

EMERGING CHINA




International School of Management
PARIS | NEW YORK | SHANGHAI | TOKYO

ISM JOURNAL OF INTERNATIONAL BUSINESS
ISSN : 2150-1076

VOLUME 1, ISSUE #2, MARCH 2011

The Chinese Miracle and the 15-Year Fuse

Wayne Thomas Spies
127 Santa Fe Avenue
Hamden, CT 06517 USA

e-mail: spies@aya.yale.edu

Abstract: The economic, social, demographic and political forces behind China's striking emergence as a market-driven economic and geopolitical superpower have created unintended consequences that will lead the country to crisis and instability as early as 2025. Although many in the West fear China's economic, technological and military power, the potential consequences of a Chinese financial crisis are far more dire, given China's size and integration with the world economy.

I examine the macroeconomic advantages of China, and then present a cautionary analysis in which demographic, sociological, economic and other trends may converge to create an economic crisis in China in the period of 2025-30. I shall discuss various scenarios by which China might resolve or forestall this crisis.

Reference: Reference to this paper should be made as follows: Spies, W. (2011) "The Chinese Miracle & the 15-Year Fuse," The ISM Journal of International Business, ISSN 2150-1076, Volume 1, Issue 2, March 2011.

Keywords: China, Chinese miracle, environment, pollution, public health, worker safety, capital markets, international cooperation, global economy

Biographical Notes: **Wayne Thomas Spies** is a Ph.D. candidate at the International School of Management. Spies has an MBA from the Yale University School of Management and a BBA in Corporate Finance from Iowa State University. He is currently Senior Lecturer at the Mountbatten Institute of London, New York, and Bangkok, and an adjunct professor at the Hagan School of Business at Iona College, New Rochelle, New York.

1.0 Executive Summary

The stunning growth of the Chinese economy has come to be known as the “Chinese miracle.” Certainly China’s striking emergence as a market-driven economic and geopolitical superpower would have been shocking in the Maoist era, but, as miracles go, this one is neither unprecedented nor inexplicable.

As the world’s second largest economy, whose exports account for 30 percent of its gross domestic product, China’s continued integration with the global economy is inevitable. Despite its ideological reluctance and pragmatic reservations, China is, to any independent observer, a superpower—the military, social, and economic rough equivalent of the Euro Zone or the United States. Given its rate of growth, China’s economy is projected to eclipse that of the U.S. between 2020 and 2030, and its military might is undoubtedly on par with that of the Euro Zone, and growing.

The comparative economic advantages of these three powers relative to the rest of the world assure their dominance—and their increasing interdependence in the 21st Century. In short, what is good for the world economy is good for China, and what is bad for the Chinese economy is bad for the world.

The characterization of China’s achievement as a miracle, though, clouds our knowledge that nothing lasts forever and that the same economic, social and political forces that facilitated its rapid emergence can conspire to create unintended consequences leading to crisis and instability. Although many in the West fear China’s growth as an economic, technological and military threat, the potential consequences of a Chinese financial crisis to the rest of the world are far more dire, given China’s size and integration with the world economy.

In this paper, I examine the macroeconomic advantages of China, and then present a cautionary analysis in which demographic, sociological, economic and other trends may converge to create an economic crisis in China in the period of 2025-30. I shall discuss various scenarios by which China might resolve or forestall this crisis.

2.0 Background

2.1 The Chinese “Miracle”

China’s gross domestic product per capita increased from \$150¹ when Deng Xiaoping’s free-market reforms began in 1978 to \$6,660 in 2009 (Central Intelligence Agency, 2010). This is but one result of the so-called “China miracle,” widely—and wildly—heralded in the popular, busi-

¹ All \$ are U.S. dollars.

ness, and even the academic press. China’s 2010 GDP is projected to be \$4.98 trillion, roughly equivalent to that of Japan, long the world’s second largest economy (Leung & Kitanaka, 2010).

2.2 Economic Factors

While the phrase makes good headlines, calling China’s progress a miracle belies the fact that its remarkable changes are hardly inexplicable or supernatural in origin.

A country’s ability to produce goods or services more efficiently than others is known as its absolute advantage (Absolute and comparative advantage, pp. 1-2). In the absence of trade restrictions, production gravitates to countries with absolute advantages in a given industry. Absolute advantages are derived from factors of production, including natural resources, labor and human capital, capital, and entrepreneurship²

We can also classify absolute advantages as general, i.e., applying to an entire industry, or specific, i.e., applying to certain competitors because of their intrinsic capabilities or strategy. China’s huge unskilled and semi-skilled labor markets are often cited as general absolute advantages. They may offer specific advantages to a labor-intensive manufacturing firm, compared to a competitor that relies on robotics to produce the same good.³

2.2.1 Natural Resources

China has abundant natural resources, yet it leads the world in the importation of virtually all strategic minerals. China’s foreign policy has actively courted relationships with business and political leaders in the resource-rich developing world. Halper (2010) stated, “China has been able to exploit lingering resentment of western colonialism and its own experience as a developing nation under the heel of British imperialism.”

China’s deficiencies are not necessarily due to lack of resources, but to the fact that frequently its development and exploitation has not kept pace with the explosive demand. Prices of oil, water, energy (especially hydropower) and other resources are generally controlled. Basic in-

² For other possible groupings, see, for example, <http://www.businessdictionary.com/definition/factors-of-production.html>

³ For a succinct explanation of comparative and absolute advantage from a classical economics perspective, see Suranovic, Steven M. “International Trade Theory and Policy,” accessed May 4, 2010, from <http://internationalecon.com/Trade/Tch40/T40-0.php>.

dustries, such as oil and steel, that refine resources into basic materials for manufacturing and construction, are heavily subsidized by the government (Matthews, 2009).⁴

As a result, the Chinese economy has been able to count on low-cost, abundant resources at stable prices—and low-cost, abundant resources at stable prices are ideal for large scale manufacturing and construction.

2.2.2 Labor & Human Capital

With the largest population on earth, China can supply unskilled and semi-skilled labor cheaper than countries with child-labor and worker protection laws as Lin (p. 11) notes.

As a factor of production, labor refers to the numbers of workers. Human capital refers to the investment in those workers’ physical and mental capabilities. While most Western analysis focuses on its huge low-skilled labor force, it often overlooks China’s comparative advantages in high-skilled labor.

Thirteen percent of China’s government spending goes to education (UNESCO - a, 2008), and China graduates twice as many people from college as the U.S. (UNESCO - b, 2008). China produces three times as many engineers annually than the U.S., and twice as many engineering doctorates (National Science Foundation, 2007, p. 4).

This glut of graduates has led to underemployment of Chinese college graduates, who, upon graduation, often make as little as 35,000 Yuan per year (roughly \$100 per week).⁵ Its inexpensive skilled workforce, highly trained in technology, obviously is an important factor behind China’s scientific progress, and its growing role in international R&D. For example, by 2005, China hosted over 750 foreign-funded R&D centers, including Motorola, whose 20 Chinese R&D centers budgeted \$130 million and employed 3,000 people in 2006 (Motorola beefs up R&D in China, 2006).

2.2.3 Capital

Since being admitted to the World Trade Organization in 2001, China has received more foreign capital than any country (Entrepreneurship in China, 2010).

⁴ The U.S. has ruled that these subsidies violate trade agreements pertaining to paper products, steel tubing, steel pipes, steel grating, and tires (Ensinger, 2010).

⁵ Based on interviews with faculty, staff, and students at Fudan University, April 5-10, 2010.

Banking & Currency

As a result of competition between U.S., Euro and Hong Kong firms, China’s banking system, including credit-card acceptance, is approaching the Euro Zone in basic consumer services and consumer confidence. Considered among the weakest in the world only ten years ago, the World Financial Crisis of 2009-10 demonstrated that it is solid, if lagging its counterparts in the West in terms of technology. The adoption of Western accounting rules, particularly the method of writing off nonperforming loans was the key. In the past, no provisions were made for bad loans; missed payments were rolled over and capitalized into the loan (deCarbonnel, 2009).

Throughout its growth period, China has carefully controlled the Yuan’s value. Despite pressure from the West for currency revaluation, as well as internal pressure to curb its steep inflation (Homan, 2010), the consensus is that China will do so slowly, and floating its value in international currency markets is unlikely. As a result, the Yuan’s stability reduces financial risk to investments, enhancing the viability of long-term investments in the private sector.

Savings

Mu (2007) stated that China’s growth can be attributed, in part, to capital formation resulting from the Chinese tradition of saving. It is startling to the West to see the historical savings rate of the Chinese, especially those who live in relative poverty. This tradition has resulted in a huge increase in aggregate private saving as incomes have increased, to the point that Chinese aggregate savings now equals that of the U.S., as seen in Figure 1.

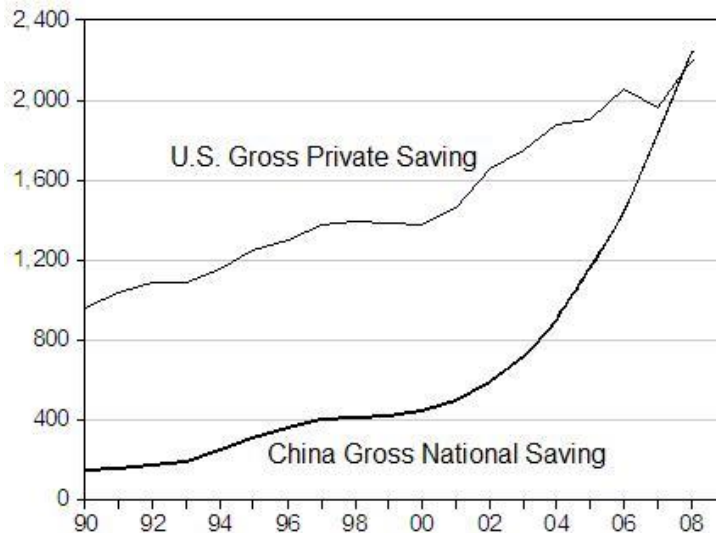


Figure 1: PRC v. U.S. Aggregate Savings (Econobrower, 2009)

Combine this cultural tradition with a relative lack of financial sophistication, limited financial transparency, a favorable tax policy⁶, and a dearth of investment opportunities, and we have the perfect combination of factors to channel huge investments into targeted areas that maximize growth: the stock markets and real estate (Barboza, 2010).

