

# Economic Analysis of the Birth-Control Law in China

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## Abstract

This paper explores the two approaches of governments' population policy: command-and-control regulation and market-oriented incentive. From both the micro and macro perspective, this paper draws a conclusion that the population market has its own autonomous principles and too much government intervention like the birth-control law in China is harmful. Policy-makers should provide guarantee from the political regime. And in case of market failure, the government should adopt the market-oriented approach to complement.

**Keywords:** Command-and-control regulation, Laissez-faire, Birth-control law of China, Tradable reproductive rights

## 1. The Problem of Population Control in China

### 1.1 Introduction

In the year of 1830, the world population, 1 billion.

In the year of 1930, the world population, 2 billion.

In the year of 1960, the world population, 3 billion.

In the year of 1975, the world population, 4 billion.

In the year of 1987, the world population, 5 billion.

On October 12, 1999, the world population reached 6 billion.....

These figures are not only a milestone in the development of civilization, but also the pathetic epitaph for human beings.

Helpless children in Shanghai are wandering the streets. Millions of migrant workers in Beijing are lost in the neon city. Teary mothers in the slums of suburban areas are staring at the empty crock in despair. Faced with this reality, in spite of sentimental feelings, we ought to think rationally. Finally we find all these facts point to one key word: POPULATION!

With the concern and responsibility for the future of human beings, I concentrate on the topic. I have to admit that this paper is still not that precise, and many experts, some of whom are famous economists, have touched upon this kind of research. But I still believe that it is my passion and creativity that can open a new global perspective on population issues, especially in China -----the economic analysis of the birth control law in China.

### 1.2 The Problem of Command-and-Control (CAC) Regulation

When seeking to maintain the size, structure and balanced geographical allocation of population, policymakers face two choices of approaches: first, "CAC Regulation", which means the government itself, formulates policies to control birth, or regulate the population migration and put them in a mandatory effect just as what is happening in China. This tactic is evident in many provisions of the Birth-Control Law of China, and those couples who give birth to more than one child will be considered illegal and be punished severely by fine and even incarceration. The other is the "Natural evolving" style, allowing the natural evolution of the population. For this style, the so-called "Laissez-faire" is the spirit. The government's population policy would uphold the autonomous character of the population order and intervene as little as possible. There is heated debate on which one is more effective. And as things stand now, they all have their own pros and cons. The Command-and-Control regulation is uniformed and inflexible, which may facilitate enforcement and monitoring. And that is exactly why the Chinese government has chosen it as a regulatory tool and endeavors to expand its use to other arenas. However, this approach may not be as effective as it seems, if we take its obvious drawbacks into consideration.

First of all, it brings bureaucratic rigidity and centralization. Since officials just introduce their own assumptions into the regulation, and impose the uniformed regulatory standard on every family, the command-and-control strategy may make all the regulated citizens suffer. And that brings us to another obvious flaw: the command-and-control approach may provoke resistance from all the people who must follow. This approach also has many other flaws, and they will be discussed in the following chapters.

Contrary to the command-and-control strategy, this paper strongly believes that the number, structure and geographical allocation of population follow a unique, market-like law. That is to say, the population market, like many other kinds of markets, also has a function to adjust the allocation of resources and to restore the balance automatically. There exists a pair of "invisible hands" from micro and macro levels on the market to achieve this "Pareto Optimality".

The basic role of the market in resource allocation was first stated by Adam Smith in "The Wealth of Nations". He pointed out that social optimization will be achieved when individuals seek their largest interest. A public policy, no matter how well-designed, may not be accepted by the market because it is the imposition of government officials. Long ago, Lao-tzu, one of Chinese most famous ancient philosopher said that the best government should "in its regular course do nothing (for the sake of doing it), and so there is nothing which it does not do". The government ought to show respect in an "inaction" way to the law which the market itself forms as soon as it functions. A truly effective and successful public policy not only should, but also must be the summary of market principle. In light of his idea, this paper tries to analyze the birth control law of China economically, and tries to solve the following problems: 1 how does the population market function effectively in its own way? 2 How can we prevent excessive government intervention? 3 In what way does government take measures to intervene in case of market failure?

