Chinese Food Safety: What Can We Eat in China?

By

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# Table of Contents

Introduction ................................................................................................................................. 4

Developing the Economy ............................................................................................................. 6

Causal Diagram ............................................................................................................................. 8

Hypothesis 1: Economic Growth May Increase Food Safety .............................................. 9
    Regulating Under the Authoritarian Regime ............................................................................. 9
    Better Institution ........................................................................................................................ 12
        Law developed Process about Food Safety ........................................................................ 13
    International trade can promote food safety ........................................................................ 16
    Data of the economics growth and food exports ................................................................. 20
    Demand of safe food ............................................................................................................. 21
    Compare with the United States ............................................................................................. 26

Hypothesis 2: Economic Growth May Not Increase Food Safety ....................................... 29
    Companies May Take ShortCuts during the Food Production ............................................ 30
        Case 1: Melamine Milk Incident ....................................................................................... 30
        Case 2: Recycled Gutter Oil .............................................................................................. 32
    Inequality between the wealth and the poor ......................................................................... 34
    Industrial Food in the future .................................................................................................. 37

Data of economic growth and food borne disease ................................................................. 38

Interview .................................................................................................................................... 40

Conclusion .................................................................................................................................. 43

References .................................................................................................................................. 48

Appendix 1: Growth Regional Product (GRP) and Food Safety Data .......................... 62
**Introduction**

When making traditional Chinese food, the cooks always pay great attention to the colors, tastes and delicious smells of the dishes. They need to add another standard to their food: safety recently. But safety is a relative word. How can we define the “safe” in safe food? Nestle argues, “A food may be safe for some people but not others, safe at one level of intake but not another, or safe at one point in time but not later. Instead, we can define a safe food as one that does not exceed an acceptable level of risk”(Nestle 2010: 16). From my opinion, food is safe if it does not cause any damage to health.

Given that China is the world’s most populous nation, it is difficult for the Chinese government to regulate the food supply in the market since the demand for food is relatively large compared to other countries. The increasing number of food scandals makes Chinese food consumers hesitate to eat their food. Contaminated milk, overdue egg products, unsafe baby formula, recycled cooking oil, and even artificial eggs are all in the Chinese food market (Mcdonald 2012; Lafraniere 2011). In Guangzhou, a southern city in China, 46% of the people are dissatisfied with the food safety, and 37% of them say they have suffered from food safety problems (MacLeod 2012).

The Chinese government is under great pressure when people question why Chinese government cannot assure the safe food in the market. As this problem becomes serious, the Chinese people may lose confidence in their government, thereby challenging the legitimacy of the central government in the future. Many Chinese food companies export their products to the other countries. The food exporters will suffer a great loss if Chinese food industry has a bad reputation or if China’s food safety problems become a concern around the world.
We must consider these food safety challenges against the backdrop of China’s very fast-paced economic development. “Since the early 1980s, China has been the world’s fastest growing major industrial economy. Gross domestic product (GDP) in constant yuan roughly quadrupled between 1978 and the turn of the twenty-first century” (Lieberthal 2004: 246). From 1980-2011, the GDP per capita grew from 193 to 5445 dollars, according to the data from World Bank. Many changes will happen when an economy grows so quickly, including the increasing attention on food safety issues. This thesis seeks for answers to this question: “How does economic growth affect Chinese food safety?”

I will test two hypotheses in order to answer this question. Hypothesis one looks at how economic growth may have a positive influence on food safety. As the economy grows, the new laws and regulations can improve Chinese food safety. International trade can also affect food safety. As people become wealthier, the people demand safer food. Also, I will compare China with the U.S. on food safety issues. Since China is a developing country that learns some of the regulations from the United States, it may be possible that the development of Chinese food industry will be similar to the United States.

In hypothesis two, however, the economic growth may not be able to increase the food safety. The economic growth may not solely have a positive effect on food safety. Several cases show that economic growth increases the incentive for food companies to take “shortcuts”, which means they sell unsafe food to improve their profits. A corollary of this argument is that rapid economic growth will result in a disparity among people, causing poorer people to buy or sell unsafe food. This outcome may not be easy to solve.
through regulation. Even though China might develop their food industry similar to the United States, whether the industrial food is safe is still debatable. For those reasons, whether the economics will have a positive influence on food safety is still questionable.

**Developing the Economy**

The recent, rapid growth of Chinese economy increases the anxiety and the admiration to China around the world. There has been no historical precedent that any country can develop its economy at such pace and scale. In 1978, China was still a very poor country. The GDP per capita was 1/40 of the United States compare to one-fifth right now. (Zhu 2012) This section provides a brief introduction to the growth of Chinese economy from the late 1970s.

Chinese leadership changed its policy focus toward increasing economic growth since late 1970s. The Cultural Revolution ended after the death of President Mao in 1976. According to Saich, in December 1978, “Third Plenum of the Eleventh CC shifts policy to economic reform.” (Saich, 2011: 68-69) The Plenum also implemented that economic modernization was in the center of party work (Saich, 2011). The new administration, under the leadership of Deng Xiaoping, wanted to increase China’s legitimacy by increasing the economic performance and the living standard of the people. (Zhu 2012)

The Reform and Open-up Policy, launched by Vice Premier Deng Xiaoping in 1979, shifted the way of Chinese people’s lives since that year and stimulated tremendous economic growth in China. The purpose of Deng’s Reform and Open-up Policy is to develop “socialism with Chinese characteristics” (Tisdell et al. 2009) and “open up to the
outside world” (Hays 2008, np). Economic reform started from the agriculture sector, because China experienced repeating food crises before 1978. The government raised the price of agriculture products and changed the “collective farming system” into the “Household-responsibility system”, which meant that, after the households sell part of their good to the government at the official price, they could sell the rest to the market. The productivity in the agricultural sector growth rate was 5.62 per year from 1978 to 1984. (Zhu, 2012) The increasing productivity freed more workers to move to other economic sectors from agriculture: Thus, total employment share in the agriculture sector declined from 69 to 26 percent from 1978 to 2007. The non-state sector’s share (private and foreign-invested companies) increased from 15 percent to 62 percent in the same time period. (Zhu 2012) Before this policy, there was not much international trade between China and other countries. (Tisdell et al. 2009) As a result, this policy also led to increased market share of foreign-invested companies as well as increased international trade between China and the rest of the world. This policy increased the employment share in the non-agriculture sector, which facilitated the economic growth by increasing the industrial productivity and international trade.

Chinese economy has been growing at about 10 percent per year since 1978 (Saich, 2011), and became the second largest economy in the world. According to China Statistical Year book, China’s GDP increased from 3,645 to 472,881 (100 million yuan) and per capita GDP increased from 381 yuan to 35181 yuan between 1978 and 2011 (Chinese Statistical Year Book 2012, 2012, np) Even though China can maintain current growth rate, “by 2020 the per capita income will equal to that of Malaysia in 2007.”(Saich 2011: 266)
Since the economic growth rate is relatively higher than other countries, Chinese GDP per capita has almost reached the same level as Brazil by 2012 compared to one-tenth of the Brazilian level in 1978 (Zhu 2012). However, other problems have emerged during China’s economic development. Of interest to this paper, the large population and territory makes it difficult for the government to regulate their food market. Many food safety issues happened around China.

