faster growth if they found effective ways to combat corruption.

Of the two countries, India has a more equal distribution of income, with a Gini index of 33 compared with 45 in China. Figure 8 shows the cross-country relationship between the Gini index, the most common measure of inequality in the distribution of income or consumption, and per capita growth, measured as in Figure 6. The Gini numbers refer to various years, depending on the availability of data. According to Figure 8, equality is good for growth: there is, at any rate, no discernible sign in these data that equality hinders growth. The rank correlation is -0.44. The slope of the regression line through the scatter suggests that an increase in the Gini index by 12 points, corresponding to the difference between China and India, goes along with a decrease in per capita growth by nearly 1% per year. As in Figures 6 and 7, China is an outlier.

In sum, then, different rates of investment in social capital do not seem to help explain the growth differential between India and China. On the contrary, in view of the cross-country patterns displayed in Figures 6 and 8, India's democracy and its relatively equal distribution of income should tilt the growth comparison in India's favor. Therefore, we must look elsewhere for an explanation of the growth differential between India and China. This brings us back to human capital.

To restrain its rapid population growth, typical of poor countries where a large number of children per family is viewed as a substitute for social insurance, China adopted a strict one-child policy in 1980, imposing financial penalties on families having two or more children. This policy was subsequently relaxed so as to allow families to have two children, provided the first was a girl. Today, there are 300 million fewer Chinese than otherwise would have been the case, and this is good for

growth because less rapid population growth means fewer mouths to feed and fewer children to send to school. This means that each child can receive better care at home: more and better food, clothing, education, medical help, and other necessary preparation for well-paid work in an emerging modern economy. Therefore, reduced fertility, measured by the number of live births per woman on average, is an essential part of the buildup of human capital. In China, fertility has been steady at two births or less per woman since the early 1990s, down from seven and a half births in the early 1960s. In India, the progress has been slower: fertility has decreased from six and a half births per woman in the early 1960s to a bit less than three in 2004. India's population is projected to overtake China's by 2025.

In both countries, child mortality has decreased markedly since 1960 when fifteen percent of all children died at birth in both countries. The decrease in child mortality has been more dramatic in China, however, where in 2004 three percent of children died at birth compared with six percent in India. More and better health care and education have helped reduce child mortality in both countries, and across the world, and thus helped improve the human capital stock. It is striking that the progress in health care in China began long before the economic reforms that started in 1978, despite the dramatic upheavals during the Great Leap Forward (1958-1961) and the Cultural Revolution (1966-1976). By the early 1980s, child mortality had already declined to five percent.

IV. In conclusion

Modern growth economics sheds light on the comparative growth performance of India and China in recent decades. Huge though they are, India and China's economic development strategies and trajectories lend themselves to the same kind of growth analysis as those of other, smaller countries. What works for the rest of the world also works for the two giants of Asia. Herein lies an important lesson. Economic policies and institutions that spur investment, price stability, openness, education, health care, diversification, democracy, and family planning are good for growth because these are ways of building up different kinds of capital that drives economic progress. The main difference between the growth record of India and China is that (a) India has moved less rapidly in the same direction as China on many fronts at once and (b) India has failed to bring population growth down to a desirable level whereas China

has failed to introduce democracy. With fewer children, paradoxical though this may sound, India's future prospects look bright because family planning is easy. China has shown the way. Democratization, on the other hand, is a difficult and time-consuming process as the experience of Korea and Taiwan has shown because it requires the defeat of firmly ingrained political opposition against increased democracy. For this reason, China's long-term prospects appear less certain than those of India. China needs democracy at least as much as India needs slower population growth.

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Figure 1. GDP per capita
(International US dollars in 2000 at ppp)

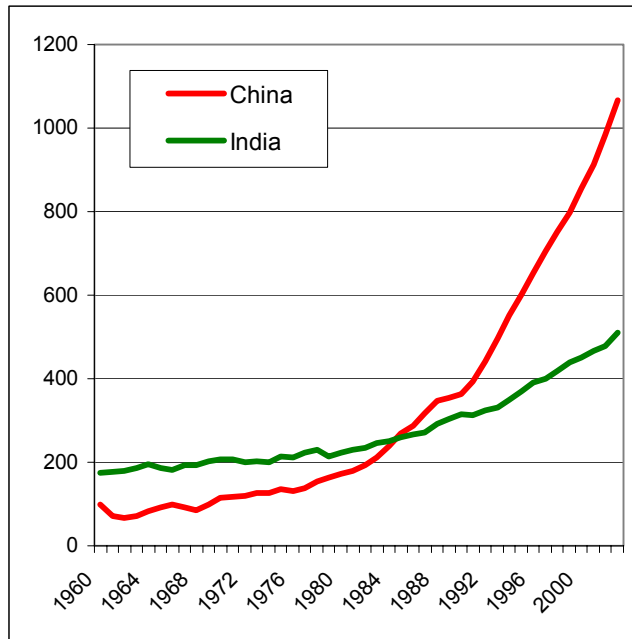


Figure 2. Investment
(In percent of GDP)