## 2. Market Mechanism of Population

### 2.1 Population Market: Analysis from the micro level

Analyzing from the micro-level, we believe that the population is determined by fertility and mortality. With the advances in technology and the improvement of medical conditions, the mortality rate throughout the history has decreased. For the convenience of analysis, we assume that mortality is on a linear decline. So the determinative factor on population size is fertility.

This paper regards "child" as a special commodity. So from the classical microeconomic theory of pricing model, we draw a conclusion that the quantity and price of any commodity is determined by supply and demand in the market, and in terms of the special commodity-- the "child", it is the same case. Parents should consider the values and the costs of their children, when making a decision whether to give birth or not. That is to say, from an economic perspective, the birth of a child is decided by family's will based on financial situations, so it is completely a matter of economics. In fact, the use of economic analyses of a variety of social issues has become popular, and it is natural to apply this approach to the family planning programs. (Harvey Leibenstein, 1969 pp. 161-170)

First of all, what is the value of children? It is the sum of the contributions that they bring to the family. And the utilities root in the following four aspects: Firstly, children could preserve the species or perpetuate the genetic characteristics, the name, or the memory of the parent(Posner, 2003,pp.148 ); second, when the children have grown up, they can create wealth for society and families, which is the economic value; third, children can provide financial aid to their parents when they age, which is the protection value; fourth, the delight and sense of achievement parents gain from the process of raising their children, which we call spiritual value, which may not be realistic and easy to measure, but it is an important aspect of the value of a child.(Li Zhongsheng, 2006)

Secondly, what is the cost of having a child? The cost of it consists of mainly two parts: First of all, the expenditures of maintenance, education and medical treatment, which are the real-life costs, so we call it direct costs; secondly, the income that parents give up from work when they decide to give birth, which is the opportunity cost in economics, so we call it potential costs.

"Child", as a commodity, obeys the law of diminishing marginal utility. When we studied the findings Harvey Leibenstein finished in 1974, we drew several conclusions: First of all, the higher the child's birth order is, the lower the couple's desire to have children will be; moreover, with family's per capita income increasing, children's marginal utility will drop. Even though there is not certain, direct link between the value of children and income, the value of the child will reduce along with economic development. But cost of the child rises with economic development. We believe that economic growth and the rise of per capita income lead to the depreciation of a child. Therefore, people do not want to have children. In this situation, people may be in favor of birth control. This is the reality of modern developed capitalist countries.

Whether to have children and how many children to have depended on the balance of the values and the costs, so their decision is economically rational. When the value is higher than the costs, they will decide to have more children; when the costs are higher than the value, they tend to control birth. All these above are the results of the operation of the market, and this result maximizes the utility of every family.

### 2.2 Population Market: Analysis from the macro level

The size and quality of one nation's population and its economic development are highly interrelated. In fact, it is

confusing to identify which is the cause and which is the effect. On one hand, economy was influenced by population growth (greater labor productivity and regularity at work results in greater economic growth and development); on the other side, current economic conditions determine the quantity and quality of the population. For the sake of simplicity in analysis, we assume that quality of the population is improving in a linear correlation with the level of economic development. So the effect, which the improvement of quality of population has on the economy, can be overlooked and we will focus on analyzing the impact of population growth on economic growth. (Adhikari, Maskay, and Sharma, pp. 57)

Population growth can create two consequences: first of all, in a condition where the economic resources are relatively abundant, population growth will help create economies of scale, promote division of labor and technological progress, and finally impulse the economic growth; secondly, in a condition where the economic resources are relatively scarce, population growth forms the pressure on resources, thus reducing the investment and lower labor productivity, which is not conducive to economic growth. From some historical data, we can have a simple comprehension about the relationship between population growth and economic growth. However, the fact is that economic resources are relatively scarce. So, generally speaking, there does exist a proper degree scale of population, which matches perfectly with aggregate economic resources.