Equity Markets

Another significant factor in China’s dramatic growth is its vibrant equity markets, which have flourished even though they are, as with other second-tier regional and national IPO markets (see Appendix 1), less liquid and less regulated.

China has adopted the capitalist model of capital formation and share markets, but—so far—it has tried to suppress its volatility and to restrict international capital transfers, which could potentially threaten its economic or political stability. These two goals have been implemented in China’s system of dual-listing, where foreign investors are unable to buy shares on the Shenzhen or Shanghai exchanges, while Chinese citizens can’t purchase stock, under normal conditions, in foreign exchanges—effectively eliminating the ability of speculators to arbitrage price discrepancies on identical assets.

Even in a nominally Communist country, capital flows to the opportunity, not the style of government. As a result, China has had some very large IPOs, such as the 2006 IPO of the Industrial and Commercial Bank of China, at \$19 billion (Mann, The largest IPO in history). Because foreign investment by the Chinese investors is blocked, capital has nowhere else to go, other than China’s overheated real estate markets.

2.2.4 Entrepreneurship

The Chinese government’s embrace of free-market capitalism and growth-friendly economic policies, bordering on Western libertarianism has led to an explosion of entrepreneurship (Mu, 2007). Entrepreneurship is expanding at 20 percent annually, double the growth rate of the overall economy in the last two decades (Entrepreneurship in China, 2010).

According to the *Hurun Report*, China has 130 billionaires⁷, up 33 percent in 2009, during the greatest world-wide financial crisis since the Great Depression (2009 Hurun rich list series, 2009). One-third of China’s richest people are members of the Communist Party (Blanchard,

⁶ These policies not only provide incentives to business, they also build concentrated wealth, with no inheritance tax or taxes on wealth transfers.

⁷ The United States has 359; Russia has 32 and India, 24 (Kroll, Miller, & Serafin, 2009).

2009). Such participation from China’s elites ensures that these growth-friendly policies are unlikely to change:

During the 16th Congress of the Communist Party of China, at least four entrepreneurs are listed as delegates.... Some observers have hailed the move to persuade capitalists to become card-carrying communists as one of the most significant likely outcomes of the week-long meeting. The party estimates that more than 113,000 of their members already run businesses (Entrepreneurship in China, 2010).

China in 2010 recalls the words of the economist Milton Friedman (Friedman, 2002): “Fundamentally, there are only two ways of coordinating the economic activities of millions. One is central direction involving the use of coercion—the technique of the army and of the modern totalitarian state. The other is voluntary cooperation of individuals—the technique of the marketplace.” China, it seems, wants them both.

2.3 Summary

Wrote Edmund Conway (2009), “There is nothing mysterious about this, no economic miracle—it is what happens when the elastic band holding back a country with one-fifth of the world’s population suddenly snaps.” The elastic band of Communism had created huge pent up economic opportunity, underemployment, misallocation of assets, and opportunities for growth.

A historic set of factors, notably, China’s population, investment in education, capital (from direct foreign investment, natural resources, internal savings, and the introduction of capital markets), pragmatic libertarian pro-business and pro-export policies, currency control, and embrace of entrepreneurship produced a historic opportunity for growth (Mu, 2007).

3.0 Crisis Points

Miracles notwithstanding, everything comes to an end. No country’s economy, no matter how “miraculous” it may seem, is immune from demographic, sociological, economic and technological trends.

Examined in isolation, many of the problems that China faces are manageable, if currently unmanaged. Yet, in the aggregate, these problems have the potential to converge, creating an economic crisis in China in the period of 2025-30 that would be as dangerous to China as its modernization has been dramatic. What’s more, such a threat to the Chinese economy would have dire implications to the economies of the U.S. and Euro Zone—as if a fifteen-year fuse to a bomb has been, lit which, if not extinguished, threatens us all. Major crisis points include:

- Natural Resources: China’s increasing reliance on foreign commodities, the depletion of its water reserves, and the cost of pollution;
- Human Capital: Education disparities and inadequacies, worker safety, and public health.
- Capital: Capital markets, real estate bubbles, infrastructure issues
- Demographics: The graying of China’s population, the gender gap, the gaps between rich and poor, and between rural and urban, and the changing expectations of China’s new middle class; and,
- Globalization: The growing pressures of modernization, integration, and globalization.

4.0 Natural Resources

As the world’s factory, China’s growth has produced an enormous appetite for ores and petroleum that has outstripped its great resources, making its supply lines extraordinarily vulnerable to interdiction.

4.1 International Dependence

China’s economy is fueled by imported metal ores and petroleum. China consumes approximately:

- 30 percent of the world’s aluminum (Bonner, 2010),
- over 50 percent of the world’s iron ore (China consumes over 50% of the world's iron ore production, 2008),
- over 30 percent of the world’s coal (Globalization’s uneven impact, 2005), and,
- 40 percent of the world’s copper (Bonner, 2010).

In these, and many other key minerals, China depends on a network of developing countries, characterized by unstable governments, corruption, and fragile infrastructures.

4.1.1 Oil Dependence

Nowhere is China’s dependence on foreign suppliers more apparent than in its oil imports. China is the second-largest consumer of oil in the world behind the U.S., and has been a net importer of petroleum since 1993 (Hanson, 2008). According to the International Energy Agency, China’s imports will increase to 13.1 million barrels per day by 2030 (International Energy Agency, 1998). As seen in Figure 2, China’s oil demands on the world market through 2030 are immense (Tanaka, 2009).

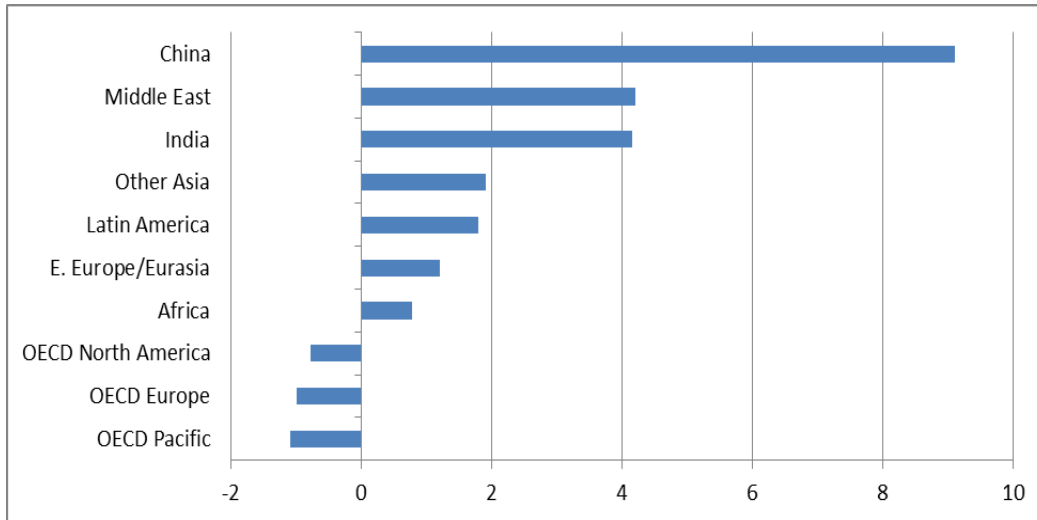


Figure 1: Change in Oil Demand by Region *Source:* OECD/IEA – 2009, p. 4

Yet, even as its demand increases dramatically, world oil production is believed by some to have peaked between 2005 and 2008 (Oil Drum, 2009); others predict slow growth through 2020 (Greene, Hopson, & Li, 2003); in either case it is expected to diminish sharply.

Although China is the fourth largest oil producer in the world, its energy security, like that of the United States and the Euro Zone, depends upon politically volatile regimes. For example, China has secured long-term oil supplies from Venezuela and Iran (Oil Drum, 2009). Their long-term prospects for stability, as with most oil exporting countries, are problematic. Long-term contracts smooth the spikes of unanticipated events and of the vicissitudes of a nervous market, but cannot guarantee delivery in a time of global shortage. Given the interlocking nature of global oil markets, increasing world-wide demand, diminishing world-wide production, the next 15 years are not a particularly good time to be increasing one’s oil dependence.

China’s largest natural gas reserves are in the isolated western and north-central regions, in the Sichuan, Ordos, and Tarim Basins (Higashi). Major reserves have been tapped in the East China Sea and South China Sea, but all of these options present significant challenges to the distribution infrastructure. In addition, as BP’s 2010 Deepwater Horizon disaster has shown, deep-water drilling poses unique environmental hazards which cannot be easily prevented or remediated.

4.2 Water

In most industrialized countries, water is taken for granted, but McKinsey & Co. named water shortages as a key issue facing China in the next seven years (Barton, 2010). The problem is dis-

tribution; Southern China has abundant rainfall—averaging 79.0 inches annually—while the northeast, the heart of China’s manufacturing, receives only 7.9 to 15.8 inches annually (Roberts, 2009) and relies on a shrinking aquifer for 60 percent of its needs (Yardley, 2007). According to *The New York Times*, “more than 600 million people live in provinces under water stress” (China’s environmental crisis, 2007).

According to Larson (2010), “Severe water pollution and shortages stand in the way of ongoing economic growth.” Increasing manufacturing in the north east will only hasten the day of reckoning; as aquifers shrink, and urban populations continue to increase, water shortages are inevitable in the next 20 years.

As aquifers in coastal regions are depleted, salt water from the ocean is drawn into the wells resulting in contamination (University of Florida Extension Service). Also, as aquifers are depleted, the weight of overlying ground can make the aquifer itself compress:

The aquifer would therefore never again be fully recharged even if pumping ceased, because its capacity to store water has been reduced. This occurs in areas of high water demand such as large municipalities and agricultural operations that require heavy irrigation (University of Florida Extension Service).

