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A.O. Hirschman and the rise of China-India-Africa Why the models of a Dissenter are still valid*

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(preliminary version, not to be quoted)

It is paradoxically at the time of publication of 'Pioneers in Development' in 1984, with a fairly severe assessment on development economics in the past 30 years, that a major shift shakes actually nearly half of humanity: China and India. The years 1980-2000 saw indeed a progressive disruption of the global economy in favor of the so-called emerging markets, actually first of all the two Asian giants. Their GDP in purchasing power parity places them respectively at the second and third rank in the world and the only uncertainty now is the distance that will separate them from the American power in the coming decades.

The shock is all the more serious than the first signals in favor of the "Africa Rise" may lead to conjecture that we may have not seen yet the complete transformation of the power distribution of the world economy less a century after the independence era in the Third World. Would it be a posthumous revenge of some pioneers of development economics like Albert O. Hirschman, who tried in the years 1960-70 to produce an original analytical framework to account for the complexity of economic development? Or is it the triumph of the orthodox approach which has been very influential in the implementation of liberal economic reforms in developing countries during the 1980s with the standardization of an open capitalist model?

Despite the opening and strengthening of the market mechanisms in China and in India, the answer seems to be not confusing. China and India have not adopted the standard canons of the liberal economic model as Dany Rodrik has shown repeatedly and their success seems rather like posthumous triumph of the heterodox development economics, particularly that of Hirschman. In Africa on the opposite, forced by geopolitical necessity to follow the liberal canon during its structural adjustment phase in the 1980-90s, the same Dany Rodrik shows what has been the cost for its medium-term development prospects: the return to primary economy. In light of the development sequences experienced by China and India, however, there is some evidence indicating a potential break of the african vicious sequences if we mobilize the hirschmanien theoretical apparatus.

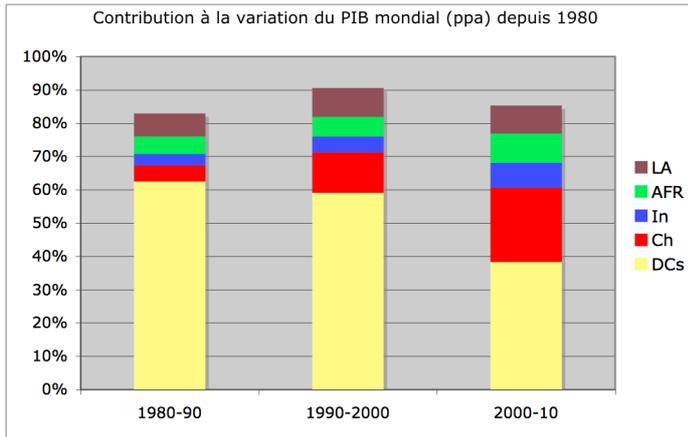
Three models prove particularly fruitful to account for the emergence of China and India for three decades: the cycle or pendulum between Private interest and Public action, the non linear sequences related to the imbalances of development itself, and finally the Linkages dynamisms. They can be powerful tools for understanding the current challenges of Africa, but as well the future of Chindia and India in the coming decades.

1- The rise of China, India ... and even Africa

One can not stressed enough the pessimistic outlook of Asia that had most economists usually during the sixties. The "Asian Drama" published in 1968 by Gunnar Myrdal is the symbol of a long series of publications that actually express disappointment with the expectations raised by India and China at the time of their independence in the years after the war. The publication of the book of Hirschman - Strategy - a decade earlier had yet provided some keys showing that development is far from being a linear process and often follows the same patterns apparently antagonistic as 'sealing against the wind'. Its own critical assessment in 1984 about the so-called 'obstacles' facing all developing countries proved indeed much less pessimistic about the future of developing countries than most pioneers. Facts have proved him right judging by the incredible transformation of the world economy in thirty years, and especially from the three major demographic giants: China, India and Africa or what we can call 'Chindiafrica'.

The share of these economies in the world incremental output has risen from 14% in 1980 to 23% in the 1990s and finally to almost 40% in the last decade. The China factor is obviously considerable as it went from 5 to 22% of the incremental world GDP. But India has triple its share to nearly 10 percentage points in the last period. Africa's share at large, including Middle East and North Africa, has doubled from 5 to 10%. That of sub-Saharan Africa, however, still represents only 3% of the global incremental growth, but it is significant that it was basically the contribution of India in the 1980-90 decade. Above all, the comparison with Europe is striking: the richest region of the world after the United States (the fifth of global GDP each) has seen its contribution declining from 23% to 10% between early 1980 and 2010, the American champion fell from 22% to 13%, and Japan from 10% to 4%.