**Causal Diagram**

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<th>Country gets wealthier as the economy grows</th>
<th>Increases</th>
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<td>Government regulations on food safety</td>
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<td>International trade</td>
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As the diagram shows, this thesis will analyze six different factors that will influence Chinese food safety in the future. As the economy grows, country gets wealthier, which increases government regulations on food safety, international trade, demand of high quality food, shortcuts during food production, inequality between the wealth and poor, and industrialized foods. The first three factors can increase food safety, but the rest can decrease food safety. For this reason, this thesis will examine two different hypotheses: economic growth may increase food safety and economic growth may not increase food safety.
Hypothesis 1: Economic Growth May Increase Food Safety

Many economists think that the economic growth will also lead to other growth in the society. Pritchett and Summers (1995) claim that as people get wealthier, they become healthier. Also, Grossman and Krueger (1991) argue that as a country’s economy grows, their pollution becomes less so the people become healthier. Easterly (1999) claims that there is a strong relationship between income and indicators of quality of life. In this section, I will examine how economic growth may increase the food safety in China.

Chinese government starts to pay more attention to the food safety recently as the economy grows. But different media reports always question whether officials in the Chinese government will actively regulate the food safety under the authoritarian regime. In the next section, I will analyze how the Chinese government regulates food safety under the authoritarian regime.

Regulating Under the Authoritarian Regime

Even though China has a high economic annual growth rate, foreign media may argue that because China is still under the authoritarian regime, there is no incentive for the policy makers to take any further step to regulate food safety while developing the economy. Chinese government is still on its way to maintain the economic growth and promote the safe of food although under the authoritarian regime.

Even though under the authoritarian regime, the term of president in China is 5 years currently from the Chinese Communist Party (CCP), which started to govern the country from October 1st, 1949. There are nine political parties in total in People’s Republic of China (PRC), but only one of them is in charge, which is the CCP. The
organizing principle of the party is “democratic centralism”, which means an “individual is subordinate to the organization, the minority is subordinate to the central committee” (Saich 2010: 108-109). The first President Mao borrowed some ideas of administrative system from Soviet Union: The territorial layers of state administration radiate from center outward, to province, city, county, and local (township or commune) (Lieberthal, 2003). From 1949 until 1997, only two different paramount individuals had been in charge of the country: President Mao Zedong(1949-1976) and Vice Premier Deng Xiaoping (1978-1997) (Saich 2010). According to Saich (2010), after the passing of Vice Premier Deng, current leaders derive their authority from their position than from heritage. The process of institutionalization happens slowly. President Jiang Zemin tried to influence the party after his retirement, but his power disappeared soon, which means the leaders can only influence the party and the government when they are in office. (Saich 2010)

The economic growth rate is important for the government stability. Low growth rates cause government instability. Whether democracy or non-democracy, low growth will also increase the dissatisfaction among people and may increase antigovernment activities as well. (Alesina et al. 1996) Also, Clague, Keefer, Knack and Olson (1996) claim that the economic policies carried out under autocracies and democracies are varied and inconclusive. If the autocrats are self-interested, then they may try their best to gain from expropriating any assets of their subjects. They may also gain resources by printing more money and spending on their own purposes. There are many examples in the history of autocrats who used this measure. However, another possible result for self-interested autocrats may be if they want to rule for a longer time, then they would respect
and protect the property of their subjects. There are also many historical examples of autocrats who served a longer time as well (Clague et al. 1996).

From the perspective of a successful Chinese economy managed by the Chinese government, the Chinese economy has grown strongly for many years. This is an important indicator showing Chinese government is still performing well until the present day. It is inappropriate to say that the authoritarian regime in China is completely a bad case since the possible future of China is still inconclusive as well. Many scholars find that most of the people desire policy change instead of regime change although there are many protests in China right now (Rosen and Gires 2010). Also Rosen found that Chinese citizens feel the CCP has continued to perform well (Rosen and Gires 2010). Shue argues the protests challenge the politics in the local government, but it does not challenge the legitimacy central government (Shue 2010).

In order to solve problems associated with food safety, the Chinese officials have to involve themselves in some conflicts with some interest groups in food industry, even sometimes needing to sacrifice their own interests. Scholars often ask why they would do that? There is a very strong incentive for the officials to regulate food effectively, as effective governance is a pathway toward promotion. Guo notes that, since the absence of democratic elections, “official promotion is the only route of the elite recruitment at higher levels of the political hierarchy in China.” (Guo 2007: 382). In order to make sure the continuity of policy lines, it is very important for the leaders to promote capable cadres. For the cadres, the reward of promotion is a strong-enough incentive to perform their duties well (Guo 2007). Li and Zhou also found that the average performance determines the promotion or termination probability of a provincial leader in China (Li
and Zhou 2005). Guo argues in his paper that, although under an authoritarian regime, the subnational level elite mobility does not have to be a completely a “black box” in China. Local leaders are political agents and government administrators ultimately chosen by their superiors, but the decision can be partially based on “retrospective evaluation” of the local leader’s performance (Guo 2007). So for the officials, the incentive for them to regulate the food safety is promotion. If they do not do their duty well, their supervisors may terminate their careers as officials.

In summary, while China is still governed under an authoritarian regime, the Chinese government must maintain economic growth and effectively regulate the food market. The government officials have strong incentives to maintain stability of the government. At the same time, local governors need officials to promote them in order to continue their political careers. Over the past few decades, Chinese government enacted several laws in order to regulate food safety.

**Better Institution**

As the economic grows, the Chinese government enacts many laws and policies to regulate the country. China is often seen as a challenging case in law and economic development studies because China shows strong economic growth while having a weak legal system, resisting democratization, and with a poor record on civil rights. But Peerenboom argues the Chinese legal system is not a problem case, or rather that it is too early to tell. China is developing rules of law and people’s rights with the development of the economics. He argues that China follows the procedure that is the successful model
for East Asian countries to develop their economic, implement rule of law and protect the human rights through constitutionalism at the same time (Peerenboom 2006).

The law-making process is complicated in China. The National People’s Congress (NPC) is elected every five years from provinces, autonomous regions and municipalities, and the meetings are held every year. It has power to make laws and enforce the constitution. When the NPC is not having a meeting, the Standing Committee can represent them and make decisions. Only NPC could draft laws in several areas such as basic human rights and litigation. However, State Council and local government can still legislate (Saich, 2010). The legal system is very complicated in China because it started to affect at the beginning of the economic reform in the late 1970s (Saich, 2010).

In the next section, I will give a brief introduction about the process by which the Chinese government develops laws to regulate food safety. As Chinese government enacts many regulations throughout years after the food safety issues happened, I will focus on major four laws and regulations about food safety.

**Law developed Process about Food Safety**

When People’s Republic of China was established in 1949, there were not many regulations on hygiene and food safety because the GDP was 18 billion dollars, only 50 dollars per capita at that time (Fu 2009). The country was extremely poor and many people were sick every year because of the unsafe water, bad environment and unsafe food (Modern Public Hygiene 1995).