If the weight does not compress the aquifer, it may simply collapse, increasing the number and size of sinkholes, which can swallow entire factories or city blocks into the ground (California drought perspectives, 2010). How large is the problem? According to Brown & Halweil (China’s water shortage could shake world grain markets, 1998), the water table beneath the North China Plain, which produces 40 percent of China’s grain, is now falling approximately five feet per year—approximately 150 feet between 1950 and 1993 (Hays, 2010).

Agriculture also suffers, as inland lakes have dried up, and deep well irrigation has increased. Agricultural demands are squeezed out by manufacturing by simple economics: “A thousand tons of water produces one ton of wheat, which has a market value of \$200, while a thousand tons of water used in industry yields an estimated \$14,000 of output, or 70 times as much” (Brown & Halweil, 1998). Also, some areas reportedly subsidize water use to placate peasants, which discourages conservation (Hays, 2010).

More than one-quarter of China is now desert, and desertification is increasing at a rate of 2,500 square kilometers, annually (Gluckman). China’s northern bread belt comprises 31.19 percent of its farmland and 26.01 percent its population, but only 6.14 percent of China’s water resources (Li, 2003).

Lin Erda, identified as one of China’s top climate change experts by the Science and Development Network, was quoted as predicting, “China will see a food shortfall of 5 to 10 percent—a disastrous outcome in a country of 1.3 billion people—unless effective and timely measures are taken” to manage water resources (Lin S., 2009).

China’s response has been to build a network of canals to move water from the Yangtze River in the south to the Yellow River in the north—the South-North Water Transfer Project. It is designed to move 50 billion cubic meters of water from the south to Beijing, the industrial hub of Tianjin and Jiangsu and Shandong provinces. This was thought to be adequate ten years ago, when the water shortfall was projected to be 40 billion cubic meters, however it failed to consider global warming, quality of water issues, population growth, or the demands of manufacturing. As a result, China’s water shortfall is estimated by McKinsey & Co. to be 201 billion cubic meters in 2030 (Thomas, Krishnan, & Leung, 2010).

4.3 Pollution

4.3.1 Water Pollution

The water problem is not merely availability; water quality is also a growing impediment to growth. Twenty-five percent of the water sampled along the Yangtze and Yellow River is too polluted for farm irrigation, and 66 percent of China’s cities do not have clean water to drink (China’s environmental crisis, 2010).

Public awareness of the problem has grown since the 2004 publication of China’s Water Crisis (Jun, 2004) which focused on the state of the Yellow and Yangzi rivers. Water treatment is primitive by Western standards. Water quality in rural areas continues to decline, allowing the emergence of the schistosome parasite, which causes liver and intestinal damage (Environment problems pose health risk for China: Lancet, 2010). In a 2009 poll, 67 percent of Chinese respondents identified water pollution as “a very serious problem,” and 59 percent said that they were “very concerned” about the lack of potable water (Larson, 2010).

Water is a vital raw material in both agriculture and manufacturing; scarcity and pollution have reduced China’s GDP by approximately 2.3 percent according to the World Bank (Thomas, Krishnan, & Leung, 2010).

4.3.2 Air Pollution

“Only 1 percent of China’s urban population of 560 million now breathes air considered safe by the EU” (China’s environmental crisis, 2010). According to the National Institute of Health, air pollution is the main environmental threat to human health. Long-term exposure to high levels of particulate matter causes a wide range of chronic respiratory diseases and exacerbates heart disease and other conditions.

The burden of ill health caused by particulate pollution, and Beijing’s total suspended particulate matter is over ten times greater than any city in Germany, which is also heavily industrialized. Indeed, for the entire country, China’s particulate matter is double that of Japan and four times that of Germany (World Bank, 2010). Exposure to ground-level ozone makes it difficult for

people to breathe, causing particular problems for respiratory ailments. This is notable, since it is estimated that 66 percent of all Chinese men smoke, and tobacco is linked to the five leading causes of death there (Smoking statistics in China, 2010).

Air pollution is a function of coal-based manufacturing, which is the basis for 70 percent of China's industry. As such, it is predicted to grow at roughly the same rate. Air pollution reduces the GDP of a typical Chinese city by approximately 10 percent, due to death and sickness, according to the *Lancet* (Environment problems pose health risk for China: Lancet, 2010).

Costs associated with air pollution are not limited to health. Crops yields can be damaged from ozone exposure. Sulfur dioxide and nitrogen oxides that create acid rain, which leach trace minerals and nutrients critical to trees and plants and cause defoliation.

4.3.3 Global Warming

China has replaced the U.S. as the world's #1 source of greenhouse gases, producing 4.31 metric tons of CO₂ per capita (World Bank, 2010). China relies heavily on coal for most of its industrial needs. In addition to creating strong international pressure to reduce CO₂ emissions, global warming increases water consumption, evaporation and plant transpiration rates.

According to research by Lin, harvests in China will decline from 14 to 23 percent by 2050 due to global warming (Lin S., 2009). A decline of that magnitude combined with a projected population of 1.89 billion⁸ would require imports so large that they would drive up world grain prices, putting 300 to 600 million people at risk, without massive subsidies.

5.0 Human Capital

5.1 Education

Although China provides nine years of compulsory, free education (Ministry of Education of the People's Republic of China, 2006), the quality of that education varies widely from province to province, and between rural and urban settings. Education in coastal cities is clearly high quality, but the country faces an enormous challenge of extending that quality to the majority of the country.

⁸ Assuming a population growth rate of 0.512 percent (World Bank, 2010)

China faces other unique issues, such as educating urban migratory children.⁹ It is estimated that there are 2.4 to 3.6 million school-age children who lack schooling because they are not recognized as local residents.

5.1.2 Higher Education

Demand for higher quality education is increasing, especially in China’s urban middle class, which is constantly exposed to the benefits of education. Also, as China has increased primary education, the pool of applicants from the increased number of secondary school graduates has increased. From 1998 to 2006, the number of matriculating students increased from 1.1 million to 5.5 million (Zhao & Sheng, 2008). Simultaneously government funding of higher education per capita has declined. As a result, the China Youth and Children Research Center reported that college tuition in China had increased by a factor of 25 times, between 1989 and 2007—far outstripping growth in per capita income (China's university tuition 25 times higher than in 1989, 2007).

China has doubled the size of its universities in a decade, but the quality of that education has been questioned:

China’s higher education has expanded too quickly in too short a period of time to the extent that the labor market and available educational resources cannot keep pace with the expansion (Zhao & Sheng, 2008).

Quality has suffered due to the dilution in quality of incoming students, as a function of expansion. Also, classes are larger: the student-to-faculty ratio double from 8:1 in 1998 to 16:1 in 2006, and this trend has been more pronounced in graduate-level courses, as China faces a shortage of professors with PhDs, having only restored graduate education in 1978 (National Science Foundation).

Growing expectations for higher standards of living have collided with the cold reality of limited post-graduate employment: In 2007, 20 percent of China’s college graduates were unemployed throughout the year after graduation (Zhao & Sheng, 2008). The job market simply cannot expand as fast as education.

International business education is a significant need in China. According to a 2008 McKinsey & Co. survey, Chinese managers identified “Our company does not have enough managerial talent” as the #1 barrier to Chinese companies undertaking activities outside mainland China (Competition from China: Two McKinsey surveys, 2008).

⁹ Article 2 of the Interim Measures on Schooling for Children among the Floating Population defines migratory children as “children between the ages of 6 and 14 living with parents or guardians in a temporary location for more than half a year, who have the ability to study” (Yan, 2005).

5.2 Public Health

Professor Robert Workman of Southern Connecticut State University said, “Statistically, the Chinese healthcare system rounds to zero” (personal conversation, June 12, 2010). Here are some of the public health challenges China must face in the next 15 years.

5.2.1 STDs

Sexually transmitted diseases (STDs) have exploded in China. There has been a 1,200 percent increase in syphilis between 2003 and 2008, and it is now Shanghai’s most widely reported communicable disease (Tucker, Chen, & Peeling, 2010). This is partly a result of the 1.19:1 imbalance between men and women and rising incomes, which have combined to create a burgeoning sex industry. Another problem is ideological denial and under-reporting, since all sexually transmitted diseases were “officially” eradicated in China in 1964 (Dikotte, p. 344).

AIDS was recognized as China’s most deadly infectious disease, with 34,853 fatalities in the first three quarters of 2008—a five-fold increase since 2005 (Coonan). In addition to the rise in the sex industry, “unsanitary blood plasma-buying schemes and tainted transfusions in hospitals” have spread HIV (Coonan).

In the U.S., AIDS treatment is highly effective, but very expensive by Chinese standards (see Appendix 2)—ranging from 28,044 to 94,132 RMB per year, in a country whose 2007 GDP per capita was 41,789 RMB (Central Intelligence Agency, 2010). This amount far exceeds government-provided healthcare allowances.

In addition to the cost of antiretroviral treatment, AVERT.org, an international AIDS charity, identifies four other elements to AIDS care and prevention, including life-long commitment to antiretroviral drugs and supporting patients to adhere to a daily regimen, adequate health infrastructure including health staff, supply chains of effective drugs, and, widespread awareness of the value of testing and subsequent treatment (Universal access to AIDS treatment: Targets and challenges). Each represents a significant, yet currently unfunded, cost.

5.2.2 Mental Health

China has recently been victimized by a series of horrific crimes by the mentally ill, notably murders of children at schools and workplace suicides. Given the immense social transformation of China and the new conflicts, such as the aspirations of individualism v. the reality of social conformity, it should not be surprising that mental health issues would be coming to the fore.

Prior to the Revolution, the mentally ill in China were a source of family shame, publically ridiculed, and ostracized from society. Freud was eliminated from libraries in 1957, replaced by “politically motivated psychiatry” (Munro (a), 2002, p. 98) in which dissidents were imprisoned and maltreated as “political maniacs” in police-run psychiatric institutions (Munro (b), 2002). During the Cultural Revolution, modern psychology was virtually eliminated, and not restored until the reforms of Deng Xiaoping. There are ongoing allegations that political dissidents are being committed to mental hospitals, which, aside from its moral and political implications, further dilutes the availability of care to those in need (Lehrer, 2009).