Figure 1: Contribution to the World economic growth of the three major emerging continents



Source: Adapted from *World Economic Outlook 2011*, IMF.

Legend: LA: Latin America In: India, Ch: China; DCs:

This break since the early 1980s could be just the beginning of an even more pronounced shift in the global economic geography over the next three decades, judging by the results obtained by the CEPIL team for its projections to 2030-2050. In terms of growth rates, the World economy could grow at a rate of 3% per year over the two sub-periods 2010-30 and 2030-50. The United States in the order of 2% and the European Union between 1 and 1.5%, but without growth in its population while it would increase by 0.5% per year in the US, which amounts to a identical per capita growth. Same thing for Japan whose population would decline by 0.5% per year and the total GDP would increase by + 0.5% per year. Overall, the GDP of rich countries could continue to grow at a rate close to 2% per year until 2030 and then declined slightly to 1.3% until 2050.

In contrast, the three giants of "Chindiafrica" could register an average growth of 6% per year.

* China growth could experience a significant slowdown from 10% to 6-7% and then 5% after 2030. But in return, the real value of its GDP could appreciate relative to other countries due to a faster productivity growth and therefore a regular appreciation of its currency.

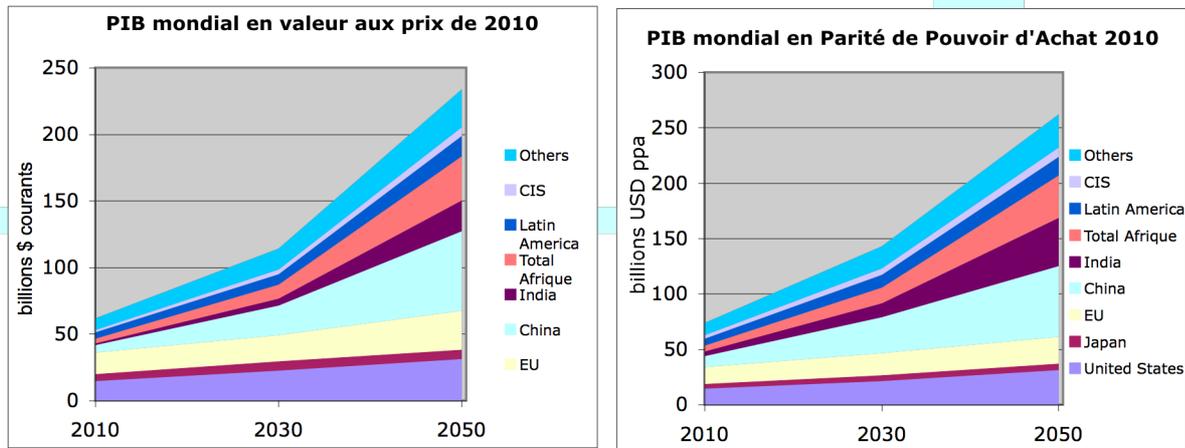
* India could do as well on the first sub-period of 2030 -about 6% per year- and even exceed the Chinese growth at the end of the first sub period. Some experts expect even the crossing of the two curves before the end of the current decade.

* As for Africa, despite some recent euphoria, its growth should remain on a plateau of 5% per year until 2030, then add one or two points to 2050. But the CEPIL experts acknowledge that their model is pretty poor to handle the case of sub-saharian Africa due to a lack of reliable data and inadequate modelling for such economies.

In any case, the exercise has at least the merit of showing the extent of possible changes in the coming decades. The impact on the world economic masses appears indeed considerable. Taking the GDP in purchasing power parity (PPP), closer to the notion of production volume, the whole "Chindiafrica" world could rise from 26% of global GDP to 44% in 2030 and then jump to 60% by 2050. This would represent a major shift for the global balances of the planet. A relevant indicator

is the contribution to global growth of the three giants that together would increase to 65% in purchasing power parity and slightly higher at price market thanks to the gradual appreciation of the real exchange rate for China and India.