When the population, which is one of the critical production factors, and other production elements, achieve the optimal distribution under the market accommodation, the market reaches equilibrium. At that point, insufficient resources, caused by excessive population, will not happen; on the other side, there will be no further development of the national economy because of insufficient laborers.

To summarize, we believe that the nature and migration of population are to meet certain economic laws from both micro and macro angles. This rule is the basis of our "Adam Smith – Lao-tzu" model, that is, we can achieve double optimal state of the economy, not only from the standpoint of families on micro-level but also from that of society on macro-level, under the laws of the marketplace. And for government, instead of forcing the implementation of the population policy that intervenes in the market laws, its population policy-making ought to follow the law of the market. In summary, the overall laissez-faire policy is the best option to maintain the population balance. In fact, it represents its ascendancy not only in the area of the size of the population, but also in that of the population structure, population movement and other relative issues.

### *2.3 Laissez-faire: a Better Population Control Strategy*

Facts have proven that the harmonious balance of the state of population can be reached if the government does not take any effort beyond the minimum necessary to intervene the direction of population development and if it shows enough respect for the natural law of population. In the following paragraphs, I would like to compare CAC regulation and Laissez-faire policies and their outcomes in a real-world setting.

For example, even though every state of the U.S. has its own population policies and the federal government takes population stationary and population introduction as a goal of population, the United States does not implement national population policies, which directly intervene in population size and growth. The United States show respect to economic laws of the population, which rendered the population of the United States in a relatively suitable and appropriate situation.

Meanwhile, if the government takes significant measures to intervene in population issues, particularly the size of the population, there is always little effect, or there will be other serious problems. For example, strict measures to control the size of the population will usually speed up the age of a population and cause gender unbalance, which has reached a global consensus. From these following examples, which describe their population policies and failures, you may be enlightened how to evaluate and predict the short - and long-term effectiveness of population policies.

In 1960, after the Korean War, Korea experienced a baby boomer era during which the average annual population growth rate was 29 ‰. Therefore, The South Korean government implemented domestic family planning programs, which aimed at declining population growth rate to 20 ‰ until 1970, which led to a sharp drop in the fertility of Korea. And, in the 1980s, when the generation born in the baby boomer period had reached its peak, the government further strengthened its population policy, which required one couple only one child and legislated abortion and sterilization. However, since the beginning of the 1990s, the low fertility and serious imbalance in the sex ratio forced the Korean government to change its policies to encourage birth and balance the sex proportion.

Japan was the first country to implement national limits on fertility and population growth. In 1948, Japanese Congress passed the "Eugenic Protection Law" to deal with the impact of rapid population growth, which was the result of population explosion and the strong decline in mortality due to public health policy. By the late 1950s, Japan's birth rate had dropped to half of that of the 1940s. However, in recent years, the Japanese government

revised its policies that it had sustained for many years, and now is encouraging birth to cope with the rapid aging and its relative socio-economic problems.

India was the world's first developing countries to promote family planning. In the 1970s, the Indian government made several systematic family planning policies. However, when implementing these policies, the government did not fully take India's specific circumstances into account, such as cultural traditions, religious and historical backgrounds. So, eventually, they ended in failure. What is worse is the unexpected result, that the population was growing faster and faster. India's failure reflects, to some extent, that it is not only unnecessary for man to try to dominate the direction of population development but also simply not feasible for doing that.

With the decrease in birth in recent years, to enhance fertility has become an important national policy for German government. To persuade young people to have more children, the German government is "racking their brains". At the beginning, the government introduced a series of incentives policies, one of which is that the woman who gives birth to one child will receive a considerable amount of the monthly subsidies. After that, the government put forward a new proposal, which claimed that the government was planning to establish 230,000 nurseries and extend the hours of schools until 2010, to help working mothers. Disappointedly, Germany's population did not achieve the desired results, and Germany became the world's first country with negative population growth. The natural population growth rate was determined by social and economic development. In the face of this trend, the government is weak and unable to intervene, since it is feasible and will cause a waste of social resources.