After several temporary regulations to regulate hygiene of dining halls and water, in 1965, Chinese government enacted the proposed regulation to improve Chinese food
safety called Food Hygiene Proposed Regulation. There were seventeen articles in it, which were of a very basic and general nature. There was no definition of safe food in the regulation. The regulation was enacted in order to improve the quality of food, prevent food poisonings and boost production (Xinhua news, 1965 np). Then from 1979, the Chinese State Council passed the Food Hygiene Regulation consisting of 28 articles (Lawedu 1979). In addition to the past regulation, this regulation specified what kind of food would be regulated. It also established standards of safe food and started to regulate what kind of food is prohibited for export to set food export policy after Deng launched the Open-up Policy in 1978. (Lawnet nd)

Around a hundred years later than the United States, Chinese government published their first law instead of regulations to control food safety in 1995, called the Food Hygiene Law (Plamer 1998). “This Law is enacted for the purpose of ensuring food hygiene, preventing food contamination and harmful substances from injuring human health, safeguarding the health of the people and improving their physical fitness.”(China - Regulations & Standards, nd, np) There are 57 articles in that law. This law started to regulate the safety of food additives and at what governmental levels supervisory power over food safety would be established. Lower governments such as provinces enacted their own regulations to enforce this new law. Other than those previous regulations, the Food Hygiene Law had specific legal responsibilities to punish the companies and people who violate this law.

Before the government enacted the Food Safety Law in 2009, there were more than 2000 national food standards, more than 2900 industrial standards, and more than 1200 local food standards. (The Twelfth Five-Year Plan about National Food Standards,
Passed during National People’s Congress (NPC), the Food Safety Law is comprised of 104 articles. This law truly standardized food safety in China on a national basis. “This Law is enacted to ensure the food safety and guarantee the safety of the lives and health of the general public.”(The Food Safety Law of the PRC, 2009, np) This is the most recent and complete law Chinese government has right now regarding food safety. The law specifies the monitoring process of the food safety risks, regulates food safety standards, requires food producers or business operators to meet many safety standards, manifests the qualification of food inspection agencies, tries to guarantee the inspection and quarantine process of food import and export, handles the food safety accidents, has very detailed supervision and administration of food safety and indicates the legal responsibilities.(Book of PRC Food Safety Law 2012)In its supplementary provisions, the law specifically and legally defines terms such as food, food safety, pre-packed food, food additive, and so on. (NPC 2009; Book of PRC Food Safety Law 2012). After the publishing of the new Food Safety Law, the government started to pay more attention to the food safety issues. After 2009, the legislature and the government enact more than 30 specific regulations, implementation rules, precise laws to regulate different perspective of food safety, such as organic products, feed additives, nutrition labels, measurement of inspection, quarantine and so on. (China - Regulations & Standards, nd,) The government also improved the food safety management system, sped up the process to set new food standards, abolished some old standards, smoothed implementation to promote national food safety standards, and established policies to carry out more training for national food safety standards. As proof of its effectiveness, by June 2012, there were 269 new
standards covering dairy, food additive, drinks, and wine products. (The Twelfth Five-Year Plan about National Food Standards, 2012)

In summary, the Chinese legislature has enacted new laws related to food safety as well as expanded existing laws to make them more complete and detailed. The increasing number of articles in different regulations specifies the responsibilities of different government departments and the business operators. Given the rapid improvement of economic conditions and trends associated with rapid urbanization recently, the focus of the regulations has changed from very basic points such as moldy meat, intestinal infectious diseases and food poisoning to higher standards such as packing process, pesticide, additives, inspection and food exports. These changes in the focus and the intensity of regulations may help to improve food safety.

International trade can promote food safety

International trade growth, a particularly critical component of economic growth to the Chinese government, can also influence of food safety. Both Chinese government’s policies and foreign countries’ policies can help Chinese government to improve food safety because Chinese government has to ensure the exportation of safe food products, and foreign countries need to make sure the food they import for their people is safe as well.

The United States Departments of Agriculture (USDA) published several papers about the possible influence of international trade on food safety. Roberts and Unnevehr argue many different countries have their own regulations for food safety. These
international food safety standards will help the countries to enhance the safety of food and multilateral institutions also work on different projects to improve food safety and trade (Roberts and Unnevehr 2003). Several institutions and regulations, rules, and standards comprise a multinational framework for food safety regulations around the world. (Josling, Roberts and Orden 2004)

For example, the USDA Law in the United States regulated that the Secretary may require a certification of the food exported to the United States. “Such certification or assurances may be provided in the form of shipment-specific certificates, a listing of certified facilities that manufacture, process, pack, or hold such food, or in such other form as the Secretary may specify” (Food Safety Modernization Act, 2011, np) Chinese food exporters need to make sure the food they export to the United States is safe because of this law.

Through international trade, different countries can exchange safer food production, distribution and storage best practices as well as their technology of public health. In the industrialized countries, consumers can consume fresher and less-processed foods. Many fresh products are trade internationally by many countries. (Roberts and Unnevehr 2003) At the same time, developed countries can also exchange their technology such as the ability to identify new foodborne diseases as well as trace the sources of those diseases. For these reasons, when China exports and imports food from more developed countries, Chinese consumers can benefit from fresher food and gain access to newer technologies to detect foodborne diseases.

The F.D.A. recently opened an office in Beijing to ensure the safety of the Chinese food imported into the United States. The F.D.A. will also open two other
branches in Shanghai and Guangzhou. Since the United States import more than 321 billion dollars worth of food from China in 2007, the goal of the office is to ensure the food safety standard and quality control. (Jacobs and McDonald 2008) The Secretary of U.S. Department of Health & Human Services Leavitt said, “We’re opening up a new era, not just new offices.” (U.S. Department of Health & Human Services, 2008, np)

As a large food exporter, Chinese government and food companies have to obey the food safety rules of their trade partners in order to export food products and continue to boost economic growth. So Chinese government and food companies have to make sure the food they export is safe in order to make more profit. And the foreign market will act as a supervisor of food safety for China.

For example, in 2008, Chinese milk became very famous around the world because foreign food inspection agencies detected melamine in the milk products. After this famous Chinese food scandal, Chinese legislature immediately enacted two orders: Regulation on the Supervision and Administration of the Quality & Safety of Dairy Products and Administrative Measures for the Production and Purchase of Fresh Milk. According to the New York Times, at least 3 babies died and 53,000 children were sick in August 2008 (Wong 2008a). Many consumers around the world stopped buying Chinese dairy products in 2008 after the media reports (Rosenthal 2008). Since a large portion of the Chinese dairy products was exported, the Chinese legislature also subsequently reviewed the draft law to regulate the food additive and regulate milk products (Bradsher 2008). The influence of the foreign market indirectly “supervised” Chinese food safety as well. In order to ensure the reputation of Chinese food products, to retain foreign customers, and to increase the sales volume in the world market, Chinese
government felt compelled to pass different detailed regulations to prevent similar events from happening in the future.