Chart 2: World Economic GDP by 2030-2050, in current and ppp exchange rates



source: based on Cepii, op.cit

2- The role of 'Public action-Private interest' cycles

A work of A.O. Hirschman looks especially fruitful when we want to understand the emergence of Chindiafrica. it was published at a key moment in the economic history of developing countries in the early 1980s, especially for the three large continents under review. What is it about?

Hirschman tried to formulate a theory to explain the existence of substantially constant periods of economic, social and economic changes under the action of endogenous forces. Here the cycle involves two opposing forces: the commitment or appetite of individuals for public action or for the benefit of society as a whole at the expenses of their immediate private interests; and conversely, the switch to 'private happiness' taking precedence over the 'public interest'. The Hirschman model is based on the role of 'expectations' versus 'disappointment' in the preferences change. It is built on a sequence that starts from the definition of a collective project that raises high expectations in the society, and then introduce a phase where the actual achievements appear too far relative to expectations arousing frustration or disappointment which lead individuals to switch to a new scale of preferences.

2.1- The case of China and India since the 1950s

In the case of China and India, the explanatory power of such a model to account for the breaking of the 1980s looks amazing. About at the same time –Deng Xiaoping in China in 1979-80 and the new economic policy of Indira Gandhi post-1981 followed by her son Rajiv- the two asian giants started to shift from a command economy and closed model to a more liberal, open and demand-led economy. This was the era of the implementation of market reforms commonly called 'economic liberalization'.

These shifts are generally attributed to an exogenous factor: the U.S. neoliberal wave which spread onto the whole world during the 1981 Reagan presidency. Certainly, one can not ignore its impact on decision-makers from the two Asian giants. But its impact was actually extremely marginal on their population as a whole because outside information plays a very limited role in these continental countries, especially in those years when Internet did not exist. In fact, the importance of endogenous forces seem decisive. Let us remember: the two countries proclaimed their Republic in 1947 and 1949 respectively, after two centuries of anti-imperialist popular movements. Charismatic leaders (Mao and Nehru), carrying a Marxist ideology, then launched their respective country on the path to an ambitious economic catch-up.

Their intensive accumulation model of basic industries required an unprecedented effort for their people with a huge state centralization of ressources to invest in basic infrastructures. The Maoist way was much more authoritarian than the Indian 's, but in both cases, the population agreed with

some enthusiasm to sacrifice their present welfare in the name of construction a new Nation.

Then came the era of disappointment. After the 1950s, the average growth rate in India remained glued to the famous Hindu Rate of Growth of 3.5% per year, no more than +1% per capita considering the rapid population growth. In China, growth has been slightly stronger on average, but it was actually fairly unstable under the combined pressure of political cycles and natural disasters. In the case of India, the analytical model of two American political scientists, Lloyd and Susanne Rudolph, shows how in the late 1970s, a shift of its political model started to what they call a 'Demand Politics' as opposed to the post-independence "Command Politics". That is to say an increasing role in the expression of private interests and widespread defiance against the central government. Hence the choice of the title of their book referring to Lakshmi, the Hindu goddess of prosperity, not that of the community but that of private enrichment.

The real break occurred with the failure of the authoritarian turn of 1975 when Indira Gandhi declared a state of emergency with in the backdrop the will to drastically reduce the fertility considered as the main impediment to economic growth. The Indians believed that it was rather the failure of the so-called "License Raj", ie the predominance of the role of the state in the economy and that it should be liberalized in favor of the private sector and individual initiatives.

At the same time, surprisingly, China experienced a last gasp of public collective action in 1976 with the overthrow of the "Gang of Four" who had led the Cultural Revolution playing on the high expectations of the Youth. China then experienced the convergence of two disappointments: that of historical leaders accused of conservatism and led by Deng Xiaoping who opposed the Maoist way for many years; and the Youth and their parents who made heavy sacrifices in the 1950s and placed great hopes in the political and economic model of Mao Tse-tung. Like India, passion for public action and public good, then vanished in favor of a return to private interest. We remain the famous maxim of Chinese leader Deng Xiaoping: "Whether a cat is black or white, so long as it catches mice." This is also the time when the slogan "Get rich" becomes the centerpiece of China's economic policy, even if also implies "provided that the country becomes rich and the party stay in command". In India and China, the new watchword of the business model is the enrichment of everyone and individual initiatives. And despite what may be said of China notably the accumulation rate rising to 40% of GDP, private consumption gradually tends to become one of the two engines of the economic growth with export.