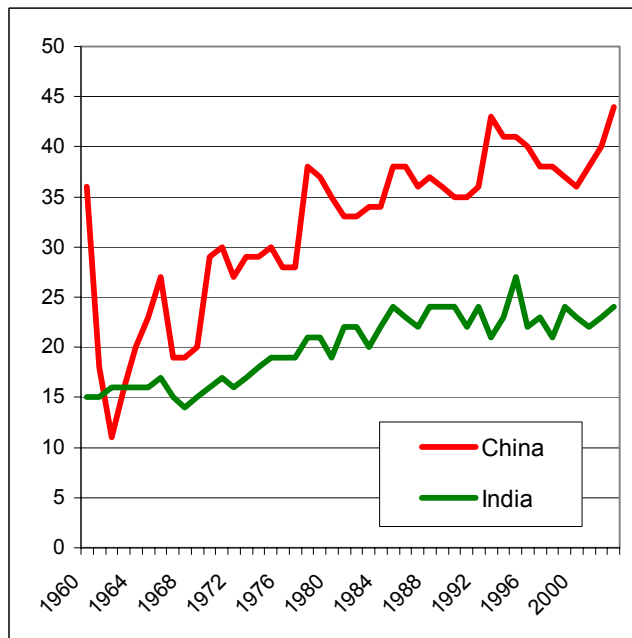


Figure 3. Financial depth
(Broad money in percent of GDP)

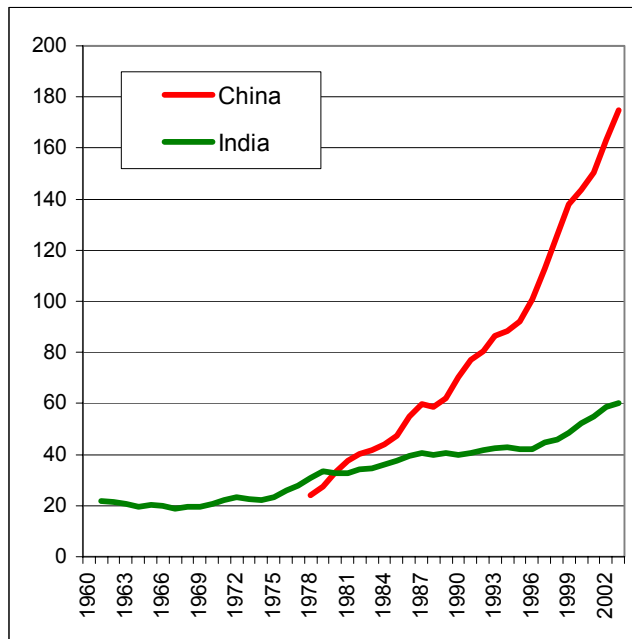


Figure 4. Exports
(In percent of GDP)

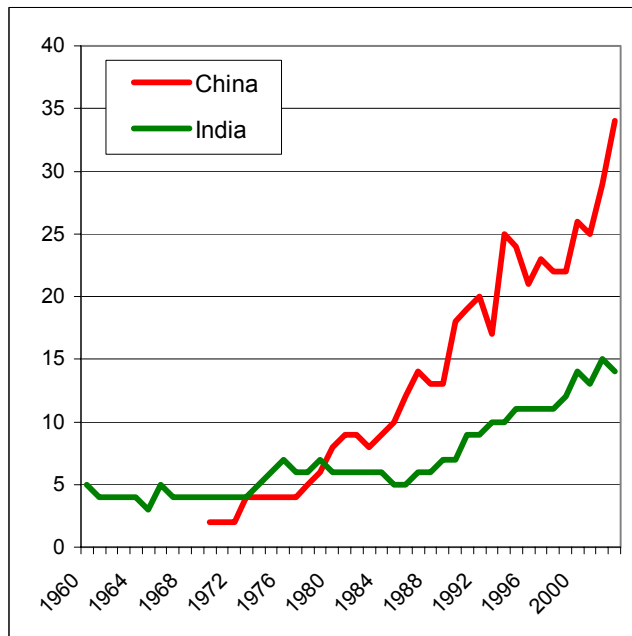


Figure 5. Female literacy
(In percent of population)