Recently, Chinese government passed different regulations for exporting and importing food products. These included the Administrative Measures on Import and Export Food Safety, passed in 2010; Notice No. 286 on Import & Export of Aquatic Product, passed in 2011; and Administrative Measures on Inspection, Quarantine & Supervision of Import / Export of Dairy Products, passed in 2013. According to Huffington Post, a furniture company IKEA recently recalled cakes from 23 countries because Chinese official inspection agencies detected coliform bacteria. Nearly two tons of IKEA chocolate cakes were destroyed in China. “Chinese authorities have stepped up food inspections in recent years after a series of scandals over fake or shoddy goods.”(HUFF Post 2013)

Another way in which foreign countries supervise Chinese food safety is through foreign media. For example, the New York Times has a blog about the different incidents written about Chinese food safety issues. They also write about what happened in the foreign market after the foreign media report incidents. Many consumers have been concerned about the safety of the baby formula from China in Australia (Siegal 2013), which has already resulted in a big loss for the Chinese food exporter in question. Food may become spoiled if fewer consumers buy it. In the contrast of Chinese local media, which is mostly controlled or influenced by the Chinese government, foreign media are more liberal to report the facts related to Chinese food safety issues and help Chinese government to regulate the food safety at the same time.
For all these reasons, Chinese government has already taken steps to control the safety of the goods they export by passing detailed laws and regulations to maintain and boost international trade in foodstuffs. On the other hand, through the mechanisms of international trade, international food standards that Chinese food companies have to obey can also help to enhance Chinese food safety. Foreign media report their news without Chinese government’s supervision. So as the economy grows, international trade can also increase the food safety.

**Data of the economics growth and food exports**

In this section, I will analyze the GDP and Chinese food export data from the World Bank to figure out if there is a correlation between the food exports and economic growth in China. The following two figures are compute from the World Bank data.

![Figure 1 China’s Agricultural Raw Materials Exports (USD) (Source: The World Bank Data ny)](image)
I get the data of agricultural raw materials exports every year by multiplying China’s “agricultural raw materials exports (% of the merchandise exports)” and “Merchandise exports (Current USD)” By multiplying the China’s “Food exports (% of merchandise exports) and Merchandise exports (Current USD)”, I get the dollar value of China’s food exports. (The World Bank ny )

As the Figure 1 and Figure 2 show, China’s food exports and Agricultural raw materials exports increase throughout time. I calculated the correlation between the Agricultural raw material exports and the GDP, which is 0.96 and the correlation between Food exports and GDP is 0.98. Those two numbers show that there is a very strong correlation between the GDP and the food export in China. So we can conclude, as the economy grows, foods exports and imports in China increase.

**Demand of safe food**

As Chinese domestic consumers are getting wealthier, they pay more attention to
their health, thereby increasing the demand for safe food. More research and news related to food safety has been reported recently. At the same time, more news items are available online to these consumers. People have more ways to access the information. The science of public health is better now, which can also increase the public concern about foodborne diseases.

The demand of safe food increases with the economic growth in China. According to Xinhua news, as people getting wealthier, the public attention on food issues change from hunger to food safety problems. Some food safety problems are the result of extensive economic growth in a short period of time, which means the producers pay more attention to the quantity instead of the quality during the production. The change in public attention will also increase the demand of safe food. (Li 2007) More people post their opinion about food safety issues online and the media reports the anger of the people about this issue.

Even though many people are concerned about the censorship on Chinese Internet and whether it will affect the public opinions about food safety on the Internet, many scholars think the censorship is not a big issue. The Internet censorship is the “most extensive, technologically sophisticated, and broad-reaching system of Internet filtering in the world” (OpenNet Initiative 2005). “While not denying that censorship is an issue, many Chinese bloggers hold the view that the real story going on in the Chinese blogosphere is not one of oppressed victims who are waiting to be liberated.” (MacKinnon 2008: 42) The excessive focus by western media may make the government become more suspicious and regulate the Internet (MacKinnon 2008). Another scholar also argues about the Internet condition in China. Yang (2009) argues there is a new
online society of “netizens” in China who can report a lot of news, which cannot be, reported anywhere else: accidents, protest, call for help. So the society of “netizens” can supervise the government. Other than that, there are other things like Chinese twitter, Chinese Facebook, somewhere people can be together and post their idea. Some of the ideas also mention a lot of big issues about the government. Also there are online group chats; the chats can be international or domestic. They are potentially very powerful. (Yang 2009) Also, in China, people can still affect the government policies. Citizens, and the government, take seriously Chapter Two of the Chinese Constitution: article thirty-five, as citizens of People’s Republic of China, freedom of speech, of the press, assembly, association, marching and demonstration is guaranteed. (Social Law 国家法社会法大全 2011) So although Chinese government uses the Internet world filter to block some of the information, the Chinese food consumers still have power to reflect what they think about food issues online.

Another reason for demand for safe food increases is because the science of public health becomes better as the economy growth. Public health sectors are better able to identify the causes of new diseases, such as foodborne microbial pathogens, and the severity of resulting illnesses. “Increased public awareness of microbial pathogens has raised public concerns about this type of foodborne hazard.” (Roberts and Unnevehr 2003: 29) As people become wealthier, the technologies to detect the foodborne diseases are better as well. When food consumers hear that the food they consume is unsafe, they will put pressure to the government in order to get safer food.

On the other hand, private companies also have strong incentive to prevent food safety scandals as the economy grows. The regulations are more detailed about the
punishment of unsafe food. Market competition is more intense and some of the food companies have changed into stock ownership, as be more vulnerable to scandal. “Firms implicated in a crisis may suffer from reputation lost, stock prices reduced, plants closed for cleanup or permanently shut down, food poisoning lawsuits filed, premiums raised for product liability insurance, and demand for product reduced enough to threaten entire markets or industries.” (Buzby and Unnevehr 2003: 3)

One example of the demand of safe food can increase food safety is that Wu and 33 volunteers did a research in 2012 and published the results in their own website online which draws a great public attention. They read 17268 pieces of news about food safety issues from 2004 to 2011 and wrote a report called “Chinese Food Safety Issues News Database (中国食品安全问题新闻资料库) 2004-2011”1 The sources of the data are Chinese media reports online from January 2004 to May 2011 (Wu et al. 2012).

![Number of Media Reports by Year](image)

1 The Chinese articles and data are available at: http://www.zccw.info
Wu’s research result, as in figure 3, shows a big increase in 2011 after the new Food Safety Law was published. (The Report of the condition of Chinese Food Safety Issues 2004-2011 (易粪相食 : :中国食品安全状况调查) 2012). Wu thinks that the number of reports should increase by year, but the research result is different from his assumption. Wu’s data is not complete as the author argues in the report. The news they can find in the media is only a small portion of the food safety cases. The number of news they can find online is less than the real media report in the newspaper or on TV. So the figure may not be completely representative. But the main purpose of the project is to increase the public attention to food safety. (Wu et al. 2012) The suddenly increase in 2011 is caused by two reasons: the increasing of public attention to food safety issues and the new law and regulations are more enforced in 2011.

The aim of the report is to lead the Chinese government and Chinese people pay more attention of food safety in order to increase food safety. After the report was published online, there were more people paying attention to this issue. Many media started to report his research after the Wu’s published the research results, and people started to focus on these issues after they read his reports. According to China Newsweek, the author Wu met with the officers from Shanghai Food Safety Office about a year after he published his research results. During the meeting, Wu said he was worried whether the government would block his website. However, he was very surprised when the officers asked him if he needed any financial support for his research. He also claimed that even thought he was the only person who started this idea, after two days he posted
the invitation for volunteers, 10s of people replied him online in two days. (He 2012) The officers also said the regulation of food safety needs the support of all the citizens and Wu’s research was a good resource for the public to get the information about food safety. (He 2012) The government also started to regulate food safety after Wu put his research result online. According to Qianjiang Evening News, Shanghai local government encouraged consumers to make public food safety issues. The government would reward the person who accuses companies of producing unsafe food up to 200,000 RMB (Qianjiang Evening News 2012).