Thus, for both political and cultural reasons, China has attached considerable social stigma to mental illness, which is a significant barrier to people seeking help. In addition, Chinese culture pressures men to not express emotions, which is seen as a sign of weakness (Mental health statistics of specific male groups, 2010). Huge needs and limited services present an ever-increasing challenge to China.

In response, China has announced the goal of building 550 new mental health facilities in the next two years (Moore, 2010). This would be one new facility for every 2,363,636 Chinese; staffing is problematic. “Psychiatry in China occupies the lowest rung in the medical hierarchy,” noted Stone in 2005, “China has only 4,000 qualified psychiatrists and a total of 14,000 doctors working in its psychiatric hospitals” (2005).

5.2.3 Smoking

As mentioned earlier, approximately 66 percent of Chinese men smoke. As a result, lung cancer is the #1 cause of death in China; 3,000 smokers die in China die every day from tobacco-related causes—the highest death rate from tobacco in the world; this is estimated to increase to 8,000 people daily in 2050 (Smoking statistics in China, 2010). By 2020, two million Chinese will die annually from preventable tobacco-related deaths (60 percent doctors in China still smoke, 2010).

China consumes 33 percent of the world’s tobacco (Smoking statistics in China, 2010). Although smoking is the single largest preventable cause of disease and death, a survey found that “60 percent of Chinese adults did not know that smoking can cause lung cancer while 96 percent were unaware it can cause heart disease” (Cahani, 2008). According to a 2010 survey, 60 percent of medical workers and professors smoke (60 percent doctors in China still smoke, 2010).

China’s direct cost of medical care plus indirect costs (e.g., lost productivity, fires, passive smoking) in 2006 was estimated to be \$32.5 billion in 2006 (Smoking costs China 250 billion yuan last year, 2006); this is estimated to be between \$100-150 billion in fifteen years, reflecting higher expectations for health care, more available treatment, rising indirect costs (as a function of income) and increases in smoking. According to Sung, Wang, *et al.*, (2006):

The adverse health effects of smoking constitute a huge economic burden to the Chinese society. To reduce this burden in the future, effective tobacco control programs and sustained efforts are needed to curb the tobacco epidemic and economic losses.

5.2.4 Preventive Medicine

China's medical system is primitive by any Western standard, and its medical insurance programs limit diagnostic/preventive care and effectively eliminate chronic care. This is occurring as chronic care needs, resulting from the aforementioned STDs and smoking-related illnesses, workplace exposure to hazardous materials, environmental pollution, and increased life expectancy increase.

One example is the rise in diabetes. Diabetes, detected early, can be treated effectively through a combination of diet and medication. Untreated, it leads to long-term chronic disabilities, including heart attacks, strokes, blindness, and limb amputation. In a study released by the *New England Journal of Medicine* in 2010, China is now the world leader in diabetes. In most cases, it is undiagnosed, and, therefore untreated (Yang, Lu, Wang, Jia, Ji, & Xiao, 2010).

Another example is tuberculosis; China has the second highest incidence of TB, 16 times the rate in the U.S. (Shen, et al., 2006). In a familiar pattern, “China has never before acknowledged the presence of the most deadly form of tuberculosis in the country” (Matsuyama, 2010).

Cardiovascular disease (CVD), if not caught early, can be an extremely costly chronic disease. According to a 2010 study, CVD and death rates will increase 73 percent by 2030, because of smoking, untreated high blood pressure, aging, and dietary changes (Moran, 2010).

5.3 Worker Safety

China's role as the world's factory floor has placed its workforce at risk. Without an effective counterpart to America's Occupational Safety & Health Administration (OSHA), lead-tainted paint, nickel-cadmium batteries, and coal mining lead the long list of items that present a danger to workers who “have long borne the brunt of a global manufacturing system that puts cost cutting ahead of safety” (China puts profit ahead of worker safety, 2008). The International Labor Organization estimates that China's 2001 workplace fatality rate over 2.4 times that of the United States. Statistics on worker safety in China are notoriously unreliable; for example, in 2003, 14,675 workplace deaths were officially reported, but, according to Witt (2004), the real number may have approached 120,000.

Coal mining has long been recognized as one of the world's most dangerous industry. In 2008, 3,215 Chinese miners died, and, in 2009, 2,631 miners died. These are not anomalies; in 2002,

an astonishing 6,995 miners died (Kolo, 2010). The problem is widespread, in both large, state-owned enterprises and smaller, privately owned (and often illegal) mines.

The lack of effective oversight and safety regulations allow companies to save costs by hiring migrant construction workers who lack training or experience in mine safety. In the U.S. and Germany, the cost of coal safety initiatives adds 19.25 percent to the price of coal, but in China, these costs add only 3.5 percent (Kolo, 2010).

Paradoxically in a workers' paradise, China does not legally require firms to sign collective contracts with employees. Due to its governmental ties the China Federation of Trade Unions (ACFTU) lacks the power or capacity to advocate effectively for workers' safety (Qian, 2010).

5.4 Food Safety

Food safety is another growing issue in China. With limited regulation and corrupt inspectors, scandals over pesticide-laden vegetables, drug-laced fish and chicken, chemically enhanced baby formula, and carcinogenic dyes in eggs have exploded in the Western press, resulting in various bans in Europe, Japan, and Hong Kong. Only “6 percent of agricultural products were considered pollution free in 2005” (China's food safety woes now a global concern, 2007).

In 2008, 300,000 Chinese infants came down with kidney problems as a result of drinking tainted baby formula. One year after strict measures were announced in 2009, less than one-third of 400,000 in total Chinese food producers have been granted production licenses, according to the vice minister of General Administration of Quality Supervision, Inspection and Quarantine (Guo & Ji, 2010).

There are numerous causes for the food safety issue. There is no single government agency charged with food safety, as there is in the U.S. The staggering number of very small producers makes inspection problematic. The rise of market conditions, as well as an expanding export market, has created incentives to compromise quality. Growing environmental pressures on China's food supply in the coming years can only exacerbate the problem.

6.0 Capital Roulette

6.1 Real Estate

Real estate is considered investment, but if two people stranded on a desert island bid up the price of a coconut, nominal growth has occurred, although no wealth was created. As mentioned previously, Chinese per capita savings rates are extremely high, even among the poor and financially unsophisticated. Given limited investment opportunities, Chinese investors have bid up the prices of real estate.

As a result, real estate prices, especially in first-tier cities, such as Shanghai, have skyrocketed in recent years, sparking fears of a real estate bubble (Barboza, 2010). Paradoxically, in the aftermath of the Financial Crisis, both residential and commercial properties, particularly in second-tier cities, remain vacant.

The risk of financial bubbles is extremely grave, for even if the risk is small, the consequences are great. Not only would a collapse in the real estate market destroy savings, local governments depend on taxes on real estate transactions for revenue.

6.2 Infrastructure

China’s construction quality is lower than that of its counterparts in the West. This can be attributed to three factors:

- Poorer construction materials and lower construction standards;
- Corruption in the inspection process; and,
- Fast, labor-intensive construction techniques.

6.2.1 Construction Materials & Standards

The quality of Chinese structural steel imported into the U.S. has been questioned for years. There are reports that half of the structural steel used in Shanghai construction failed quality tests (Lu, 2008).

The widespread use of substandard steel was linked to the collapse of school buildings in the 2008 earthquake in Sichuan province. So-called “tofu houses,” presumably built to code, collapsed with even small earth tremors, while Western and Hong Kong-built buildings were unscathed (Faehnders, 2008).

Chinese drywall that was imported into the U.S. since 2005 has been found to be defective, emitting chemicals linked to respiratory problems, chest pain, and death (Chinese drywall problem far reaching, 2009). The U.S. Consumer Product Safety Commission, the U.S. Department of Housing and Urban Development and the U.S. Consumer Product Safety Commission have all instructed U.S. homeowners to remove the problematic drywall.

The huge demand for construction workers, particularly in Beijing, prior to the Olympics, and Shanghai, prior to Expo 2010, resulted in the employment of unskilled, inexperienced workers.

6.2.2 Corruption

Corruption is rampant in China, where it is widely believed that China’s construction laws are simply ignored by corrupt inspectors (Faehnders, 2008). Local politicians, facing pressure for rapid—especially cosmetic—growth, have been accused of looking the other way (Quake raises construction fears in China, 2008). This view has been substantiated by several Chinese officials that I interviewed.

Partially as a result of the Sichuan quake, China has tightened its anti-corruption laws, which President Hu Jintao described as “among the biggest threats to the government’s legitimacy” (Krishnan, 2010). In 2010, over 5,800 Chinese were charged with over 9,900 charges of corruption related to construction projects since August 2009; the same investigation revealed 140,000 violations in the 340,000 projects examined (Over 5,800 Chinese officials penalized for corruption in construction projects: CCDI, 2010).

6.2.3 Infrastructure Maintenance

China’s fast pace of development raises a timing issue. When one builds nine automobiles at the same time, all things being equal, you can expect that they will need new tires at the approximately the same time, oil changes at approximately the same time, and they will need to be replaced at approximately the same time. The analogy can be applied to infrastructure as well. When Shanghai builds nine subway lines at approximately the same time, they will need renovations at approximately the same time. In this way, the governments of today have created obligations for governments of the future. Add to this the belief, in the words of Thomas Wang, that “China builds for the present, not for the long term” (personal interview, June 1, 2010). Buildings that would be expected to last for 100 years in the West might be expected to last only 25 to 35 years in China.

A huge infrastructure requires huge maintenance, particularly when the quality of the construction is less than optimal. Unfortunately building new buildings, highways, high-speed trains and subway lines inspires awe; maintaining them does not. As a result, it is common for China to defer maintenance on infrastructure, which cuts into growth.

The emphasis on building, rather than repairing, has other unintended consequences. For example, Beijing was recently found to have the worst traffic jams in the world in an IBM study (Beijing traffic world’s worst: study, 2010). This congestion occurs even though Beijing has only half the automobiles of Tokyo or New York. The problem is blamed “on the failure of infrastructure to keep pace with global economic activity” (Beijing traffic world’s worst: study, 2010).

7.0 Demographics

As John Patrick Scanlon observed “demographics is destiny.” China’s demographics, notably its aging population, gender gap, and the economic gap between the haves and the have-nots, have set the parameters for the country’s future.

