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**“The Chinese economic miracle.**

**How was it done?”**

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This is an early draft for discussion.

Yellow highlights indicate numbers that must be further checked!

References have not yet been included.

**Abstract**

Over the last 40 years, China has achieved a 16-fold increase in the GDP per person. It has done so without accumulating foreign debt, with limited tax level and with government spending as a fraction of GDP smaller than in the US, and much smaller than in other rich countries. How was it done?

This paper presents the hypothesis that the Chinese economic miracle was driven by extremely competent and totally unorthodox central bank policy, which ensured sustained demand for the goods and services needed to build China’s long-term future – without relying excessively on borrowing (bond sales) or taxation.

The central bank distributed “freshly printed money” to state-owned policy banks, which in turn used the money to pay for huge infrastructure projects executed by competing bidders. The resulting debt to the central bank looks ominous in the books, but can be cancelled at the stroke of a pencil since the state owns both the central bank and the state banks. The central bank carefully adjusted the “printing rate” (the rate of expansion of the money supply) to avoid inflation, greatly helped by the realistic 5-year plans evolved by the Party and the Ministries.

The important point is that this funding (through systematic increase in the money supply used directly to pay for increased economic activity) also made it simple to do all the things that cannot be done in Western market economies, because they are not profitable from the investor point of view. The method – the “Chinese Development Model” – can also be used when China now moves to solve the country’s environmental problems, in its next step towards Ecological Civilization.

I hope to corroborate or falsify this hypothesis over the year to come, and invite all kinds of reactions to my e-mail [jorgen.randers@bi.no](mailto:jorgen.randers@bi.no)

**1. Introduction. The Chinese Development Model**

*Trying to learn from observation*

I believe it is possible to draw useful lessons from China’s dramatic rise during the last forty years. But it requires deep understanding of what really happened – how the rise was engineered by those in charge. My starting point is the observed fact that the Chinese government achieved a faster and bigger scale elimination of poverty than has ever taken place in world history. They achieved this by using what I call the “Chinese development model”, and my goal in this paper is to describe it – in terms understandable to Western analysts. This is difficult because many explanations exist, but also because the Western perspective on China is blurred by general skepticism against – and even fear of – China. Still, it is well worth trying to understand the Chinese development model. The China’s approach may help the poor world develop faster, and may also be helpful when the rich world shall handle the intractable problems of global warming and rising inequity.

*Logic of the paper*

The logic of my paper is as follows:

1. China has done an unprecedented job in creating a better life for the majority of its 1,4 billion inhabitants (more than 4 times the population of the US). China has already achieved more in the last forty years (since reform and opening up) than any other nation or ideology in the effort to eradicate poverty (16-doubling per capita income in purchasing power parity dollars since the start of reform an opening up in 1980).
2. China is not being given much credit for this feat. China is still viewed with suspicion and fear in the West. This skepticism is fueled by lacking knowledge about China – both past and current.
3. The skepticism blurs the Western view of what happened, and skepticism is strengthened by the fact that China used unconventional methods to achieve its results. China did not follow the recommended procedure of the liberal market ideology (often called the Washington consensus).
4. There exist many suggestions (possible explanations) for how China did it, but most of them are not able to explain the observed miracle. At least not alone. And many did not work abroad.
5. My current hypothesis is that China started from a determination to create a better life for most Chinese, and achieved this by combining a) state control of the resource base, and b) realistic 5-year planning, with c) an exceedingly competent central bank financing – printing just enough money to supplement sparse borrowing and tax income. The state-owned central bank supplied the new credit via state-owned (“policy”) banks established to fund expansion of a chosen sector or type of infrastructure. The projects were not necessarily profitable (in the sense of being able to repay the credit, with full interest), but funded because they were deemed necessary to ensure the long-term growth of the Chinese economy. The crucial point is that once the mission was completed (the credit used to pay subcontractors to build a factory or road that were not able to service the debt) all that remained in the bank was the debt to the central bank. Which is not a problem since the government owns both, and can cancel the debt with a pen stroke, since the central bank did not borrow the money from external funders in the first place, but created it from thin air by a computer stroke.
6. In summary, China drove sustained productivity growth without undue reliance on external debt or taxation, by printing money and giving it to players instructed to use the money for purposes defined in the 5- year plan. As long as this was done in a carefully balanced manner, avoiding excessive pressure on available labour and equipment and energy resources, it proved sustainable without run-away-inflation (or collapse of demand). And it made China independent of external bond buyers.
7. I end by describing what I believe the rest of the world can learn from understanding the policies behind the Chinese miracle.