As economy grows continues, people become wealthier and their demand for safe food increases. The increasing demand of high quality food will push the government to regulate the food market. At the same time, the consumers will help the inspection agencies to report the unqualified unsafe food and the development of the science of public health will also increase the demand of safe food.

**Compare with the United States**

Many countries experienced food safety crisis before, including the United States. In this section, I will compare the current Chinese food safety condition with the United States. I choose the United States for four reasons: one, it also has a very large, complex food industry; two, because it has relative safer food compared to China; three, as an agribusiness leader in the world, the U.S. provide best-practice ideas for other countries to make their own policies; four, the United States began to regulate their food safety around a hundred years earlier than China so, as it is quite possible that Chinese food
safety condition will become similar to the United States in the future given China’s economic growth; and five, although American government is more democratic than Chinese, officials in both governments have the incentive to perform their duties because they still need promotions and do not want to lose their job.

At the beginning of the twentieth century, food safety became a major concern in the United States after Upton Sinclair published *The Jungle*. The aim of the book was to describe the lives of the immigrants in the United States. However, just as Sinclair’s quote about this book: “I aimed at the public’s heart and by accident I hit it in the stomach.” The 10 pages about a meat packing industry in that 300 hundred pages book drew full attention of the public when Sinclair mentioned the meat packing industry in the early 1900s. He noted that rats and flies were everywhere during the production process. The sausage was made of rat-infested meat mixed with borax and other chemical additives (Sinclair 1906; McIntyre 2008). In the response of this scandal, *Food and Drugs Act* and *The Meat Inspection Act* were passed in 1906. “The FDA’s modern regulatory functions began with the passage of the 1906 Pure Food and Drug Acts, a law a quarter-century in the making that prohibited interstate commerce in adulterated and misbranded food and drugs” (FDA 1981; FDA 2010; FDA 2012). Many scholars think this was the beginning of the food regulation in the United States and the first generation of food safety law passed in order to regulate the safety of food, although there were some food safety regulations enacted in the 1860s (Hoffmann 2010).

In the first decade after 1906, death rates of the food-related disease declined faster than those for diseases not related to food (Wagstaff 1986). Later in 1938, the Congress enacted the Federal Food, Drug, and Cosmetic Act: “Added” means “not
inherently components of food” (Kessler 1984: 1035). In 1958, the Congress passed the Food Additives Amendment, “requiring manufacturers of new food additives to establish safety” (FDA 2012: np). “Food additive” in this law is not limited to chemicals but also includes agricultural commodities too (Kessler 1984). Later in 1970, several years after the book Silent Spring was published by Rachel Carson, which “indicted the chemical industry, the government, and agribusiness for indiscriminately using pesticides.”(Lear 1993: 27) FDA program for setting pesticide tolerance enacted (FDA 2012). Then the Congress passed the Nutrition Labeling and Education Act in 1990, Food Quality Protection Action in 1996 and Food Allergy Labeling and Consumer Protection Act in 2004 (FDA 2012). Till today, there are “35 separate laws administered by 12 agencies housed in six cabinet-level department.”(Nestle 2003, 55) According to Paarlberg, “food in the United States right now is generally safe and significantly safer than the past, but the demand for safety has increased as society has become more affluent, creating a parallel demand for improved food safety policy.”(Paarlberg 2010: 155) Note here that food safety in the United States has increased in tandem with economic growth.

The GDP per capita of the United States was 5079 dollars in 1906 (Maddison et al. 2010), which is also very similar to 5445 dollars of China in 2011. From the economic perspective, it is possible that China and the United States started to regulate the food safety when the GDP per capita was more than 5,000 dollars and we can expect the Chinese food safety condition will become better as the economy grows just like the United States. Chinese scholars are comparing the food safety regulations in the United States and China to learn from the U.S. regulations and improve the food safety in China. For example, after the U.S. government enacted Food Safety Modernization Act, Li and
Wang analyzed the improvement of the new Act and Chinese government should increase investment in science and technology, speed up the Food certification process in, develop the private supervision and develop food safety training and education. (Li and Wang 2012) After the comparison of the administration of food safety in the U.S. and China, Fu, Jiao and Wang (2005) argue that we should complete our legal system to supervise the food safety and increase the efficiency of our food safety monitoring.

**Hypothesis 2: Economic Growth May Not Increase Food Safety**

Another possible result for Chinese food safety is the economic growth may not increase food safety in the future. Even though the government is increasing the number of detailed regulations, there are still many food safety scandals emerging thought out the time. From some cases, it is possible to be suspicious if the regulations are effective. The corruption is also a very serious problem in Chinese government right now. It is reasonable to doubt whether the food safety will increase under the corrupted government. On the other hand, the rapid economic growth will increase the inequality between the wealth and the poor, which will result the disparity of the consumer power and different market structure between them. Even though increase of food safety may similar to the United States, many scholars argue the current food condition for the U.S. is not safe either: industrial food may still cause many disease.
Companies May Take Shortcuts during the Food Production

Even though Chinese government officials increased their attention on food issues and enacted many detailed regulations to regulate food safety, there may be another possible future for Chinese food safety. There are many incentives for the food companies to take shortcuts to produce unsafe food in the short run to maximize their profit. Although in the long run, the consumers will find the problematic food and stop buying the unsafe food from those companies, if many food companies choose to take the shortcuts in the short run, the government regulations will not be affective in the short period.

Case 1: Melamine Milk Incident

The melamine milk incident I mentioned in the previous section happened in 2008 because the Chinese milk company used the cheap material in order to lower their cost. Before the incident affected the foreign market, the melamine milk had already affected many infants in the domestic market in China. The consumers could not determine whether the food was safe until they buy it and eat it. Sometimes even if they purchase the food, they often cannot immediately tell whether the food will cause long-term health problems. (Mitchell 2003)

In March 2008, 10 infants were hospitalized in Nanjing because of the kidney stones. 4 months later, Gansu Province reported an increasing number of infants had kidney stones to Ministry of Health. After investigation, the officials found that all of those infants drank the milk produced by Sanlu Group. Several days later, the Inspection and Quarantine Bureau in Hebei Province detected that fifteen out of sixteen batches of
the milk contained melamine in the baby milk formula produced by Sanlu. Sanlu Group also decided to recall part of their production. In September 1st, 2008, the media reported 14 infants were hospitalized because of the Sanlu baby milk formula. The officials from General Administration of Quality Supervision, Inspection and Quarantine went to Sanlu to detect their products on the same day. Ten days later, Sanlu’s factory shut down.