The difference with India is indeed the role of the second engine of growth: exports. The reason lies in the difference between the mercantile and imperial model of Northeast Asia, including Japan and Korea, and the traditional psyche of the Indian merchant castes that have always made the best of their domestic demand as shown by the size of the informal urban bazaars totally absent in the Chinese world. But it is a difference in amplitude and not of kind. The two Asian giants at the same time started their opening policy after three decades of "Rely on your own strength" of Chairman Mao or the nehruvian "self-reliance". These slogans were replaced by the new goal of 'recovering our world economic power status' including the broader concept of 'Renaissance' used by the two countries. To the point that these two powers are today the most fervent supporters of globalization even if they insist on its regulation by strong states.

In both cases, the role of disappointment is obvious to explain the change of collective preferences as put by Hirschman in his model. First, disappointment of the elites who discover the power of this Indian proverb: "The world trembles before the elephant and tramples the ant." After three decades, those perceived as political giants after the war became economic dwarf that were not listened during the Pax Americana era. It was necessary to change the model and open up economically to catch up with the developed world leading so much technologically and economically after the post-war Golden age. Then disappointment of the businessmen and consumers who could see the technological and affluence gap that had opened with the West in the name of economic independence. This was the era of the "brain drain" for India, the brain drain of the Indian engineers educated in the prestigious nehruvian institutes like IIT or IIM but not finding proper salary and promotion in the old-fashion industrial and administrative structures. Their Chinese counterparts would have done the same had they been free to do it. Actually, they will catch up with India in a few years since there are now more Chinese students in the United States than Indian ones.

2.2- Can we talk of a Hirschmanian cycle and the case for Africa

This would imply that one can already detect symptoms of "disappointment" vis-à-vis the liberalization of the 1980-90s, and a kind of return to public action and interest for the community. In fact, this is the case, and again surprisingly concomitantly between the two giants. The themes 'inclusive growth', 'inequalities', 'corruption' stands out as top priorities in the Eleventh Five Year Plan of India and in the Chinese twelfth plan (with environment issues also). Of course, the priorities are different since the two business models are significantly different. China vows to correct the excessive part played by export and investment compared to private consumption and welfare, in particular providing pensions and equal opportunities in education. India is now committed to invest heavily in universal primary education and health that has been neglected in favor of an elitist education, as well as infrastructure abandoned for thirty years, especially in rural areas. But in both cases, the social community ask for the return of a strong deliberate state action, including to fight endemic corruption that has exploded since the liberalization of the 1980s.

This balance between public action and private interest remains to be written for Africa, but the investigative book by Ryszard Kapuscinski, which covers the whole period, clearly shows all the symptoms of a pendulum between a first euphoric phase just after the independences followed by a strong disappointment wave in the 1970s. It was actually announced by the book of René Dumont: « L'Afrique noire est mal partie », published in 1962, that is, when economists rather expressed despair with respect to Asia and more confidence to Africa with the good example of Côte d'Ivoire ranked in the category of 'economic miracles', a prelude to that of emerging countries today. Poorly received, the Dumont warnings proved prescient since the following decades have indeed marked by a series of coups and civil wars that undermined investment of people in any public action then.

The African cycle seems however very different from the Chindia cycle, and due to a major differentiating factor: the two Asian giants are nation-states. In the case of Africa, disappointment with respect to public action or collective interest has sparked another political passion as is evident again in Ryszard Kapuscinski observations: that of identity being clan, tribe, religion etc. Africa comes in fact in the last throes of the 1885 Berlin conference as argued by Kako Nubukpo about the Ivorian crisis: « Populations historically and culturally divided horizontally were forced to live in 'vertical "states'. (...) This has always caused tensions, to the extent that these new states were anything but of nations ». In short, it is clearly the underlying cause of the serious political crises in Africa during the post-1970s which led to economic crises –like regular famines- not conversely as in China and India. Disappointment following the post-independence years did not switch to the pursuit of private interest like for Chindia. It continued on the register of political passions. After the terrible experience of ethnic massacres, civil wars, kingdoms Warlords etc. in the 1990s, how the pendulum could then switch to a more individualistic and more economic stance? The rapid development of pan-African businesses, intra-Africa migration of young people seeking jobs, can go in this direction. There is also in the African media a shift to economic issues, to business, to the private sphere.