7.1 The Graying of China

With rising incomes, the Chinese are living longer, as in the West. Older Chinese have been traditionally supported by their children and grandchildren. Although age and the wisdom of the elderly are culturally revered, there are no substantial social welfare programs designed to address the elderly, and old-age homes can house only 1.5 million senior citizens—approximately 1 percent of the existing elderly population (Pocha, 2007). Subsidized housing and food for the elderly is being threatened by China’s move to a market economy, and the ratio of workers-to-retirees will decline to 2:1 by 2040, which hardly encourages a massive welfare program. It is estimated that only one-fourth of the elderly are covered by pensions (Schuler, 2005).

China’s one-child policy, initiated in 1979, has dramatically changed the arithmetic of support: in the years to come, one child must support parents who will be living longer. China is expected to have 290 million senior citizens in 2025, according to China’s State Council (Pocha, 2007). “China will need to take major steps to deal with this problem. The alternative is lots and lots of sick, destitute old people—a humanitarian catastrophe of incredible proportions” (Schuler, 2005).

7.2 Internal Divisions

As Nobel laureate Friedrich August von Hayek noted fifty years ago, “...free markets determine prices and allocate resources—labor, capital, and human ingenuity—in a manner that can’t be mimicked by a central plan, however brilliant the central planner.” The efficiency and effectiveness of free market economics is clear. What is equally clear is that these blessings do not occur without a price. In China, the growing disparity between the poor and the rich is increasing. The Gini coefficient has increased to 0.47, which indicates the strong potential for instability (China Labour Bulletin, 2010).

The rising social inequality is nowhere more evident than in Shanghai, where opulent store fronts, which appear to have been transplanted from Paris’s Champs-Élysées or New York’s Fifth Avenue, tower over the city’s impoverished, but it’s not limited to urban areas. China’s growing water crisis has created water shortages and “climate refugees,” yet water-intensive golf courses have sprouted all over China to entertain the elite, even in water-challenged areas: “One group is fighting for water to make a living, while the other squanders money on lavishness and excess” (The Yunnan drought, and China’s looming water crisis, 2010).

According to the Xinhau News Agency, “The most affluent one-fifth of China's population earn 50 percent of total income, with the bottom one-fifth taking home only 4.7 percent” (Kurtenbach, 2005). That was in 2005; the gap has widened in the last five years. On the whole, urban incomes are three times those of rural incomes.

One result of the division may be an increase in violent crimes. While violent crimes are habitually underreported in China, the Chinese Academy of Social Sciences reported that the number of violent crimes increased 10 percent in 2009 (Violent crime rate increases for the first time in ten years, 2010). This was attributed to rising unemployment among migrant workers and their proximity to wealth.

7.3 Changing Expectations of the Growing Middle Class

Of all the demographic challenges facing the nation, perhaps the greatest is the changing expectations of the growing middle class. In the West, the middle class pays the taxes, gets involved in local schools, and participates in local politics. In short, it is the unchanging bedrock on which the community exists. The China middle class, having tasted the fruits of capitalism, doting on its “little emperors” and “little empresses,” being exposed to Western values and materialism through growing trade and cultural exchanges, may be highly resistant to giving back any of its new-found wealth or freedoms.

Indeed, it is probably incorrect to speak of a Chinese middle class when, depending on one's location, that nomenclature might be properly applied to any number of socio-economic classes. One common denominator may be their view of government. Many writers have noted the ambivalence that the Chinese middle class has with its government:

...they see the central government as there for them to advance and to make order from chaos...there is a frustration with the slow pace of reform and evolution of the structure that should protect the interests of society. Everyone wants institutional reform, but no one wants rebellion, they want a continuation of the status quo.... People do expect that government will become more responsive to their needs and they also see the enormous progress that has been made and are content that things are getting better (Doctoroff, 2010).

How will they react when the status quo changes in the next 15 to 20 years, whether by preventable catastrophe or by government intervention?

8.0 Globalization

China jealously guards its tradition of a separate path of development. Yet, seeking commercial integration with the global economy would seem to put it on a collision course with its tradi-

tion. So far, globalization has been mostly a one-way street. The West, dependent on cheap Chinese goods to control the inflation in their own countries and fearful that a confronted China would step back from modernization, has been reluctant to demand that China live up to its moral responsibilities as a global superpower or its legal responsibilities as a member of the world community and its fabric of treaties. China should not be blamed for acting in its own best interests, but the days of a separate path without consequence may be numbered.

8.1 The Rule of Law

According to Wang, “China lacks the rule of law that is required for investor confidence.... The rule of law is neither necessary nor sufficient for a country to attract FDI... good economic fundamentals can attract FDI inflows in the absence of the rule of law” (Wang, Xu, & Zhu). According to Wang’s argument, competition and attention to expectations of stakeholders induce better behavior than its loose regulatory structures would suggest.

The rule of law is not just a domestic consideration. China has signed the Berne Convention on Intellectual Property (see Appendix 3); Taiwan has not (U.S. Customs and Border Protection, 2008). Montinola, Qian, and Weingast (1995) observed, “...rights are not as secure in China as they could be.”

In the intervening fifteen years, not much has changed. In 2001 China had approximately 500 pirate medicine manufacturers (Pincock, 2003). This year, Wi-Fi key-cracking kits, “ceng wang ka,” were sold openly—and illegally—in Shanghai (Fletcher, 2010). Copy markets and street vendors are ubiquitous, hawking pirated goods to tourists—unless the government deems them embarrassing, as the recent crackdown for EXPO 2010 demonstrated.

8.2 Political Liberalization

Since 1989, American foreign policy regarding China was based on the premise that free trade with China would result in political liberalization. Wrote Gideon Rachman:

Both Bill Clinton and George W. Bush firmly believed that free trade and, in particular, the information age would make political change in China irresistible. On a visit to China in 1998, Mr Clinton proclaimed: “In this global information age, when economic success is built on ideas, personal freedom is essential to the greatness of any nation.” A year later, Mr Bush made a similar point: “Economic freedom creates habits of liberty. And habits of liberty create expectations of democracy...Trade freely with the Chinese, and time is on our side” (Rachman, 2010).

Although Rachman noted that progress was much slower than the U.S. anticipated, clearly government control over the populace has become much less restrictive and much more selective in recent years.

Still, government surveillance is unnerving. There is no reasonable expectation of privacy, even in private settings, and electronic, physical and video surveillance is ubiquitous (Crime in China).

In addition to privacy concerns, there are concerns about the freedom to travel within China (U.S. Department of State, 2010), freedom of religious practice (Association for Asian Research, 2004), freedom of expression (Mufson, 2010), legal defenses (U.S. Department of State, 2010), and other rights fundamental to Western societies.¹⁰

8.3 Internal Integration & Foreign Policy

Imagine a world in which China embraced “one United States,” but then sold \$6.5 billion worth of arms to Texas, including attack helicopters and missiles that could be launched from submarines. How would Washington D.C. react? Then imagine in that imaginary world that the Chinese Premier would meet the leader of a remote religious sect that advocated independence for Hawaii with all of the pomp and circumstance of a state visit.

You don’t have to imagine, of course, because it is the reality of Sino-U.S. relations, in reverse. The U.S. sold \$6.5 billion worth of arms to Taiwan, despite its “one China” policy, and President Obama has met formally with the Dalai Lama (Cooper, 2010)—only to decry China’s lack of cooperation with international sanctions against Iran. This is the logic hangover of a post-Cold War *realpolitik*.

China faces separatist forces in Taiwan, Tibet, and Uighurs in Xinjiang challenge its security and unity (China sees separatist threats, 2009). Although China views these as internal affairs, these and others certainly have an international component, inciting Western wrath with its methods

¹⁰ Obviously the West and China must be patient when applying their own values to the other’s paradigm. Kuhn (1996, p. 200) noted the difficulties of understand a new paradigm with the vocabulary of the old. The Chinese model was intended to improve the well-being of the Chinese, not to meet American expectations. In particular, the West must avoid “the missionary thinking that requires Westerners to save the world by imposing the blessings of Western values” (Naisbitt & Naisbitt, 2010, pp. 8-9). While the West is rightfully concerned about conducting business in a country that, according to Wang, Xu & Zhu (2009), “lacks the rule of law” but it must also acknowledge that the rule of law in the United States—the world-wide standard—did not prevent the corrupt business practices of HP, Enron, AIG, Xerox, Tycho, Adelphia, Global Crossing, WorldCom, and Countrywide, to name only a few.

of suppression, particularly when dissident forces wrap themselves in the cloak of human rights.

9.0 The 15-Year Fuse

The true Chinese miracle is not its dramatic restoration as a global economic, political, and military power, but the faith that its authoritarian government has an inexplicable or supernatural ability to arrive in Beijing, when it is on a train bound for Shanghai. Agathon, in the fifth century B.C., observed that even God cannot change the past, and not even an authoritarian government can reverse cause and effect. Both China and the West would be well-advised to remember that China’s success began when that government’s central planning gave way to entrepreneurs and markets; central planning would seem to be an unlikely savior.

Every day that it delays addressing these issues, China relies more and more on a miracle. Yet, in example after example in my research for this paper, authorities respond to a disaster in a now-familiar pattern: a predictable crisis results in a disaster; highly publicized announcements are made to crack-down on the individuals responsible; follow up is negligible; and the cycle repeats. We can see by the trends in demographics, society, public policy, and other factors that China’s government seems to be content, in the Chinese expression, “to pierce ears at the wedding,” enjoying its 9 percent growth, while ignoring the imputed costs and obligations of the economic externalities and unintended consequences.

10.0 Conclusions

In the next 15-20 years, change in China is inevitable; progress is not. As I have demonstrated in this paper, a great number of potential crises lay ahead for the Chinese economy, and all seem to be coming to a head between 2025 and 2030. Any one of them has the potential to significantly disrupt the Chinese economy. Furthermore, most of these issues are interrelated, existing in an uneasy balance in which one crisis can trigger many others in a cascade of economic strife. It would be foolish to attempt to lay out these crises in the timeline with any expectation of accuracy, but it is also clear that events have been set in motion that will become increasingly difficult to affect as time goes on.