According to Ministry of Health, about 290,000 infants affected, of which 6 died. (Peng 2010) Most of the contaminated milk was the cheapest 18 yuan baby milk formula. Sanlu Group apparently thought it needed to lower this product’s price to occupy the market in the relative poor countryside. In order to lower their cost, the company used the cheaper soybean protein power in their baby milk formula. There was nothing wrong with the milk formula before, however the producer of soybean protein power mixed melamine inside of their products. (Shenghuo Newspaper 2008) Gale and Hu argue in their paper, the producers add the melamine to their milk in order to increase its apparent protein content. Melamine is cheap, so there is an incentive for the companies to add that into their milk. (Gossner et al 2009) Melamine is an organic compound used to produce plastics, countertops, dishware, and whiteboards. Since the human body cannot digest this material, the melamine can form crystals that can become kidney stones. The kidney stones can block the small tubes in the kidney and cause the failure of kidney and maybe death. (WHO: Questions and Answers on Melamine ny)

In 2009, 2 people were executed because of the incident: Zhang Yujun and Geng Jinping. “Mr. Zhang was found guilty of selling more than 1.3 million pounds of tainted milk powder from July 2007 to August 2008 and Mr. Geng was convicted of selling more than 1.9 million pounds of contaminated product.” (Lafraniere 2009: np) The CEO of
Sanlu Group Tian Wenhua was condemned to life imprisonment and fined 24,687,411 yuan. (Peng 2010) After billions in penalties, Sanlu Group declared bankruptcy because of this tainted milk issue. (Wong 2008b) The government decided to remove five officials from office. Li Changjiang, the head of General Administration of Quality Supervision, Inspection and Quarantine resigned as well.

Gale and Hu claim that economic conditions and market structure may influence food safety in the opposite way. The intense market competition for raw milk may increase the incentive for those milk companies to seek a lower cost for their products, which decreases the quality of their products (Gale and Hu 2009). The continuous economic growth leads to a more competitive market. Some business people will take shortcuts to earn more profit illegally. In this occasion, the economic growth may not be able to increase food safety.

Case 2: Recycled Gutter Oil

Another case occurred in 2010 was the “gutter oil” incident. Gutter oil is used cooking oil that is legally mandated to be recycled for chemical engineering. But in China, scholars find that half of it goes back to the dining table in some restaurants.(Li and Jiang, 2011, 1) “Recycled oil can contain carcinogens and traces of aflatoxin, a potentially deadly mold.”(Huff Post 2011: np) Illegally selling the recycled gutter oil can earn a lot of money, according to Kwong Wal E-newspaper, the average cost of a barrel of oil is about 300 yuan. The average profit for a barrel of oil is 70-80 yuan. (Kwong Wal E-newspaper 2010)
The recycling of cooking oil is difficult to regulate. The journalist and officials investigated one of the recycled cooking oil factory in Nanjing. The rotten smell was around the factory. When the journalist asked the workers, they said, “We are making beef tallow.” The officials shut down the factory for lacking a processing production license (加工生产许可证). The private factory owner said they were recycling the oil for the larger factories. He also claimed that he did not know his factory need any license. The most concerning fact was that the factory owner couldn’t tell explicitly where the oil was. Several days later, the government officials visited the factory again. They found that the workers were still working and workers said they are producing cooking oil. The officials fined the factory owned 20,000 yuan and order the owner to shut down the factory immediately. After several days, the officials came to make sure the factory is closed and confiscated tons of the recycled cooking oil.(Meng 2012)

The problem was that the officials still could not figure out to what endpoint the oil was being sold. While the factory had been run illegally for a long time, the owner did not have any receipt or pay for the state or local taxes.(Meng 2012) This is just one small part of the recycling of cooking oil. “The Ministry of Public Security said in a statement on its website that police had seized 100 tons (90 metric tons) of the potentially harmful oil in 14 provinces.” (Huff Post 2011: np)

The difference between the recycled gutter oil and melamine milk is that the milk is easier to detect since there are only several brands in the dairy market and milk is the final product. However, the labels of the cooking oil used in the restaurants are invisible by the consumers. It is more difficult for the consumers to recognize if the oil they eat in the restaurants is safe. In addition, the milk production requires a higher sunk cost than
the recycling of used cooking oil. The people illegally produce cooking oil from used oil do not need much special equipment or technology to produce their products. Since the cooking oil is often an intermediate product and requires relatively lower sunk costs to produce, it is very difficult for food inspection agencies to control let alone detect.

There are several food safety issues happening in China every year: some of them are famous like the melamine milk scandal; some of them do not seem as problematic and do not cause a public outcry. Corrupt food chains in China are a serious problem. According to New York Times, “China’s food-safety problems highlight both the collapse of the country’s business ethics and the failure of government regulators to keep pace with the expanding market economy.” (Huang 2012: np). Under the intense market competition, some food companies seek the ways to lower their cost illegally. They take the shortcuts in the short run in order to maximize their profit. In this occasion, the economic growth may not be able to increase food safety.

**Inequality between the wealth and the poor**

As the continuous developing of population, the economic gap between the rich and poor is one of the most serious problems in China right now. The “Gini coefficient” the standard measure of the economic inequality, shows that China’s figure is 0.474 in 2012. This index ranges from 0 to 1, which 0 means perfect equality and 1 means perfectly inequality. The Chinese economic growth makes many billionaires and rich officials, but most people still have relative low income compare to other developed countries. (Voice of America 2013) “The Gini coefficient, which measures income distribution on a scale of zero to one, indicates a relatively reasonable income gap if the
number is between 0.3 and 0.4. A Gini index between 0.4 and 0.5, however, signals a large income gap.” (Fang and Lea 2012: np) For this reason, although people become wealthier recently and demand safer food, the market may not be able to meet their request. As rich people get richer and poor people stay in the relative poor condition, rich people have different ways to get healthier food: buy imported food or “specialized supply” food. The poor people do not have enough money to buy expensive relative safe food nor do they have enough power to affect the market supply. According to Mitchell, “Consumers might have different desired levels of risk.” (Mitchell 2003: 18) The inequality between the wealth and the poor caused by economic growth differs the level of people’s food safety demand, which may not be able to increase food safety.

For the rich people or government officials, they have their different ways to get safer food. For example, in Beijing, there was a place called “the Customs Farmland (海关大棚)” in Shunyi district. The vegetables there were specially provided for Beijing Customs. Every Monday, Wednesday and Friday, the truck will transport the vegetables to the destination. These special vegetables are real “green food”. All of the fertilizers are natural organic. (Lv et al. 2011) For the rich people who cannot buy the special food, they can also spend more money to buy imported food. Chinese visitors will buy formula from Australia. The flight attendants will also bring baby formula back to their family and friends in their trolleys. People also bring food back from Hong Kong. Some stores even set up the limit number of identical products each consumer can buy during a single visit. (Siegel 2013)

For the poor people, things are completely different. For instance, in a village in Haikou, several unemployed people work as butchers secretly, slaughtering pigs without
quality supervision. In the villages, the officials said they had already done the regulation for 28 times, but the slaughterers would come back to work after each safety inspection. The reporters visited the slaughterer’s home. The slaughterer said he slaughtered the pigs during night. Even people in his family disliked the noise. But he had to do it, because he didn’t have a job. The officials promised the people in the village to start a slaughterhouse near the village. The slaughterers said they would support the local government as long as we can make a living. (Fu and Ma 2013) For those people who do not have a job, the standard of food safety is much lower. In some cases, they produce unsanitary food simply because they do not have other higher working skills or the resources to maintain better cleanliness standards.

Tinker, in his paper about street food, claims that rapid economic transformation can result in a great disparity of incomes among people. People who sell street food can be seasonal workers or downward mobile middle class. A lot of traditional microenterprises are still left in the market although the economic condition is better than the past (Gale and Hu 2003). In China, there are a lot of food-producing microenterprises still existing. They are producing food in the old-fashioned way. It is difficult to regulate them because it is hard to measure whether they are producing the unsanitary food.