*How did Socialism with Chinese Characteristics 16 double incomes in 40 years?*

In summary, I try to identify what is at the core of “Socialism with Chinese characteristics”. Beyond the obvious fact that China is state capitalism cleverly utilizing the market (a huge system of competing privately held businesses) to create sustained productivity growth on the ground. Obviously, the authorities built China according to plan, and not according to short term profitability. But how?

*Empirical basis*

The basis for my analysis is 40 years of interaction with China since my first visit as a tourist in 1978. I have worked with China in various roles: as a researcher on various projects, as a lecturer touring the country, as an NGO administrator, as an advisor to mega-city government, and to the national government. I started the first Western business school in China in 1985. I am honorary professor at two Chinese universities, and lately have helped the State Council (China’s cabinet) make its “Green transition strategy for China to 2050” – based on President Xi Jinping thoughts about harmony between man and nature[[1]](#footnote-1). This has given me the opportunity to discuss the matters with a very large number of Chinese over decades, for which I am most grateful. The latter work has been enriched by visits to most parts of China as a tourist interested both I the nation’s old culture and its wonderful nature.

*Others disagree!*

Needless to say, I am fully aware that my views are not shared by most Western commentators. This does not bother me much, especially since many of those with strong opinions about China never have visited the country.

**2. What was achieved in forty years? The Chinese miracle in numbers**

*GDP per person*

In 1978 Deng Xiaoping and the CPC decided to increase the material standard of living of China’s huge population (at that time 700 million people and growing fast). And they succeeded: In forty years the output per person grew 16-fold -- from 800 to 13.000 $/p-y measured in constant purchasing power dollars.

This means that average incomes doubled every decade for four decades in a row. No other economy has ever done anything similar, perhaps with the exception of Japan from 1950 to 1990 and South Korea from 1960 to 1990. Notice it took the US nearly 200 years to achieve the same result using the Western ideals of liberal market thinking and limited government capacity. There are now less than 40 million poor in China and the government has decided to remove this poverty within a few years.

*Population*

An important part of China’s success in eliminating poverty was the successful effort to limit population growth. China’s population today is 1.4 billion, twice as big as in 1978, but at least 0.4 billion less than it would have been if birth rates had been governed by the material standard of living. The population has now stabilized, and the one-child family policy has been cancelled, because it achieved its ambition.

*GDP*

Since the population has doubled and the output per person has increased 16-fold, China’s total annual output – its GDP – has increased more than 30-fold since 1978. China’s GDP is now bigger than that of the US, when measured in 2011 PPP US$ per year.

*Food*

The food production in China is four times bigger than in 1978, which means twice as big on a per capita basis (actually Chinese eat 3.300 kcal/p-d, just a little less than the US at 3.600). The question is no longer: How will China feed itself? China already feeds itself. The challenge now is to make China’s agriculture sustainable and to handle obesity – like in the West.

*Energy*

The main driver of material wellbeing is energy use – the use of electricity, transport fuels, and heat. China used its abundant coal and some hydropower to raise the material standard of its people – at the peak China built a new coal-based utility per month. But that era is over – now most new capacity is renewable, coming from huge annual installations of wind and solar electricity. In 2017 China installed 60 GW of new wind and sun capacity, the same – in one year! - as one third of Germany’s total installed generating capacity.

*Greenhouse gas emissions*

Rapid growth in the use of fossil fuels led to a rapid rise in China’s CO2 emissions – which are now the world’s largest from a single nation. But emissions per person are still 20% less than in Germany, in spite of China producing much of the manufactured goods for the rest of the world. The government’s plan is to cap GHG emissions in 2030.

*Urbanisation*

China has urbanized 400 million people in 20 years – without the creation of slums and beggars.

*Air pollution*

The 30-fold increase in the GDP since 1978 has had a very visible side-effect in the form of heavy air pollution which clouds most of the inhabited part of China – an area twice the size of EU – most of the year. The government was of course aware of the problem early on, but delayed strong action until 2015, when gross poverty had been eliminated.

Notice that action was taken in China when the GDP per person was around 10.000 $/p-y. The US was not able to pass its first environmental legislation around 1970 when the GDP per person was twice as high.