In most cases, whether the disease is the willful deferred maintenance or failing to consider economic externalities, the medicine is the same...and it is bitter. Instead of creating legal, moral, and economic obligations for future governments, China should act now, even at the expense of employment, even at the expense of growth, even at the cost of inflation, even at the expense of national pride, to solve these problems while they can still be solved, and re-

solve those that cannot. If leaders think these are untenable now, they have not considered how bad they can get in 15 to 20 years.

China is sitting on huge reserves of dollars, generating minimal returns. Why not return those dollars to the U.S., by hiring its considerable expertise and technology to solve these problems (and to transfer knowledge in the process)?

Why not work with the U.S. to lower expenditures on both sides for strategic weapons, and help both countries' economies?

Why not adopt the rule of law and join the community of nations as a full partner? Ad hoc responses to crises do not solve systemic problems in a complex society. The development of basic legal regulatory and legal institutions, free from graft, is necessary, not because the West demands it, but because China needs it.

Why not address moral—if not directly economic—issues, such as health care and care for the elderly? In the recent health care debate in the U.S., were there not moments when leaders wished they led an authoritarian government that could impose a solution?

China, despite its almost Jungian racial memories of humiliation at the hands of foreigners, has returned to economic, political, and military greatness in an astonishingly short period. It's now time to earn the respect that it so fervently longs for.

11.0 Works Cited

- 2009 Hurun rich list series. (2009, October 13). Retrieved May 14, 2010, from Hurun Report:
<http://www.hurun.net/richlisten.aspx>
- 60 percent doctors in China still smoke. (2010, April 26). Retrieved May 21, 2010, from Taragana.com:
<http://blog.taragana.com/health/2010/04/26/60-percent-doctors-in-china-still-smoke-22156/>
- Absolute and comparative advantage. (n.d.). Retrieved May 3, 2010, from International Encyclopedia of the Social Sciences, 2nd Edition:
<http://www.skidmore.edu/~mdas/AbsoluteandComparativeAdvantage.pdf>
- Am I Too Late to Invest in China? (n.d.). Retrieved May 5, 2010, from
<http://www.cqdx.gov.cn/Faq/FinancialPlanning/201004/146210.html>
- American Mangement Association. (2008, February 28). 2007 electronic monitoring & surveillance survey. Retrieved September 10, 2009, from press.amanet.org: <http://press.amanet.org/press-releases/177/2007-electronic-monitoring-surveillance-survey/>
- Association for Asian Research. (2004, March 19). Freedom of religion in China. Retrieved May 30, 2010, from Association for Asian Research: <http://www.asianresearch.org/articles/1933.html>
- Barboza, D. (2010, March 4). Market defies fear of real estate bubble in China. *New York Times*, The, B-1.
- Barton, D. (2010). *Asia's role in the world of 2017*. Boston: McKinsey & Co.
- Beijing traffic world's worst: study. (2010, July 2). Retrieved July 9, 2010, from *Global Times*:
<http://www.globaltimes.cn/www/english/metro-beijing/update/top-news/2010-07/547778.html>
- Bhidé, A., & Phelps, E. (2005). *A dynamic theory of China-U.S. trade: Making sense of the imbalances*. New York: Center on Capitalism and Society, Columbia University.
- Blanchard, B. (2009, October 13). China's super-rich bounce back from financial crisis. Retrieved April 28, 2010, from Yahoo! News: http://news.yahoo.com/s/nm/20091013/ts_nm/us_china_rich_1
- Bonner, B. (2010, March 8). China's zombie growth. Retrieved June 3, 2010, from *Christian Science Monitor*: <http://www.csmonitor.com/Money/The-Daily-Reckoning/2010/0308/China-s-zombie-growth>
- Brown, L. R., & Halweil, B. (1998, April 22). China's water shortage could shake world grain markets. Retrieved May 29, 2010, from Worldwatch Institute: <http://www.worldwatch.org/node/1621>
- Cahani, C. (2008, November 3). Did you know...the facts about smoking and the worldwiide crisis it has caused? Retrieved May 14, 2010, from *OncoLink.org*:
<http://www.oncolink.org/resources/article.cfm?c=1&s=25&ss=93&id=982>

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- California drought perspectives. (2010). Retrieved May 16, 2010, from acreativetouch.us:
<http://www.acreativetouch.us/California.php>
- Central Intelligence Agency. (2010). CIA world factbook. Retrieved June 5, 2010, from CIA - The World Factbook: <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>
- China consumes over 50% of the world's iron ore production. (2008, August 20). Retrieved June 14, 2010, from www.commodities.xorte.com: <http://www.commodities.xorte.com/0,14,China-Consumes-over-50-of-the-World-s-Iron-Ore-Production,6063.html>
- China Labour Bulletin. (2010, July 13). People’s Daily cites gap between rich and poor as the most pressing issue in China, but solution still elusive. Retrieved July 15, 2010, from China Labour Bulletin: <http://www.china-labour.org.hk/en/node/100824>
- China puts profit ahead of worker safety. (2008, January 17). Retrieved May 1, 2010, from ISA.org: <http://www.isa.org/InTechTemplate.cfm?Section=Business1&template=/ContentManagement/ContentDisplay.cfm&ContentID=67009>
- China sees separatist threats. (2009, January 20). Retrieved May 12, 2010, from NYTimes.com: http://www.nytimes.com/2009/01/21/world/asia/21china.html?_r=1&fta=y
- China’s environmental crisis. (2007, August 26). New York Times, p. B1.
- China’s environmental crisis. (2010). Retrieved June 7, 2010, from Bloomberg Businessweek: <http://bx.businessweek.com/chinas-environmental-crisis/news/>
- China's food safety woes now a global concern. (2007, April 12). Retrieved July 7, 2010, from MSNBC.com: <http://www.msnbc.msn.com/id/18078824>
- China's university tuition 25 times higher than in 1989. (2007, January 12). Retrieved May 15, 2010, from News.Xinhuanet.com: http://news.xinhuanet.com/english/2007-01/12/content_5598419.htm
- Chinese drywall problem far reaching. (2009, April 14). Retrieved April 4, 2010, from NewsInferno.com: <http://www.newsinferno.com/archives/5591>
- Competition from China: Two McKinsey surveys. (2008, May). Retrieved June 2, 2010, from McKinsey Quarterly: https://www.mckinseyquarterly.com/Competition_from_China_Two_McKinsey_Surveys_2147
- Conway, E. (2009, November 11). China's economic miracle is a fragile one. Retrieved June 5, 2010, from Telegraph.co.uk: <http://www.telegraph.co.uk/finance/comment/edmundconway/6546582/Chinas-economic-miracle-is-a-fragile-one.html>
- Coonan, C. (n.d.). Too little, too late as China’s AIDS death rate explodes. Retrieved May 21, 2010, from The Independent: <http://www.independent.co.uk/news/world/asia/too-little-too-late-as-china8217s-aids-death-rate-explodes-1625977.html>

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- Cooper, H. (2010, January 29). U.S. approval of Taiwan arms sales angers China. Retrieved May 25, 2010, from NYTimes.com: <http://www.nytimes.com/2010/01/30/world/asia/30arms.html>
- Crime in China. (n.d.). Retrieved May 22, 2010, from Facts and Details: <http://factsanddetails.com/china.php?itemid=302&catid=8&subcatid=50>
- deCarbonnel, E. (2009, January 11). The strength of China's banking system. Retrieved May 22, 2010, from MarketSkeptics.com: <http://www.marketskeptics.com/2009/01/strength-of-chinas-banking-system.html>
- Dikotte, F. (1993). Sexually transmitted diseases in modern China: A historical survey. *Genitourin Med*, 341-345.
- Doctoroff, T. (2010, May 29). China's new middle class: Constants and variables. Retrieved June 13, 2010, from Huffington Post: http://www.huffingtonpost.com/tom-doctoroff/chinas-new-middle-class-c_b_594579.html
- Econobrower. (2009, December 3). Retrieved May 31, 2010, from Econobrowser: http://www.econbrowser.com/archives/2009/12/interesting_pic.html
- Ensinger, D. (2010, April 12). Tariffs slapped on Chinese-made steel tubing. Retrieved May 25, 2010, from <http://www.economyincrisis.org/content/tariffs-slapped-chinese-made-steel-tubing>
- Entrepreneurship in China. (2010). Retrieved June 1, 2010, from Entrepreneurship in China: http://www.internationalentrepreneurship.com/asia_entrepreneur/china_entrepreneur.asp
- Entrepreneurship in China. (2010). Retrieved June 1, 2010, from Entrepreneurship in China: http://www.internationalentrepreneurship.com/asia_entrepreneur/china_entrepreneur.asp
- Environment problems pose health risk for China: *Lancet*. (2010, March 26). Retrieved April 28, 2010, from Independent.co.uk: <http://www.independent.co.uk/life-style/health-and-families/environment-problems-pose-health-risk-for-china-lancet-1928464.html>
- Faehnders, T. (2008, May 20). Substandard building practices blamed for deaths in China. Retrieved April 15, 2010, from Thaindian News: http://www.thaindian.com/newsportal/uncategorized/substandard-building-practices-blamed-for-deaths-in-china_10050515.html
- Fletcher, O. (2010, May 5). Wi-Fi key-cracking kits sold in China mean free Internet. *PCWorld*.
- Friedman, M. (2002). *Capitalism and Freedom*, 40th Edition. Chicago: University of Chicago Press.
- Globalization's uneven impact. (2005, July 27). Retrieved June 14, 2010, from Knowledge@Wharton: <http://knowledge.wharton.upenn.edu/article.cfm?articleid=1230&specialid=37>
- Gluckman, R. (n.d.). Beijing's desert storm. Retrieved May 18, 2010, from Gluckman.com: <http://www.gluckman.com/ChinaDesert.html>