Hence, the economic boom in China has caused a great gap between the rich and poor. Regarding food safety problems, this income gap causes consumers to have very different views of food safety. While the rich can spend more money to purchase safer and healthier food, those with lower income may only care about whether their family will suffer hunger next week. Because this purchasing power gap between the rich and poor exists, economic growth may not be able to increase food safety either.
Industrial Food in the future

Although in the future, China may develop the food in the same way as the United States, another serious problem may appear: whether food under agro-industrial methods is safer for people. During industrial food production, food companies use more fertilizer, pesticide, and antibiotic. They also produce genetically-modified (GM) food to increase the output. The industrial meal in the United States is corn-based, which means most of the food is produced directly or indirectly from corn. Corn feeds chicken, pigs, and even catfish. Our sugar substitutes, such as high-fructose corn syrup, come from corn as well (Pollan 2009). Whether the industrial food is safer is still debated by many scholars. Corn-based food will cause many health problems: such as heart disease and obesity (Pollan 2009). Scientists are still not sure about whether GM food is safe right now.

More than hundred years after the United States began regulating food, the second generation of laws and regulations has just started to come out with the emergence of new scandals and crisis of the trust of government (Hoffmann 2010). Nestle argues that a century ago, the foodborne illnesses were from spoiled meat or sick animals. Most of those problems have been solved by public health measures. However, today, many animals can still carry microbes, microorganisms or bugs. So, because food production is centralized, a more compatible environment for viruses and bacteria is created. Infected animals can become pathogens without showing any visible signs of illness. If pathogens survive cooking and digestion, then they may produce toxins (Nestles 2010).

Also, another of Nestles’ books, he argues that the food interest groups can gain access and influence officials by donating money. They can also make “friends” with the
officials. One of the natural processes of making friends is exchanging gifts, by which he means corruption (Nestles 2007).

Paarlberg (2010) argues that the government data of food safety may not be completely trustworthy. He argues that there are more than 200 known diseases that can be transmitted by food. The underlying viruses, bacteria, toxins can cause different symptoms. The state of Minnesota discovered 548 foodborne illnesses, while Kentucky had only 18 between 1990 and 2006. He also argues that the industrialization of agriculture does not make food more dangerous, but may increase new risks (Paarlberg 2010). Pollan (2009) argues the industrial agriculture is bad for people’s health. Corn-fed beef contains more Omega-6 which is kind of fat that is unhealthy to people and may cause obesity in the future. Also, in order to keep feedlot animal healthy, livestock producers use antibiotics. Most of the antibiotics sold in the United States are used with animals. In addition, the more serious problem is that the new types of bacteria that develop from industrial agriculture may survive from all kinds of antibiotics one day. If that day comes, we are in trouble (Paarlberg, 2009).

**Data of economic growth and food borne disease**

In this section, I will use the data from China Statistical Year Book and Ministry of Health of the PRC website to examine whether there is a correlation between economic growth and the number foodborne diseases. The data in following figure is from Ministry of Health of the PRC website and the World Bank. In the data, the causes of food poisoning are microorganism, chemical substances, poisoning plants and animals,
and unknown reasons. In this section, I will analyze demographical and chronological data to figure out the relationship between the economic growth in China and food safety.

<table>
<thead>
<tr>
<th>Year</th>
<th>Victims of food poisoning</th>
<th>Number of Food Poisoning Cases</th>
<th>Deaths from Food Poisoning</th>
<th>GDP /Capita (Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>506</td>
<td>13280</td>
<td>258</td>
<td>2651</td>
</tr>
<tr>
<td>2008</td>
<td>431</td>
<td>13095</td>
<td>154</td>
<td>3414</td>
</tr>
<tr>
<td>2009</td>
<td>271</td>
<td>11007</td>
<td>181</td>
<td>3749</td>
</tr>
<tr>
<td>2010</td>
<td>220</td>
<td>7383</td>
<td>184</td>
<td>4433</td>
</tr>
<tr>
<td>2011</td>
<td>189</td>
<td>8324</td>
<td>137</td>
<td>5445</td>
</tr>
</tbody>
</table>

Figure 4: Chinese Food Poisoning Data and GDP/Capita
(Source: Ministry of Health of the PRC, 2008-2012; the World Bank, ny)

The food poisoning data starts to be available from 2007, published around the same time with Food Safety Law of PRC in 2008. From the food poisoning data in the most recent five years, the number food poisoning victims decreasing throughout time. The trends of number of food poisoning cases and death from food poisoning are also decreasing. The correlation between victims of food poisoning and GDP per capita is -0.91, which means there is a strong negative correlation between those two figures. The correlation between number of food poisoning cases and GDP per capita is -0.86 and the
The correlation between deaths from food poisoning is -0.76. Those 3 numbers shows as the GDP per capita increases, the food safety is increasing. The government official data shows there is a correlation between food safety and the economic growth.

Then I use the demographical food poisoning data in 2007, which is the only recent demographical data available online. My hypothesis is: As people are wealthier, the food safety increases. For this reason, I calculate the correlation between the per capital GDP in different regions (GRP) in 2007 from the China’s Statistical Year Book 2008 and the victims of food poisoning in the region: -0.25. The data is in the Appendix 1. I also calculate the correlation between the GRP and the death of food poisoning the same way in the region, which is –0.35. Those numbers shows that there is a correlation, which it is not very significant. We can conclude, demographically, there is a relative weak relationship between GRP and food safety. The data may not be very representative because in the wealthier regions, people have newer technology and have better ways to detect the diseases. In the poor regions, people may not be able to access the newer technology and health care. For those reasons, the reported number in the less wealthy regions may be smaller than the real number.

**Interview**

I conducted an interview with an official from the Department of Social Development from National Development and Reform Commission of PRC. The main responsibilities of this department include “organizing the formulation and coordination of social development plans and related annual plans; coordinating development policies concerning population and family planning, culture, education, health care, sports,
broadcasting, film and TV, tourism, law and regulation, and civil affairs” (National Development and Reform Commission, ny). This person is in charge of social development planning for different social problems including food safety.

Question 1: “There are many media reports about Chinese food is unsafe all over the world. How do you think about Chinese current food safety condition?”

Answer: “Chinese Food is safe in general. There are some special cases such as the Melamine Milk in 2008. But we cannot conclude Chinese food is completely unsafe because of several bad cases. The foreign media may not be able to report comprehensively and objectively about Chinese food conditions. For example, the current average lifespan in China is much longer than before. If the food in China is completely unsafe as the foreign media reports, then people cannot live longer. There are different food safety cases happening all over the world. In Europe, media recently reported horsemeat in the beef production. In New Zealand, people also found dicyandiamide in their milk production. Can we conclude their food production is completely unsafe? So for the same reason, we cannot conclude Chinese food is unsafe because of some bad cases. China is a big country, some food safety problems in the small region cannot represent Chinese whole food market. So I think Chinese food is relative safe in general.”

Question 2: “What do you think about the future of Chinese food safety?”