Therefore, as I have clarified above, the government should not make excessive intervention in population issues. Instead, we should implement "Adam Smith--Lao-tzu" model, which favors free and inactive population policies, and mainly relies on the market mechanism of population. The government's main responsibility is to ensure good operation of the market principles. As long as we take this idea into consideration, we will find the rigid control of birth in China is superficial and even absurd.

### **3. Guarantee from Political Regime: how to prevent excessive intervention from government?**

After the analysis so far, what we really need to do is to solve the second question raised at the beginning: how to prevent excessive intervention from government on population issues? When Montesquieu proposed the "separation of the administrative, legislative and judicial powers" doctrine, he had demonstrated that there was no kind of power which would not be abused. Thus, to prevent excessive interference from the government in the population market relies on surveillance and balance of the power. "Judicial review of the constitutionality" of the U.S. and some other western countries, as far as I am concerned, can be transplanted as a solution to this problem. We can make the freedom of reproduction a constitutional right, and any act from the president, congress, or other government body, will be declared unconstitutional and therefore invalid as long as it is implemented by government to intervene in population issues. Of course, some countries are not established on the basis of the separation of powers, so there is no room for "judicial review of constitutionality" to survive in the near future. But what cannot be changed is the basic idea to prevent the government from intervening in the population market, and that is what we call the internal surveillance and the balance of the power, not from outside the power system. For example, "Administrative Procedure" can be an effective measure, and therefore excessive intervention of any government branch will be subject to lawsuit.

And now let me emphasize my points again. What I advocate is not that all the government's population policy should be abolished as they violate the right to reproductive freedom. Market is the most efficient operation in the vast majority of cases, but in some cases, it has also failed. In fact, it is possible for population market to be trapped in market failure. And under such circumstances, the government needs to take measures to complement the market. However, it should not intervene in the form of mandatory administrative authority. Although it is a significant participant of the whole market, government should act as a member, not as a commander. Market mechanisms are far better than the command-and-control regime for it introduces the market-based incentive into the regulation.

### **4. Market Failure of the Population Market**

#### *4.1 Characteristics and Reasons of Market Failure*

One reason for the failure of the population market is the blind benefit-driven behavior of every individual. As I have mentioned in the previous paragraphs, whether to have children or not is decided by the consideration of their quality and utility of life. In a certain period of time, when individuals all have realized that the benefits outweigh the cost of reproduction through careful calculation and take for granted that what they have found is unique, then every individual will produce babies to pursue more profits. And rapid increase in population in a short period will be inevitable. I can use the example of the stock market to clarify that. When people all have found a high-yield stock with low price, which is of course worthwhile to buy, the demand for this stock will increase dramatically and the stock price will also soar dramatically, so there is not any investment value for it any more. Individual rationality

would result in the non-rationality of the market as a whole and benefit-driven behavior might make population surge or drop sharply in a specific and short period of time.

The other important reason for market failure is seriously asymmetric information which lies between the supply and the demand in population market. The supply comes from family birth. But as a key factor of production, the demand comes from the need of the social and economic development. Every family will make a comparison of the costs and benefits to maximize the utility for their own. However, their prediction of the population size and structure that the society need is not accurate, because they can not catch every detail of the macroeconomic society. In this sense, the population growth, in the short term, is often not an accurate reflection of social and economic operation.

However, the government cannot implement policies replacing the market. So what we should do is to provide additional mechanisms and systems to make it operate better. Such mechanisms and systems will be highlighted in the following.

#### *4.2 Solutions to Dealing with Market Failure: tradable reproductive rights*

Uneven geographical allocation of population, sharp increasing or dropping in the short term and the sex ratio imbalance are some performances of market failure in the population market. Now I will focus on how to solve the uneven geographical distribution of population and discuss what measures the government should take to solve the market failure problem. Before explaining this problem, we must distinguish between the short-term and long-term in the population economics. Reproductive decision-making usually takes no less than 30 years, because it is the next generation that is to carry the policies out. Every step of the operation in population market is running relatively slow. As what we mentioned in the previous paragraphs, in countries like Germany, the population is a product of social progress and economic development.