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- Greene, D. L., Hopson, J. L., & Li, J. (2003, October). Running out of and into oil: Analyzing global oil depletion and transition through 2050. Retrieved May 22, 2010, from GlobalSecurity.org: http://www.globalsecurity.org/military/library/report/2003/ORNL_TM_2003_259.pdf
- Guo, Q., & Ji, B. (2010, June 13). Food safety better, but still huge issue. Retrieved July 8, 2010, from Global Times: <http://china.globaltimes.cn/society/2010-06/541798.html>
- Halper, S. (2010). Beijing consensus: How China's authoritarian model will dominate the twenty-first century. New York: Basic Books.
- Hanson, S. (2008, June 7). China, Africa, and oil. Retrieved April 28, 2010, from Council on Foreign Relations: <http://www.cfr.org/publication/9557/>
- Hays, J. (2010, April). Water shortages in China. Retrieved May 4, 2010, from Facts and Details: <http://factsanddetails.com/china.php?itemid=390&catid=10&subcatid=66>
- Higashi, N. (n.d.). Natural gas in China: Market evolution and strategy. Retrieved May 12, 2010, from IEA: http://www.iea.org/Papers/2009/nat_gas_china.pdf
- Homan, T. R. (2010, May 15). France, Singapore say it's in China's interest to revalue yuan. Retrieved June 4, 2010, from Bloomberg Businessweek: <http://www.businessweek.com/news/2010-05-15/france-singapore-say-it-s-in-china-s-interest-to-revalue-yuan>
- Intellectual Property Rights Guidelines, Theatre without Borders (2006) accessed April 28, 2010, at <http://www.theatrewithoutborders.com/node/64>
- International Energy Agency. (1998). China's worldwide quest for energy security. Paris: International Energy Agency.
- Jun, M. (2004). China's water crisis. Eastbridge.
- Kolo, V. (2010, March 30). Shanxi coal disaster: Real trade unions needed to stop mine slaughter. Retrieved April 22, 2010, from ChinaWorker.info: <http://chinaworker.info/en/content/news/1024/>
- Krishnan, A. (2010, July 12). China tightens corruption laws. Retrieved July 14, 2010, from The Hindu: <http://www.thehindu.com/news/international/article512555.ece>
- Kroll, L., Miller, M., & Serafin, T. (2009, March 11). The world's billionaires. Retrieved October 9, 2009, from Forbes.com: http://www.forbes.com/2009/03/11/worlds-richest-people-billionaires-2009-billionaires_land.html
- Kuhn, T. S. (1996). The structure of scientific revolutions, 3rd edition. Chicago: University of Chicago Press.
- Kurtenbach, E. (2005, September 21). China income gap between rich and poor provoking alarm, reports say. Retrieved June 15, 2010, from CommonDreams.org: <http://www.commondreams.org/headlines05/0921-01.htm>

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- Larson, C. (2010, January 18). Hidden waters, dragons in the deep: The freshwater crisis in China's Karst regions. Retrieved May 6, 2010, from Circle of Blue Waternews:
<http://www.circleofblue.org/waternews/2010/world/hidden-waters-dragons-in-the-deep-the-freshwater-crisis-in-chinas-karst-regions/>
- Lehrer, J. (2009, September 11). Chinese dissidents committed to mental hospitals. Retrieved June 2, 2010, from PBS.org: http://www.pbs.org/newshour/bb/asia/july-dec09/china_09-11.html
- Leung, S., & Kitanaka, A. (2010, July 2). China economic growth forecast lowered by Goldman Sachs amid lending curb. Retrieved July 4, 2010, from Bloomberg.com:
<http://www.bloomberg.com/news/2010-07-02/goldman-sachs-lowers-china-growth-forecast-to-10-1-on-monetary-tightening.html>
- Li, X. (2003, June). Pressure of water shortage on agriculture in arid region of China. *Earth and Environmental Science*, 13(2), 124-129.
- Lin, J. Y. (2007). *Development and transition: Idea, strategy, and viability*. Cambridge: Cambridge University.
- Lin, S. (2009, February 23). China's water deficit 'will create food shortage'. Retrieved April 30, 2010, from SciDev.Net: <http://www.scidev.net/en/news/china-s-water-deficit-will-create-food-shortage-.html>
- Lu, F. (2008, March 13). Ironing out problems with steel quality. *ShanghaiDaily.com*.
- Mann, B. (2006, October 27). The largest IPO in history. Retrieved October 4, 2009, from The Motley Fool: <http://www.fool.com/investing/international/2006/10/27/the-largest-ipo-in-history.aspx>
- Mann, B. (n.d.). The largest IPO in history. Retrieved April 28, 2010, from Motley Fool:
<http://www.fool.com/investing/international/2006/10/27/the-largest-ipo-in-history.aspx>
- Matsuyama, K. (2010, April 2). China Finds More Than 200 Deadly Tuberculosis Cases (Update1). Retrieved April 12, 2010, from Bloomberg.com:
<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aDiaTh4hhhpU&refer=asia>
- Matthews, R. G. (2009, October 13). China takes a hard look at its steel industry. *Wall Street Journal*, pp. B-1.
- Mental health statistics of specific male groups. (2010). Retrieved May 26, 2010, from Counselling Directory: <http://www.counselling-directory.org.uk/men3stats.html>
- Ministry of Education of the People's Republic of China. (2006, June 29). Compulsory Education Law of the People's Republic of China. Retrieved June 20, 2010, from Ministry of Education of the People's Republic of China:
<http://www.moe.edu.cn/edoas/en/level3.jsp?tablename=1242700726117393&infolid=1248314859053682&title=Compulsory Education Law of the People's Republic of China>

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- Montinola, G., Qian, Y., & Weing, B. R. (1995, October). Federalism, Chinese style: The political basis for economic success in China. *World Politics*, 48(1), 50.
- Moore, M. (2010, June 21). China to build 550 mental hospitals in response to school stabbings. Retrieved June 23, 2010, from Telegraph.co.uk:
<http://www.telegraph.co.uk/news/worldnews/asia/china/7843466/China-to-build-550-mental-hospitals-in-response-to-school-stabbings.html>
- Moran, A. (2010, May 4). By 2030, cardiovascular disease and death rates will surge in China, researchers predict. Retrieved May 14, 2010, from ScienceDaily.com:
<http://www.sciencedaily.com/releases/2010/05/100504163115.htm>
- Motorola beefs up R&D in China. (2006, July 11). Retrieved May 8, 2010, from People’s Daily Online:
http://english.peopledaily.com.cn/200607/11/eng20060711_281846.html
- Mu, Y. (2007). *Unveil China's economic miracle*. Harvard University. Washington, DC: World Bank.
- Mufson, S. (2010, January 13). Chinese government sharply criticizes Clinton's speech urging Internet freedom. *Washington Post*, p. 1.
- Munro (a), R. J. (2002). Political psychiatry in post-Mao China and its origins in the Cultural Revolution. *The Journal of the American Academy of Psychiatry and the Law*, 30(1), 97-106.
- Munro (b), R. J. (2002). *Dangerous Minds: Political psychiatry in China today and its origins in the Mao era*. Geneva: Human Rights Watch/Geneva Initiative on Psychiatry.
- Naisbitt, J., & Naisbitt, D. (2010). *China’s megatrends: The 8 pillars of a new society*. New York: Harper Collins.
- National Science Foundation. (2007). *Asia’s rising science and technology strength: Comparative indicators for Asia, the European Union, and the United States*. Washington, D.C.: National Science Foundation.
- National Science Foundation. (n.d.). Graduate education reforms and international mobility of scientists and engineers in China. Retrieved May 29, 2010, from nsf.gov:
<http://www.nsf.gov/statistics/nsf00318/c1s1.htm>
- Oil Drum. (2009, May 19). Retrieved May 17, 2010, from World Oil Production Forecast - Update May 2009: <http://www.theoil Drum.com/node/5395>
- Over 5,800 Chinese officials penalized for corruption in construction projects: CCDI. (2010, July 1). Retrieved July 6, 2010, from CNTV.cn: <http://english.cntv.cn/20100701/101280.shtml>
- Pincock, S. (2003, November 15). WHO tries to tackle problem of counterfeit medicines in Asia. *BMJ*.
- Pocha, J. S. (2007, January 2). The graying of China. Retrieved July 2, 2010, from Boston Globe:
http://www.boston.com/news/world/asia/articles/2007/01/02/the_graying_of_china/

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- Qian, Y. (2010, July 9). Collective contracts sought. Retrieved July 11, 2010, from China Daily: http://www.chinadaily.com.cn/cndy/2010-07/09/content_10084710.htm
- Quake raises construction fears in China. (2008, May 16). Retrieved April 14, 2010, from Asia Times Online: <http://www.atimes.com/atimes/China/JE16Ad01.html>
- Rachman, G. (2010, January 18). Why America and China will clash. Financial Times, p. 3.
- Roberts, D. (2009, April 15). China faces a water crisis. Retrieved May 1, 2010, from Bloomberg Businessweek: http://www.businessweek.com/globalbiz/content/apr2009/gb20090415_032220.htm
- Schuler, D. (2005, April 14). The Glittering Eye. Retrieved July 6, 2010, from China's time bombs: Gray China: <http://theglitteringeye.com/?p=932>
- Sciences, C. A. (2007). China Sustainable Development Strategy Report 2007. Beijing: Sciences Press.
- Shen, G., Xue, Z., Shen, X., Sun, B., Gui, X., Shen, M., et al. (2006). Recurrent tuberculosis and exogenous reinfection, Shanghai, China. *Emerging Infectious Diseases*, 1776-1778.
- Smoking costs China 250 billion yuan last year. (2006, November 18). Retrieved May 17, 2010, from ChinaDaily.com.cn: http://www.chinadaily.com.cn/china/2006-11/18/content_736622.htm
- Smoking statistics in China. (2010). Retrieved May 16, 2010, from SmokingStatistics.org: http://www.smokingstatistics.org/Smoking_Statistics_in_China.asp
- Spies, W. (2009). IPOs in unregulated markets. manuscript.
- Stone, A. A. (2005). The China psychiatry crisis. *Psychiatric Times*, XXII(6).
- Sung, H.-Y., Wang, L., Hu, T.-W., & Jiang, Y. (2006). Economic burden of smoking in China, 2000. *Tobacco Control*, i5-i11.
- Tanaka, N. (2009, April 20-21). Securing China's energy in a cleaner world. Retrieved May 10, 2010, from www.iea.org: http://www.iea.org/speech/2009/Tanaka/Coaltrans_China.pdf
- The Yunnan drought, and China's looming water crisis. (2010, May 3). Retrieved May 21, 2010, from Ride2Freedom: <http://ride2freedom.org/?p=303>
- Thomas, C., Krishnan, U., & Leung, S. (2010, July 12). Herald-Sun.com. Retrieved July 12, 2010, from Water shortage looms for China and India: http://www.heraldsun.com/pages/full_story/push?article-Water+shortage+looms+for+China+and+India%20&id=7813584&instance=main_article
- Tucker, J. D., Chen, S.-S., & Peeling, R. W. (2010, May 6). Syphilis and social upheaval in China. *New England Journal of Medicine*, 362(18), 1658-1661.