*Inequity*

In order to achieve its growth miracle, China allowed inequity (the share of national income going to the 10 % richest) to rise. As Deng said: “It does not matter what is the color of the cat, as long as it catches mice” In other words, if some Chinese had to become very rich in order to eradicate poverty for all, then OK. Luckily it was not necessary to make China as inequitable as the US, and China’s inequity has stood still since 2012 – while it is still rising in the US.

**3. How did China achieve its economic miracle? Various hypotheses**

How was this miracle possible? What did the Chinese authorities do to generate such spectacular results? Many scholars have raised the issue, many hypotheses exist, but here is no generally agreed answer to the question “How did China create the Chinese miracle?”.

Here is a list of suggested answers (when I know the source of the hypothesis it is added in parenthesis):

1. By NOT following the advice from the World Bank, that is by NOT following the guidelines implicit in the Washington consensus (Joseph Stiglitz in EDF 2018)

2. By extending free education and free health care to all of its citizens (in other words, by systematically increasing the competence level of the population) also in the decades before 1978 (Mark Moody-Stuart in EDF, 2018)

3. By sticking to the decisions made by the CPC once they were made, and spending all effort on implementation instead of reopening the debate again and again (Indian consulting group 201x)

4. By aligning the interests of the CPC with the short term interests of the Chinese people – that is to become rich as fast as possible (following the dictum “Being rich is glorious” Deng Xiaoping 1978; Jorgen Randers in 2052-book, 2012)

5. By being governed by a professional elite which has as its agreed goal to improve the lives of every Chinese in the long run.

6. By making realistic and internally consistent 5-year plans (cannot be enough: did not lead to take-off during the 6 5-year plans between the revolution 1949 and 1978).

7. By following the ideology of “socialism with Chinese characteristics” (but if so, what characteristics were the essential ones? Replacing centrally planned production (based on quotas) with marked based production (based on market prices)?)

8. By defining the challenge as a pure technical challenge: finding practical solutions to the problems in a prioritized sequence, discouraging the political discussion of who is to get what first9. By always implementing in small scale first, observe the practical effect, draw lessons before implementing large scale (following the dictum of to Learn from practice (Deng Xiaping 1978)

10. By introducing the one-child policy (Deng, 1982?), thereby lowering the total needs and total footprint of the Chinese population – making it possible to shift investment spending from children to infrastructure.

11. By sticking to the principle of self-reliance in the early stages of China’s economic development, and then reform and opening up in a gradual manner (Deng, 1978) – giving the inhabitants of the special zones the opportunity to experience competition, and the rest of the country the opportunity to learn.

12. By providing a basic safety net (the possibility of a job, and rudimentary health and pension

13. By maintaining the hou-kou system (which meant that all Chinese had a safety net, albeit only in their home village)

14. By postponing costly reforms until there is broad public demand for them (e.g. postponing the attack on pollution until most poverty had been removed and the urban middle class was rich enough to be concerned about local pollution)

In an effort to identify the main reason why China created its miracle, it is useful to review the various aspects of China that are most commonly seen objectionable by Western critics. The antipathy is often so intense that it clouds rational analysis. And hide important insights

**4. Why is there so little interest in the Chinese solution in the rich West?**

Since China has been so successful in eradicating poverty, one should have expected that Western analysts and commentators would be interested in learning from the Chinese experience. But that does not seem to be the case – at least in the rich West. Here China is viewed with skepticism, to such a degree that little learning seems possible.

*Conflicts with Western ideology*

I believe this is because China has violated a number of the sacred ideals of the liberal market ideology. Given these breaches, Western commentators are unwilling (or unable) to see the underlying success story. They are hindered by the following traits of the Chinese development model:

* Decisions are made by the Party (CPC) which represents only 6 % of the population

(Critics overlook the fact that this in fact a meritocracy: you need to have done something important to become a party member)

* The one-child family policy was introduced to limit population growth

(critics disregard the fact that fertility continued to decline when the policy was relinquished once the population explosion had been stopped.)