But in this pendulum, can Africa override the political issues, including that of the states, their social and ethnic legitimacy? With the economic challenges of the developing world, particularly in Africa, as outlined recently by Dany Rodrik, we would actually expect a balance back in favor of genuine national development policies on the line of a 'Moderate globalization'. There are some evidence in this direction, particularly the combination of a youth peak more educated than their elders and a gradual restoration of democracy in most African States. Similarly, the growing importance of NGOs in Africa, similar to the Indian model, is a strong sign of the emergence of a new civic public action capable of putting pressure on governments but peacefully as it has been the case in the last few years in Mali (2001), Senegal (2011) or Burkina Faso (2014). Compared to China and India, Africa, however, continues to be hampered by the weak legitimacy of its states and the weaknesses of its sub-regional bodies or pan-African ones (African Union). In this context, an economic takeoff comparable to the Asian giants do not seem the most probable despite all the current hypes on the "Africa Age". Still the pendulum is on the political action side.

3- The essential role of tensions and imbalances in development strategies

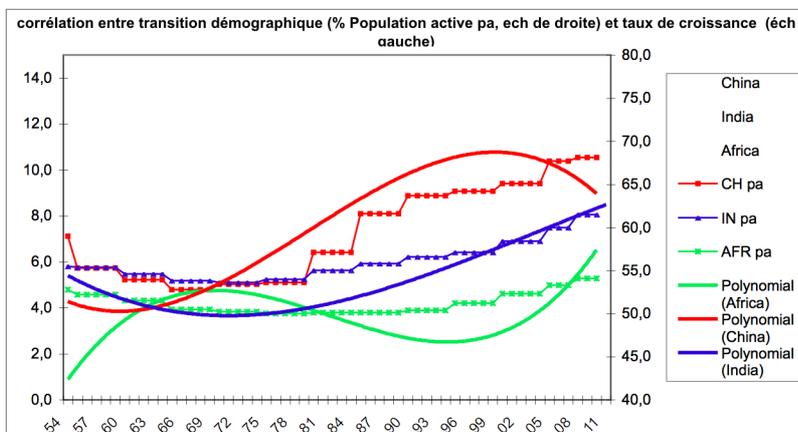
Nonlinear vision of development, made of a succession of unbalanced and extreme phases, is at

the heart of the Hirschmanian problematic as synthesized in his 1958 book. We would like to give here some examples of the intelligence it brings to the understanding of the Chinese and Indian development models and look for a possible reading of the Africa experience. The traditional explanation for the rise of the Asian giants by their policy of liberalization and openness, understood as the victory of orthodox reforms, appears here primarily ideological. It does not withstand a factual analysis because most of the factors explaining their take-off and their specific patterns lies actually in the strategies implemented in the early post-independence decades. Everything indicates that these are the parameters set up in the 1950-60s which largely explain the successes and weaknesses of the Indian and Chinese economies since the turn of the 1980s. A prime example is the form taken by their demographic transition, especially the famous demographic window of opportunity that plays an important role in the take-off stories be it successful or failed.

3.1- China and India 'antagonistic' sequences

A comparison of the growth trend over 50 years with the best indicator of this transition -the proportion of working age population in the total population- shows a striking correlation as seen in Figure 3. The profile shows a rapid and very ample Chinese demographic transition, well before the one-child policy of Deng Xiaoping who actually was implemented only in the early 1980s. As perfectly argued by Jean Drèze and Amartya Sen, China's demographic profile is largely due to the Maoist policy meeting basic needs such as education, health and nutrition, as well as the promotion of gender equality. As a result, the Chinese mortality drops very rapidly, followed by the birth rate only a few years after the official pro-birth policy implemented after the Korean War. This creates a rather unique phenomenon in history: a baby boom on an unprecedented scale, the formation of a quasi-bubble of young people who start to flow on the labor market in the late 1970s and whose peak was reached in 2010.

Chart 3: Economic Takeoff and profile of the demographic window of opportunity for China-India-Africa



source : author modeling and calculation

Conversely, the Indian demographic transition is more gradual and the demographic window of opportunity is both less ample and much more spread out over time. It will not end until 2040 when China will already be in the age of the "Papy Crash" for 20 years. One explanation here -brought again by Amartya Sen and Jean Drèze- is that the Indian social policy after independence granted little importance to the basic needs satisfaction and to the gender equality. On the one hand China, a schoolteacher original Chairman Mao, on the other side a Pandit Nehru of Brahmin origin, upper caste scholars. As a result, mortality decline much more slowly in India than in China, as the birth rate impacting directly their respective savings/investment rates irrespective of their states role in accumulation (much stronger in China than in India).