Answer: “The food safety condition will be better. The government increases the attention about food safety issues. The government invests more money to regulate the food safety as well. For example, the government start to invest the equipments from provinces, cities to counties. Now small counties also have those equipments. The government also regulates food safety in both food market and the scource of the food
production. The percentage of industrial production exceeded the agriculture only several years ago. As a country in the initial stage of industrialization, there may be some food safety problems. Actually I think China’s current food condition is much better than before. After the Open-up and Reform Policy, the living condition is much better than before. There are some bad food safety cases. Especially, after people pay more attention about those issues recently. But in the past, around the early 1990s, I was in northeast China. The winter was very cold and we didn’t have vegetables to eat during the cold winter. We didn’t care about pesticide because we did not even have vegetable to eat. When I grow up, I asked my father why the steamed bread made from corn flour we ate in the past tasted different? My dad told me because the corn flour had already expired. They were already expired when people sell them. But why we didn’t argue the food is unsafe during that time? Because we did not have enough food. Recently, people have enough food, they start to pay more attention about food safety. So food safety will be better in the future. ”

Question 3: Recently, the departments were in charge of food safety before are merged together, what do you think of that new department will influence food safety?

Answer: “In the past, there are many different departments are in charge of food safety issues: Ministry of Agriculture, Ministry of Industry and Commerce, Food and Drug Administration, Food Safety Office and so on. The different department will have different laws and regulations about food safety. Sometimes, those laws are even contradict with each other, which makes the regulation of food safety more difficult. Now most of those departments merged together. The food safety should be better in the future.”
Question 4: “How does the economic growth influence the food safety?”

Answer: “Economic growth will promote the food safety. People become wealthier as the economy grows, which will increase the demand of safe food and push the detection of food safety. The food safety will be better. Food safety influences everyone’s health. The government will pay more attention as the economy grows. The income will increase. The investment to the food safety detection equipments will increase. But the both the economic growth and food safety increase will need some time. They cannot happen overnight.”

Mr Wang is from Department of Social Development from National Development and Reform Commission of PRC.

Conclusion

The economic growth can increase the food safety because the laws to regulate food safety become more detailed and complete as the economy grows. Increasing food exports can also promote food safety. As people are getting wealthier, they demand safer food and pay more attention to food safety. However, on the other hand, the economic growth in China may also create intense competition and provide incentives for the businessmen to take shortcuts during their production. The fast economic growth will also increase the gap between the rich and poor and cause different demand of safe food between the rich and poor. Even though with the comparison of the United States, Chinese food safety in the future may be better, the safety of industrial food is still in doubt.
But in the short period of time, only one of the hypotheses can happen. From the
government official data, the food safety is increasing as the economy grows. After the
Milk Scandal two people were executed and Sanlu Group bankrupted because of the
incident. “The private sector, both here and abroad, has strong incentives to prevent food
safety crises and to mitigate their impact if they arise.” (Buzby and Unnevehr 2003: 3)
The owner of the companies lost a lot of money in the incident, even their lives. The
government also provided free health care for the victims in this scandal. On the other
hand, most of the time, it is the poorer people who produce the recycled cooking oil in
China. They have more incentive to provide safe food because they do not want to lose
what they earn. In order to solve those problems, the government needs new policies to
keep the increase of food safety and also prevent the second hypotheses happening in the
future.

To prevent the producers from taking the shortcuts, the government can provide
more incentive for the food producers to produce the safer food and increase the
punishment of unsafe food. The punishment in the Food Safety Law is still ambiguous.
The punishment range from 2000 yuan to 50000 yuan, or fine not less than 5 times but
not more then 10 times the value concurrently. (Food Safety Law 2009) For the large
companies, those punishments are much less than the profit they can earn from the
“shortcuts” during the food production. If the legislators increase the punishment, some
of the companies will start to producer safer food in order to decrease their future cost
from punishments. Recently, the Supreme Court of PRC and the Supreme People’s
Procuratorate of PRC published the “Explanations of Some Issues of Applicable Law
about the Handle Criminal Cases Endangering Food Security” in which specified the
punishment of using recycled cooking oil. According to the explanation, the most serious punishment for the people who using recycled cooking oil to produce food is death penalty. People expected the severe punishment could stop the business people from taking shortcuts after the explanation was published. (Liu 2013) For those poor food producers, the government can give them subsidies to improve the sanitation of their food production environment. In the cases I mentioned above, most of the recycled cooking oil producers are poor and they may not have enough legal knowledge or they cannot find a job. By giving them subsidies to help them improve the sanitation of their food production environment, they will start to produce safe food in the future. The government can also teach them other working skills so they can find other job instead of producing unsafe food.

The increasing gap between the rich and poor is the problem facing by many countries in the world. But even though the gap still exists, if the government can decrease the quantity of unsafe food appear in the market, the poor people can also purchase safer food than before. As the economy grows, even the relative poor people in China become richer. Even though the speed they get wealth may not be the same as the rich people, their income will also increase. For this reason, they have more purchasing power as the economy grows and they can buy safer food as well. The Gini index of the United States is 0.450 (Fisher, 2011), but the United States have much safer food than China. Poor people will also demand for safe food. So if the government can decrease the amount of unsafe food in the market, the poor people will have a better access to safe food as well.
Whether the industrialized food is safe is still questioned by many scholars. However, Chinese people solved the hunger problem several decades ago. As Mr. Wang said in his interview, about two decades ago, Chinese people did not argue about food safety because they did not have enough food. But recently they increase the attention on food safety issues. The problem Chinese people are facing right now is not the problems caused by industrialized food. They need to solve the insanitary poisoning food problem: the food will cause disease by microorganism, chemical substances, poisoning plants and animals, and unknown reasons, instead of fat. As long as the economic growth, the government can invest more money to detect the unsanitary foods. For those reasons, as the economy grows, the Chinese food safety will be better before the Chinese food market is very industrialized.

On March 22, 2013, the State Food and Drug Administration changed its name into China Food and Drug Administration, which increased the power of the department. Before that, there were at least 17 departments were in charge of the food safety. When there was an incident, different departments were ambiguous about what their duties were. (Chen 2013) The newer department is responsible from the production of the food to the dishes on the table, except slaughter the animals and plant the vegetables. (Wei 2013) On the other hand, the new Premier of State Council Li Keqiang said that, the food safety is very important, which is directly related to people’s quality of lives and health. We will increase the punishment of the people who produced unsafe food. (Li 2013) He also said that the food safety is an index for whether the new leaders do a good job. (Fu and Liu 2013) The institution gets better as the economy grows as well.
From the data analysis, the food safety problems get better as the economy grows. The correlation between victims of food poisoning and GDP per capita is -0.91, which means there is a very strong negative correlation between the economic growth and the food safety problems. From the demographical data, correlation between the GRP and the death of food poisoning is –0.35. Although there are many other factors may influence the demographical data such the wealth people have better access to health care therefore report more cases, the data still shows a negative correlation between the wealth of the area and the food safety problems. From the interview, Mr. Wang said the economic growth would increase food safety because the government would have more investment for detecting the foodborne diseases. For those reasons, the food safety in China will be more likely to increase in the future as the economy grows.
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Appendix 1: Growth Regional Product (GRP) and Food Safety Data

<table>
<thead>
<tr>
<th>Region</th>
<th>Per Capita GRP (Yuan)</th>
<th>Total Population (Year end) (in 10,000 Person)</th>
<th>Victims of Food Poisoning</th>
<th>Death from Food Poisoning</th>
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(Source: Ministry of Health of the PRC, 2008, np; China Statistical Year Book 2008, 2009, np)