* The government has kept ownership to most of China’s resources

(and not sold or given it away – unless for express purposes that serves the majority in the long run, like giving it to municipal governments so they can sell and finance economic growth for their citizens)

* China used industrial policy, that is state support to the industries that China needed for its development (which is widely criticized although experience shows that protection of infant industries is necessary to get ahead in a world with mature competitors)
* There are sporadic limitations on the rights of minorities to complain against the methods chosen to increase the wellbeing of the majority (which is criticized in spite of the rapid increases in income and wellbeing)
* Credit is given (via state banks) to those who invest it in something that is determined in the 5-year plan to be of benefit to the nation (not to what is the most profitable project in the short term, as judged by profit maximizing capitalists). Western critics prefer that private owners should invest, not the state, for ideological reasons.
* The houkou household registration system is used to avoided flooding of the mega-cities by internal immigrants (and represent effective delegation of the responsibility for providing citizens with jobs, health care and pension to their home village or town).
* Opening up for foreign competition was done in a controlled manner, both for goods, services and capital (=financial flows), in a way that maximized the growth of China (and not the short-term profits of foreign producers)
* China based its growth on technologies that had been developed in the West (and did not pay enough for the intellectual property)

All of these actions differ from Western liberal market ideals, and it is natural that they are criticized. But that does not mean that following Western ideals would have led to better success in removing poverty in China over the last 40 years.

*Persistent misunderstandings – deliberate?*

As if the breaches with Western ideology had not been enough to deter western commentators from understanding and appreciating Chinese solutions, there exist in addition a number of misunderstandings – deliberate or not – which fuel the dislike of China and clouds the vision of Western commentators and analysts.

For example, commentators do NOT seem to understand that

* The Chinese development model differs from Soviet-style communism and Mao-era cultural revolutions.
* China is an authoritarian state which works for the long-term wellbeing of the majority, not (as is more common) for the short-term benefit of a small elite.
* China is essentially a market economy, with a government sector which is smaller than that of the US, and much smaller Germany’s.
* The basic driver behind China’s spectacular growth is the controlled creation of credit by the state, channeled via state banks to the projects that China prioritse according to the current 5-yesr plan. This steady flow of credit has ensured full employment and rapid growth in infrastructure and productive capital.
* Debt (for example, credit given by the state for the building of a high-speed train link) that was established to pay for useful infrastructure often does not result in infrastructure that generate a sufficient cash flow to service the debt. Such debt can (and should) be cancelled through a simple book transfer in the central bank accounts.
* Household registration system – houkou – played an important role in the successful urbanization of 400 million Chinese in 30 years. By linking people’s rights to work, health care, and pensions to their town of citizenship, Chinese urbanization has been more orderly than would otherwise have been possible.
* That China is big enough that it could have developed its economy without international trade. Trade was used as a means to force Chinese producers to perform, not to transfer wealth from abroad.

I guess that the longevity of many of these misunderstandings are due to the fact that proponents of the Washington consensus do not like to see that other development models give better results in terms of GDP growth per capita.

**5. How did China do it? My hypothesis: Very clever central bank policy**

The preceding discussion points to a number of special attributes of the Chinese development model. For example:

*National control with essential resources*

The resulting system “socialism with Chinese characteristics” established the government as the biggest capitalist of all, ordering whatever is needed to improve the situation of the average China in the long run, and backing its orders with money from a well-run central bank that made sure total credit did not exceed the productive capacity of the nation.

Few are aware that government expenditure in China is only around 24 % of GDP, against 45 % in Germany and 33 % in the US

*Realistic 5 year plans*

China achieved its spectacular results through a process of 5-year planning, where the Party (using very professional input from the Chinese bureaucracy) every five years established a realistic plan and ensured it was implemented with precision and without renewed discussion. The authority and the means to implement were delegated to the city and municipal level, and incentives were paid in proportion to achieved GDP growth.

*Rapid income growth for all*

To avoid frustration with the unavoidable fact that it takes generations to build wellbeing for all. Deliberate central action to help groups that are lagging behind.

*Policy based on trial and error*

Thus the process of “reform and opening up” started in 1978 with a combination of a competitive market of suppliers with a strong state ordering (demanding) what the Party believed was most needed to build a strong China in the long run. It was done in a tightly organized manner and based on (“learning from practice”. Systematic trial and error was introduced by Deng: New ideas were tried locally in small scale to check they worked before they were implemented at scale nationally.

*Postponement of costly reform until there is popular demand*

Best illustrated by the fact that the war on air pollution did not start until it was abundantly clear that the urban population preferred cleaner air over higher income.