Technically, these differences are large enough to explain why the Indian growth is lower by four points to that of China over the entire period. But the consequence in the long run is like the fable of the tortoise and the hare, an image now used by some economists to illustrate the India-China match to come. China's growth potential will now decrease rapidly, while the Indian path should instead continue to accelerate in the coming years. Moreover, the growth objectives of the eleventh five-year plan of India and twelfth for China, already mentioned, are revealing. China has retained

a growth target of 7 to 7.5% over the 2011-2015 period when India has set a target of 9-10% over the same period. To borrow from the typology of Hirschman, these fundamental difference in the respective sociodemographic profiles induced diametrically different pressures, that the Indian and Chinese leaders have simply faced with pragmatism. Including the pace and manner of opening their economies.

In the case of China, in fact, what other option than an accelerated opening strategy could help to maximize growth and employment enhanced by four decades of massive labor surplus of low to medium-skilled workers, but that of massive import of capital, technology, know-how and management skill, and look for external markets (export) to finance this massive imports flows without too much dependance of balance of payment fragility ?

And after this phase of extreme openness, it is then little surprising to see the major inflexion announced in the 12th Chinese plan under the pressure of a double factor: the limited external engine considering the commercial weight now reached by China and the progressive shortage of young workers. In the first case, a growth of 30% per year in exports when one weighs 1% of world trade, as in the beginning of the opening, does not have the same impact on the global economy, as illustrated by Kindleberger in his famous typology of small and large economies, when it represents 10% of world trade, as is now the case.

Second pressure now, the shortage of young workers, the very people who are trained in the latest technologies that ensure continued productivity gains. In fact, even if the labor shortage is not imminent because of the expected 200 million rural people who can still shift into the cities, the shortage of talent in modern industry and services is now a daily stress in China. The fall in the 18-25 age class, from over 300 million at the peak to 180 million between 2010 and 2020, does not even include the explosion of the number of students from 6 million to over 30 million today to support the necessary shift of the China's production system towards higher value added.

In the case of India, youth employment pressure was much more gradual and has not at all experienced the Chinese peak of the 1980s. More, the dualism of the education system inherited from the Nehru Brahmin policy in favor of the elitist institutions, did not lead to the same potential of semi-skilled workets as in China. Instead, India had a 'surplus' of highly to medium-skilled people in modern services. And this is also where she encouraged openness by providing -like China in assembling industries - attractive conditions for foreign investors but also Indian's. For, second difference from China, India does not lack entrepreneurs. She even may have too many somehow compared to the capacity of the state to invest in infrastructures. And she never failed either in technical know-how. The indian companies never invested much in R & D, and still are not, but they were able to draw on expertise inherited from the period of "self-reliance" and powered by native engineering groups. Then at the time of opening, they had access to more modern technology through joint ventures, the only way for a long time to enter the Indian market. Today, Indian companies are even going internationally with their managerial excellence and have direct access to the latest technologies as the Mittal and Tata for steel, or in pharmaceuticals etc. In any case, they can master foreign technologies through an education system that has long been a showcase for the "brain drain" with a strong exposure to the best education systems in the world while China was living isolated. Today, India is betting on a successful 'Brain Gain', ie the return of her qualified engineers after half a century of experience abroad.

As for the capital, as brilliantly shown by Albert Hirschman, this is part of the myth of the 'initial conditions' of Take-off, or the famous 'obstacles' in the developing world. In fact, India has always been a rich country. It was enough to stroll in the 1980s in the bazaars of major cities or attend the wedding of a Bania caste (merchants) family to be convinced. The question is always the same : how to mobilize productively the existing capital of a country. And that is where the pro-business reforms of Indira Gandhi in the 1980s, so analyzed by Rodrik and Subramanian, were enough to mobilize this capital productively and at a relatively consistent pace with the demand for jobs of the new generations. China on her side had eliminated all the capitalist classes in CPC but just turned to the compradore classes who exiled in Hong Kong, Taiwan or Singapour after the Revolution, and only in a second phase post-1989 to the foreign capital.

Finally, concerning the external markets, India has been regularly subjected to balance of payments crises because it has never offered a competitive base comparable to China for example. But on the other hand, the existence of a class of local entrepreneurs, competing with

each other, has always weighed in favor of protecting the domestic market. It was enough to release the clamp of internal competition and the banking system to see private investment explodes with the domestic market as a sufficient outlet. Indian opening rate is thus three times lower than in China whereas the growth performances are now in a handkerchief.