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

- U.S. Customs and Border Protection. (2008). Combatting counterfeiting and piracy. Retrieved May 14, 2010, from U.S. Customs and Border Protection: <http://www.cbp.gov/>
- U.S. Department of State. (2010, May 10). China. Retrieved May 31, 2010, from U.S. Department of State: http://travel.state.gov/travel/cis_pa_tw/cis/cis_1089.html
- UNESCO - a. (2008). UIS statistics in brief. Retrieved June 7, 2010, from UNESCO Institute for Statistics: http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=1560
- UNESCO - b. (2008, January 21). China leads the world in the number of university graduates. Retrieved May 14, 2010, from UNESCO Institute for Statistics: http://www.uis.unesco.org/ev_en.php?ID=7122_201&ID2=DO_TOPIC
- Universal access to AIDS treatment: Targets and challenges. (n.d.). Retrieved May 12, 2010, from Avert.org: <http://www.avert.org/universal-access.htm>
- University of Florida Extension Service. (n.d.). Water Quality Program. Retrieved May 30, 2010, from University of Florida: <http://waterquality.ifas.ufl.edu/Water%20primer/Underground%20water/Underground.htm>
- Violent crime rate increases for the first time in ten years. (2010, March 1). Retrieved May 15, 2005, from China Elections and Governance: <http://chinaelectionsblog.net/?p=2174> (Also see: <http://china.huanqiu.com/roll/2010-02/727003.html>)
- Wang, X., Xu, L. C., & Zhu, T. (2009). Foreign direct investment without the rule of law: Explaining cross-regional variations in FDI in China. Proceedings of the Microeconomic Drivers of Growth in China Conference, (pp. 18-19).
- Witt, J. F. (2004, May 8). China: Can China improve work safety? Bangkok Post.
- World Bank (a). (2010). CO2 emissions (metric tons per capita). Retrieved May 18, 2010, from WorldBank.org: <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC>
- World Bank (b). (2010). PM10, country level (micrograms per cubic meter). Retrieved May 19, 2010, from WorldBank.org: <http://search.worldbank.org/quickview?name=PM10%2C+country+level+%28micrograms+per+cubic+meter%29&id=EN.ATM.PM10.MC.M3&type=Indicators&qterm=air+pollution+particulate>
- World Bank (c). (2010). World Development Indicators. Retrieved June 6, 2010, from The World Bank: http://data.worldbank.org/data-catalog/world-development-indicators?cid=GPD_WDI
- World Health Organization. (2002, May 28). Retrieved May 14, 2010, from WHO.org: http://www.wpro.who.int/media_centre/fact_sheets/fs_20020528.htm
- Xu, C.-G. (2010). The institutional foundations of China's reforms and development. CEPR Discussion Paper No. DP7654.

The ISM Journal of International Business
“Emerging China”
ISSN: 2150-1076, Volume 1, Issue 2, March 2011

Yan, F. (2005). Education problems with urban migratory children in China. *Journal of Sociology and Social Welfare*, September.

Yang, W., Lu, J., Wang, J., Jia, W., Ji, L., & Xiao, J. (2010, March 25). Prevalence of diabetes among men and women in China. *New England Journal of Medicine*, 362(12), 1090-1101.

Yardley, J. (2007, September 28). Beneath booming cities, China’s future is drying up. *New York Times*, p. B1.

Zhao, L., & Sheng, S. (2008). Fast and furious: Problems of China's higher education expansion. *EAI Background Brief No. 395*.

12.0 Appendices

Appendix 1: Secondary IPO Exchanges

Amman Stock Exchange
Athens Exchange
Australian Securities Exchange
Bermuda Stock Exchange
BM&FBOVESPA S.A.
BME Spanish Exchanges
Bolsa de Comercio de Buenos Aires
Bolsa de Comercio de Santiago
Bolsa de Valores de Colombia
Bolsa de Valores de Lima
Bolsa Mexicana de Valores
Bombay Stock Exchange Ltd.
Borsa Italiana SpA (London Stock Exchange Group)
Bourse de Luxembourg
Bourse de Montréal (TMX Group Inc.)
Budapest Stock Exchange Ltd. (Wiener Börse AG)
Bursa Malaysia
CME Group
Colombo Stock Exchange
Cyprus Stock Exchange
Indonesia Stock Exchange
IntercontinentalExchange
International Securities Exchange
Irish Stock Exchange
Istanbul Stock Exchange
Jasdaq Securities Exchange, Inc. (Osaka Securities Exchange)
JSE Limited
Korea Exchange
Ljubljana Stock Exchange
Malta Stock Exchange
Moscow Interbank Currency Exchange
National Stock Exchange of India Limited
New Zealand Exchange Ltd.
Oslo Børs
Philippine Stock Exchange
Saudi Stock Exchange (Tadawul)

The ISM Journal of International Business

“Emerging China”

ISSN: 2150-1076, Volume 1, Issue 2, March 2011

Shanghai Stock Exchange
Shenzhen Stock Exchange
SIX Swiss Exchange
Stock Exchange of Mauritius
Stock Exchange of Tehran
Stock Exchange of Thailand
Taiwan Stock Exchange
Tel-Aviv Stock Exchange
The Egyptian Exchange
TMX Group Inc.
Warsaw Stock Exchange
Wiener Börse AG

Appendix 2: Cost of AIDS Treatments

Drug	Month Cost (US\$)	Monthly Cost (RBN)
Agenerase	\$772	5,288 RBN
Aptivus	\$1,117.50	7,654 RBN
Combivir	\$752.64	5,155 RBN
Crixivan	\$570.96	3,911 RBN
Emtriva	\$347.11	2,377 RBN
Epivir 300mg	\$347.11	2,377 RBN
Epzicom	\$813.55	5,572 RBN
Fortovase	\$263.35	1,804 RBN
Fuzeon	\$2,315.40	15,859 RBN
Hivid	\$273.00	1,870 RBN
Invirase	\$748.50	5,127 RBN
Kaletra	\$796.26	5,454 RBN
Lexiva	\$658.99	4,514 RBN
Norvir	\$321.46	2,202 RBN
Rescriptor	\$316.35	2,167 RBN
Retrovir	\$405.59	2,778 RBN
Reyataz	\$892.91	6,116 RBN
Sustiva 600mg	\$499.43	3,421 RBN
Trizivir	\$1,164.35	7,975 RBN
Truvada	\$867.99	5,945 RBN
Videx EC 400mg	\$346.04	2,370 RBN
Viramune	\$442.45	3,030 RBN
Zerit	\$385.88	2,643 RBN
Ziagen	\$466.44	3,195 RBN

Source: "Annual HIV Drug Guide" 2006, from <http://www.thebody.com/>, accessed April 21, 2010

Appendix 3: Berne Convention Member States

Albania	Democratic People's Republic of Korea	Kenya
Algeria	Democratic Republic of the Congo	Kyrgyzstan
Andorra	Denmark	Latvia
Antigua and Barbuda	Djibouti	Lebanon
Argentina	Dominica	Lesotho
Armenia	Dominican Republic	Liberia
Australia	Ecuador	Libyan Arab Jamahiriya
Austria	Egypt	Liechtenstein
Azerbaijan Bahamas	El Salvador	Lithuania
Bahrain	Equatorial Guinea	Luxembourg
Bangladesh	Estonia	Madagascar
Barbados	Fiji	Malawi
Belarus	Finland	Malaysia
Belgium	France	Mali Malta
Belize	Gabon	Mauritania
Benin	Gambia	Mauritius
Bhutan	Georgia	Mexico
Bolivia	Germany	Micronesia (Federated States of)
Bosnia and Herzegovina	Ghana	Monaco
Botswana	Greece	Mongolia
Brazil	Grenada	Morocco
Brunei Darussalam	Guatemala	Namibia
Bulgaria	Guinea	Nepal
Burkina Faso	Guinea-Bissau	Netherlands
Cameroon	Guyana	New Zealand
Canada	Haiti	Nicaragua
Cape Verde	Holy See	Niger
Central African Republic	Honduras	Nigeria
Chad	Hungary	Norway
Chile	Iceland	Oman
China	India	Pakistan
Colombia	Indonesia	Panama
Comoros	Ireland	Paraguay
Congo	Israel	Peru
Costa Rica	Italy	Philippines
Côte d'Ivoire	Jamaica	Poland
Croatia	Japan	Portugal
Cuba	Jordan	Qatar
Cyprus	Kazakhstan	Republic of Korea
Czech Republic		Republic of Moldova

Romania	Spain	Tunisia
Russian Federation	Sri Lanka	Turkey
Rwanda	Sudan	Ukraine
Saint Kitts and Nevis	Suriname	United Arab Emirates
Saint Lucia	Swaziland	United Kingdom
Saint Vincent and the Grenadines	Sweden	United Republic of Tanzania
Samoa	Switzerland	United States of America
Saudi Arabia	Syrian Arab Republic	Uruguay
Senegal	Tajikistan	Uzbekistan
Serbia and Montenegro	Thailand	Venezuela
Singapore	The Former Yugoslav Republic of Macedonia	Viet Nam
Slovakia	Togo	Zambia
Slovenia	Tonga	Zimbabwe
South Africa	Trinidad and Tobago	

Source: "Intellectual Property Rights Guidelines," Theatre without Borders (2006) accessed April 28, 2010, at <http://www.theatrewithoutborders.com/node/64>