This aspect of the Chinese development model is illustrated by its action on air pollution. Environmental protection was mentioned as a future ambition in 5-year plans before 2000 (“harmonious society”). Still the government postponed a serious attack on air pollution until 2015. As I see it, they delayed action until the urban population was ready (rich enough) for the unavoidable pain of restructuring (job losses) that goes along with closing down polluting power stations and factories, or moving them elsewhere.

*The Chinese solution*

As I see it, the core of the Chines success lies in the following recipe:

Make good plans for what needs to be done to improve the wellbeing of the majority in the long run while maintaining enough progress in the short term to keep people confident that the country is on the right track.

Split the plan in 5-year installments, well grounded in the situation at the beginning of the period, and realistic in its ambition for the situation at the end of the 5 year period.

Make it possible for local Chinese (and officials) to become rich implementing the plan (i.e. achieving the goals in the plan) also when the goal does not generate a profit (for example when the goal is to build a sufficient urban transportation to make commuting less unpleasant

Make necessary central funds available (in the form of money or land) to local officials, and pay handsomely for achieved results.

Obtain those central funds largely through central bank creation of money, so you do not end up being too dependent on external lenders or high levels of taxation. Channel the development funds through special purpose state banks – “policy banks” – that pays the best bidder for doing what is specified in the 5-year plan. So the state banks do not prodvide loans, they provide cash to the supplier in return for services to the public.

Could this be done elsewhere? Yes, as long as the country has its own currency, and as long as this printing of money for other purposes is not prohibited by law (which it is in many nations, as a reflection of old days, when the money belonged to the elite – who did not like to see its value fall through profligate use on things that did not further the wealth of the rich).

**7. Conclusion**

More study is needed to support or falsify my hypothesis.

And we need to ponder whether the Chines Development Model could be used by others elsewhere. For example, by poor countries trying to industrialize. Or rich countries that need state action to handle a situation, like climate change, which requires non-profitable investment in the short term in order to create a better life for children and grandchildren in the far future – actions that do not turn a profit in the short term and are disliked because they threaten well-paying (dirty) jobs here and now.

**8. Future Research**

*1. Establish a “neutral” description of what happened in China from 1978 to today.*

In order to draw lessons from the Chinese case, The world needs an agreed and definitive story of what actually happened in China from 1978. This story must be written without the veil of Western ideology and (deliberate) misinterpretations that blur Western understanding of the Chinese miracle. My paper may serve as a starting perspective, but in need of much checking and elaboration.

*2. Decide what parts of the Chinese experience can be of use to other nations.*

The Chinese development model may prove to have two uses. First, it may help in the further development of rich nations, especially in the area of reducing climate gases and the ongoing rise in inequity that may threaten stability in the West. It may help rich countries solve costly problems that require collective action backed by a strong state.

Second, the Chinese development model may be used to guide future efforts at helping poor countries develop. This would mean to replace advice based on the Washington consensus with advice based on the Chinese development model.

*3. Meanwhile help China reach its ambitious goals.*

The world should support the endeavor of China in improving the situation of the average Chinese - even though they are using non-Western ways to achieve their goals. This may require rethinking the ideals of direct democracy and quick rotation of power (goal: to maintain social calm long enough to get good solutions for the majority and nature in place). And it may require accepting that the long-term interest of the majority must be given priority when building a strong nation in a finite world.

More concretely the rich world should help the Chinese become richer without destroying their own or the global environment. For example, in the areas of renewable energy, regenerative agriculture, and reuse and recycling of materials. Here any rich country could do practical work at home showing China how it can be done when China gets even richer.

*4. Increase the China competence in global society – especially among the young who will live in the era of Chinese hegemony.*

What is China competence? It means to understand what is going on in China, and celebrate when government action does indeed lead to betterment for Chinese people (without undue deterioration of the living conditions for other global citizens). And to criticize China when the nation strays from continued increase in the wellbeing of the average Chinese.

But it does not mean to criticize their choice of the Chinese development model. The Chinese model has its weaknesses, but so does the Washington consensus model. Both have losers, both have winners. But they are different social groups. The Chinese model helps the working class, the Washington consensus helps the owners. Deep China competence may make countries more reticent in promoting the ineffectual neoliberal development model, and more prone to pushing the Chinese development model.

1. After I started writing this paper in 2018, I have been appointed (in October 2019) Co-director of the Center for Ecological Civilization in the Institute of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era at Peking University. I also started The China Association for the Club of Rome, now headquartered in Beijing, with 3 colleagues from China, Hong Kong and Canada. [↑](#footnote-ref-1)