Uneven distribution of the world's population has long been a topic concerned and discussed by population economists. According to the report published by a demographic research institution in France on June 23, 2005, more than half of the global population was in China, India, The United States, Indonesia, Brazil and Pakistan. And in those six countries which are already crowded, the population is still increasing at a considerable speed. On the contrary, some countries, which already have too small a population density to provide enough labor force to sustain the economic development, are still in low or even negative population growth. Russia, for instance, covers the largest area in the world but the population is only 144.5 million. To make things worth, its population is declining at a speed of 400,000 per year. The most critical point is that people in these countries are neither willing to have children nor to accept migrants. So the shortage of labor severely constrains the country's economic development. This is one of important characteristics of market failure in population market. And it raises a difficult task for us, which is how to achieve this equilibrium, in which population can flow cross-border freely like capital and technology. The answer is that we should rely on market mechanisms and property transactions. In the latter part, a model is introduced to illustrate this issue more clearly.

Model One – Government as Intermediate

Assumptions:

A, a country with a larger population, higher population density and people are willing to have more children. A's population form a pressure on economy.

B, another country with a relatively smaller population, lower population density and people are unwilling to have children and boycott foreign immigrants.

So B cannot maintain economic growth because of the shortage of labor.

B has a valuable economic resource which A is in shortage of (such as energy, science and technology).

In this model, the reproductive rights will be initially allocated to the government in country A, and every couple who wants to give birth to more than one child must pay to buy the rights from the government. And with all these money accumulated, the government of country A can buy the economic resource from the government of Country B.

In country B, the reproductive rights will be initially allocated to all the citizens, and the government should buy the reproductive rights from all the citizens in order to encourage them to give birth to more children. Then the government of country B could use the money got from the country A and could give country A the resources it desires.

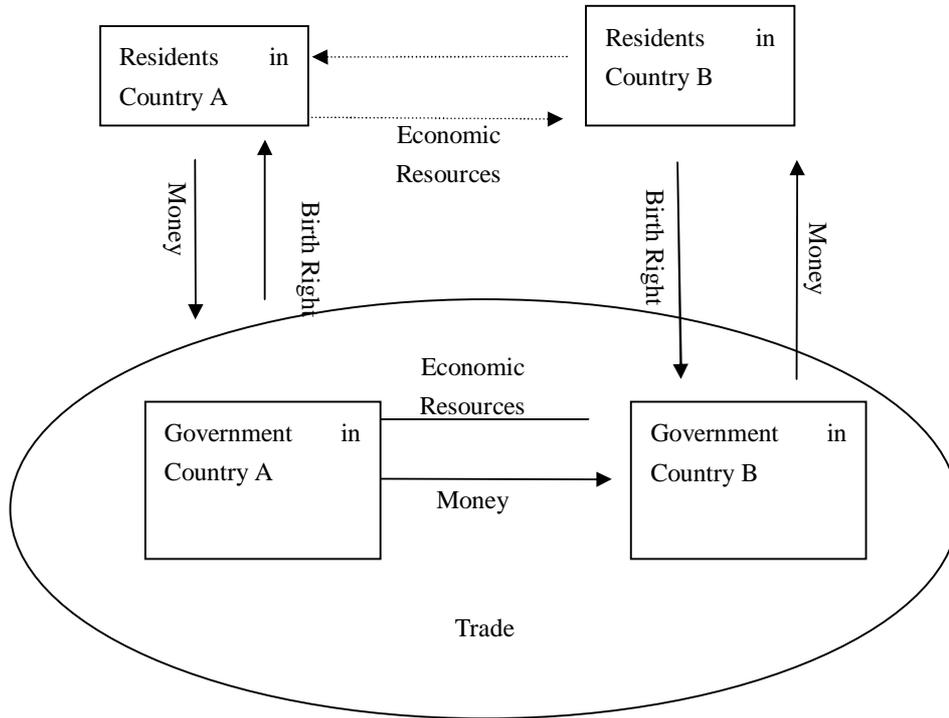


Figure 1. Government as Intermediate

Model Two – YMCIB as Intermediate

Assumptions:

The same as those of model above

We established an agency called “Children Investment Bank” (CIB)

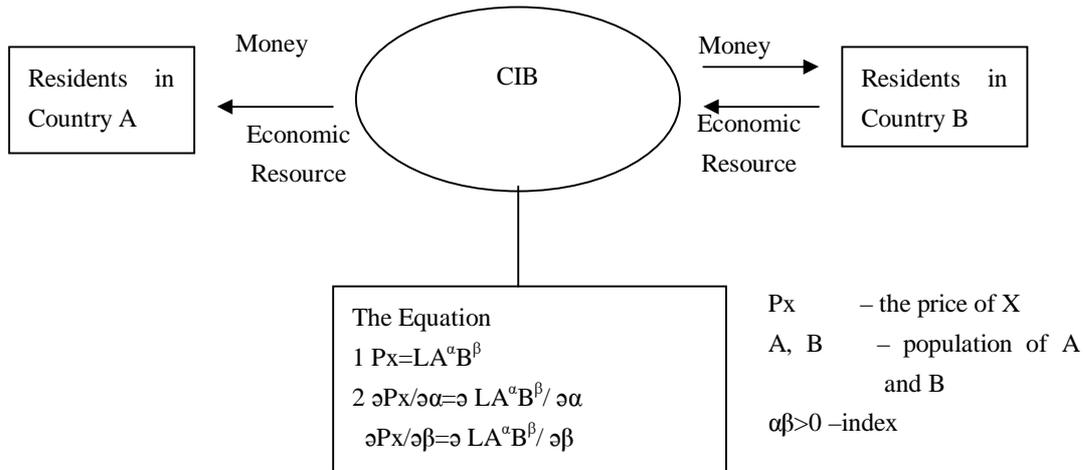


Figure 2. YMCIB as Intermediate

Function of CIB: The CIB functions as an intermediate for country A and B when A imports this economic resource. It prices the economic resource X as  $P_x$  and makes sure the exchange runs smoothly.

Principle:  $P_x = LA^\alpha B^\beta$ . Assuming that other elements remain the same, A desires a lower  $P_x$  because it is the importer; B wants a higher price because it is the exporter.  $P_x$  means cost to A while benefits to B. So there is a conflict between these two countries. After series of adjustments, it reaches the equilibrium, that is

$\partial P_x / \partial \alpha = \partial L A \alpha B \beta / \partial \alpha$   $\partial P_x / \partial \beta = \partial L A \alpha B \beta / \partial \beta$  and  $A/B = \alpha/\beta$ . This equilibrium is what we want as ideal condition.

## 5. Conclusion

Compliance with birth control policy is a sensitive issue. It is difficult to compel countries or industries to comply with them unless they are willing to. Penalties, sanctions, and such are hard to implement and can often have negative consequences on the whole society economically. The way to go therefore is to come up with policies that do not counter the flow of the economic order (or even the laws of economics) but to utilize incentives and disincentives at its fullest. Through economic analysis, we know that we should introduce market-based incentive in the population policy of one country, which will result in both immediate and long term gains.

I know, when explaining my idea of the economic analysis of the Birth-control-law in China, that I have made many assumptions, some of which are impractical, and there are also many shortcomings in my research. Feasible as it is in theory, it is difficult to implement in a short period of time. In fact, the deeper I go into it, the more I feel that it is impossible to find a final solution to this problem without the verification of time and practice. A successful, rational choice of population policy must be formed and perfected in the social practice.

But the reason why I still spare no effort to take my time, my energy, my enthusiasm, my wisdom propose my new perspective, which absorbs ideas of population economics and laissez-faire thinking, is my devout hope that officials and experts are able to deal with the population problem seriously. God bless every person in this world with wealth, health, and happiness.

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