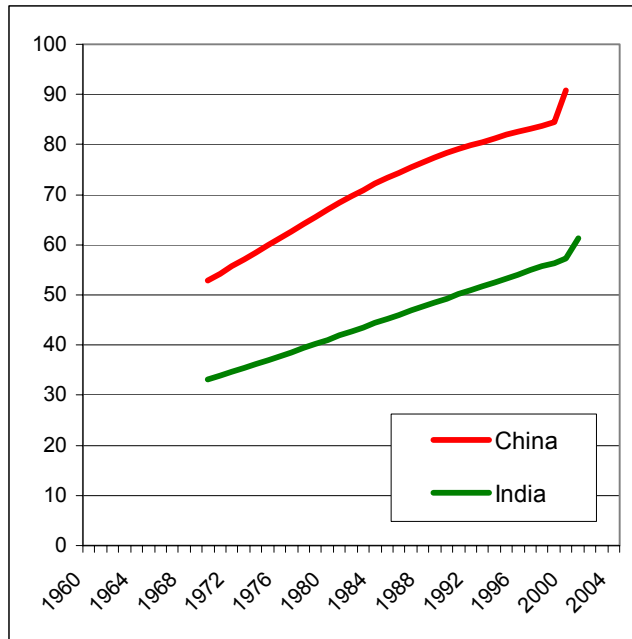


Figure 6. Political liberties and growth
(85 countries)

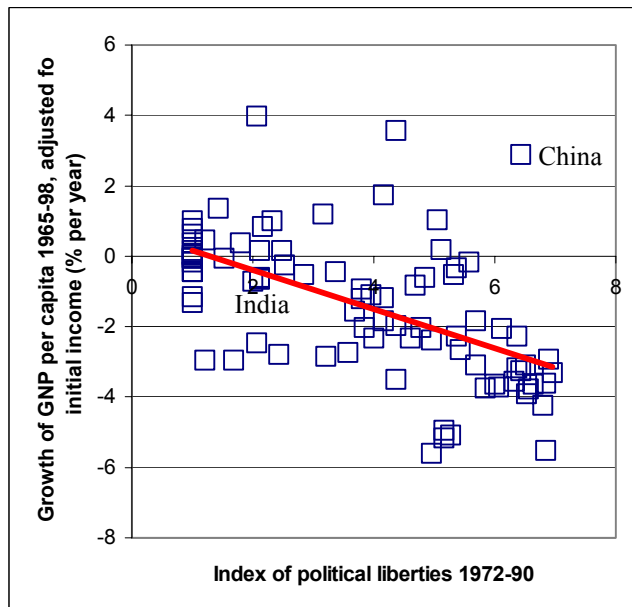


Figure 7. Corruption and growth
(55 countries)

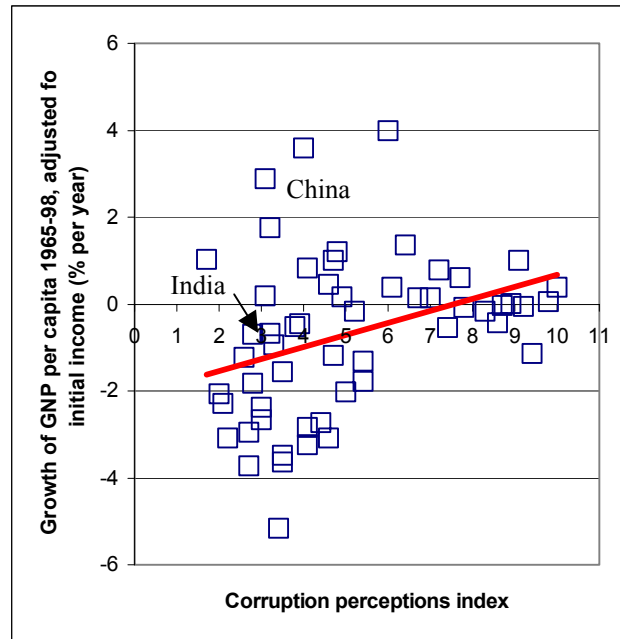
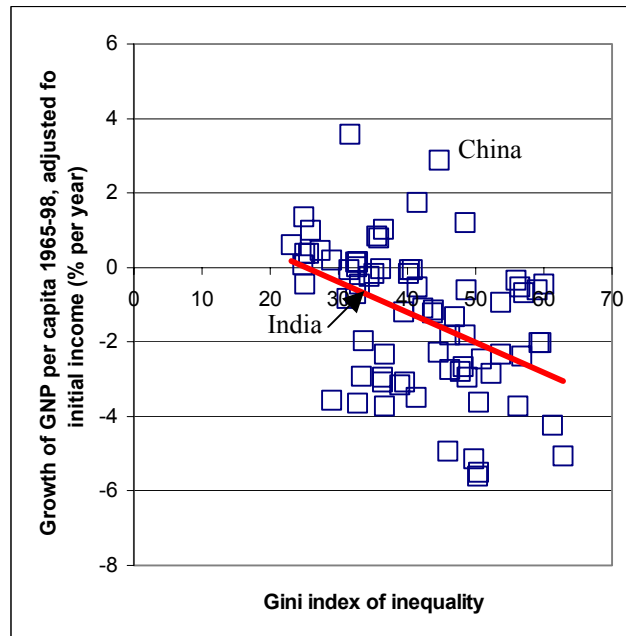


Figure 8. Inequality and growth
(75 countries)



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