In return, however, Indian companies have been forced to develop business models adapted to a population with a low purchasing power, including the middle classes. Where innovations called "frugal" in which India excels, and the archetype known worldly is probably the Tata Nano car despite its commercial failure. Less known, but more importantly, the model of the world's first mobile phone company -Bharti- whose communication rates are the lowest in the world, including in comparison to China. This is achieved through a completely innovative outsourcing model, not to small subcontractors, but the global industry leaders such as Ericsson for equipment or IBM for the software to manage subscribers and traffic in the most efficient way. This explains why the mobile phone penetration is now comparable between China and India, while the per capita income is three times lower than in India. Another striking example of her ability to think 'frugal' is the Indian car market where 80% rely on small capacity engines of less than 1200 cc models, while China rather cultivates beautiful American model, much like Japan in the 1970s.

3.2- What could be the sequencing for Africa ?

In light of these sequences, Africa has a strong time lag with China and India, but also some interesting similarities. Figure 3 comparing the three giants correlation between the share of their working age population (WAPR) and their long term growth profile is quite telling. Africa has experienced a marked deterioration in its WAPR in the 1970-1990 period and its growth potential has slowed in stride. The trends has reversed since the mid-1990s and Africa is catching up with the Indian trajectory. The African demographic transition turns out in fact much later in China and in India: three decades of lag. There is however in recent years a rapid decline in the dependency ratio (non-active/active population) which corresponds to the opening of a demographic window of opportunity. Clearly, the specific history of Africa makes it much less ample and concentrated compared to China but also India. But the fact is that a kind of chindia pragmatism is coming in Africa with the rising 'Youth bomb" and there is no reason to exclude any institutional changes in the near future.

What is also surprising is the catch up of Africa in terms of schooling and human capital if we look at the latest data published by Barro and Lee. Africa is certainly far from China who open a huge gap in this regard during the Maoist period, but not so far from India: half of African states have better educational indicators than half of the Indian states, for example. In this context, the rapid introduction of new technologies in Africa, in particular through the combination of Chinese hardware and Indian software, leads to a structural changes that should pressure African leaders to adopt more effective social and economic policies through civic voices. The use of Internet and social networks are promoting in particular the protests from the streer, as we saw during the Arab revolutions in 2011, and thus accelerate the political transition as a key for the african take-off.

The export rentier model for a privileged minority, and more generally the economic extraversion of Africa is less and less compatible with the Youth challenge, in terms of jobs in particular. In case of accelerated growth and political stability, we could even find the same phenomenon of reverse brain drain that India has experienced in recent years, creating strong feedback effects through the african diaspora. Many clues point to that direction including the development of venture capital funds from the United States or Europe and across Africa. But what will be the model used by Africa? It is difficult to predict as the experiences of India and China show that their journey has much more to do with circumstances than careful planning.

4- The linkages effects play a key role in economic development

The surge of India in Software and Telecom illustrates the unexpected effect of industrial policies implemented in the pre-1980 years. Albert Hirschman has always insisted on the paradoxical mechanisms related to the linkages effects. India's emergence in global IT industries is clearly a case of a non-expected result of the policy of 'self Reliance' followed since Independance yet deeply criticized as the main factor to explain the sluggish growth after independence. In fact, as explained Vineet Nayar, the founder of one of the global leaders in technology - HCL - it is the

decision of Indira Gandhi to kick off US multinationals in India in 1973 that triggered the wave of entrepreneurship in this sector. The final expulsion of IBM in 1978 by the Janata government has enabled the founder of HCL to start its computer business in a garage to fill the vacuum and to lay down the foundations of the Indian IT industry through a series of unintended sequences. Twenty five years later, India has become the world's largest exporter of IT services thanks to the innovative model of offshore outsourcing.

Admittedly, India has gradually abandoned the manufacture of electronic equipments as China invaded massively the hardware production and pushed the IT maharajas to realize that their competitive advantages were in software. But the process has mainly been 'accidental' as put up in the autobiography of the founder of Infosys, Narayana Murthy. This is a good example of Hirschman's model of induced sequences ('possibilism') and linkages effects. Outsourcing services is for example a totally unexpected result of the continuing infrastructure crisis in India. The permanent shortages of electricity and awful road conditions were penalizing Indian industrialists vis-à-vis their Chinese competitors that benefited on the contrary of a strategy of 'infrastructure growth-led' (IES). But this led the Indian IT sector to take advantage much faster of the technological revolution than their Chinese competitors and to minimize the information and marketing costs of outsourcing. Hence the surge of very large clusters of industrialized services with global reach like Bangalore, Gurgaon, Pune, Hyderabad etc. And the puzzling effect of this sequence is that the Indian advance in information technology has allowed the Indian manufacturing industry to come back on the world stage in high-value niches and to develop new concepts like the 'Low cost-high quality' one. Based on the FDI flows over the last decade, this even made India attractive against China perceived as too specialized in mass production and large series.

How these sequences played for China? The Middle Kingdom has also learned a lot during the Maoist years ("rely on its own strength") and its current leadership in the fast-speed trains is directly the result of the establishment of an national railway industry as early as in the 1950s. Unlike India, China however eliminated -in figured as physical senses- its industrial and managers in the first post-independence phase. So she had to rely deeply in the 1980s on the Chinese diaspora that had fled the country, first in Hong Kong, Taiwan or Singapore. But that does not mean actually that they are considered 'national' captains of industry. The consequence is that the Chinese government rely less on them for R & D as on its state research laboratories, particularly in major universities such as Tsinghua in Beijing to catch up in mastering modern technologies. We are therefore in the presence of two distinct models: the acquisition of the 'Knowledge Power' by China is based on government or quasi government institutions (public firms like Huawei) and foreign companies are 'politely' ordered to transfer more and more technology in China in exchange of access to the local market.

These kind of unintended sequencing mechanisms quite original in the Chinese and Indian models could have unexpected repercussions again on the future of Africa. Far from the caricature of purely 'neo-colonial' relations by China in Africa, the take-off of the two Asian giants have had major impacts on the African economies. The combination of Chinese excellence in hardware and innovative Indian software, two types of business models and more broadly two contrasting (even antagonistic somehow) development models act as game-changers for Africa in the 2000s. One clear example is mobile phone and internet with a completely unexpected sequencing and high expectation of a virtuous circle: the African continent host now more than 600 million subscribers with deep impact on economy but also politics. How ? On one hand, China has brought the lowest prices available on the planet for hardware, both network equipment and handsets for individuals. India, on the other hand, brought the Airtel model providing the lowest communication costs in the world largely thanks to the mastering of IT technology experimented in its domestic market. The irrepressible attraction of the new 'chindia' model opened the way to a fast deregulation of african markets including the largest ones like Nigeria in the early 2000. With the fragmentation of the continent, Africa may not achieve the same performances as in China or in India, but the pressures are such that a true pan-african Telecom network is on the way.

Still one may not catch the full significance of the combined influence of China and India but it could fundamentally change both the organization of African societies and economies. On a negative side, the growing demand for raw materials by Chindia, including food, has a regressive effect on the african fragile industries as shown by recent works of D. Rodrik. Will it spark a fast comeback of the so-called Ressource curse is not as simple as stated often. Thanks to the IT

revolution in Africa, there is a very fast development of the Extractive Industry Transparency Initiative (EITI). The civil societies are much more able now to impose transparency and control over contracts and use of resources including with Chinese groups. This could generate a more complex phenomenon as well explained by Paul Collier and framed recently by the African Expert Group Initiative for Policy Dialogue on the subject.

Conclusion

No one yet knows the answer but surprises in the history of economic development can only encourage modesty. Nevertheless, to continue on our rediscovery of A.O. Hirschman, his famous model of « Exit, Voice and Loyalty » should play a key role in Africa in the coming years. The rise of the young generation of 18-25 will experience a peak in the next twenty years and the legacy of the two first phases of failure in Africa's economic development could well result in a 'Voice' of the Youth against all attempts of politicians to manipulate so-called 'ethnic' conflicts to cover their discretionary appropriation of the huge resources of the continent. As for China and India, there is no illusion about a possible neo-colonial deal with Africa. All official and unofficial documents show that they are expecting a high-price era for raw materials and on a positive side an African market take off.

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See also the documents of the Indian Eleventh Five Year Plan (2007-2012) on the website of the Planning commission : <http://planningcommission.nic.in>, and for the Chinese XIIe plan (2011-2015) <http://www.china.org.cn>

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