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# Allowing for Low-Cost Labor in Underdeveloped and Developing Countries as a Method for Initiating Economic Industrialization

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Allowing for Low-Cost Labor in Underdeveloped and Developing  
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by

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### **Abstract**

The topic presented here closely examines the link between low-cost labor and the affect that it has on initiating industrialization in underdeveloped and developed countries. It can ultimately create a better standard of living for a country's general population in the future, but the initial conditions for the laborers can be harsh. The low wage labor force achieves this goal by creating a competitive labor market which has the ability to stimulate economic growth. Once the initial steps of creating manufacturing and industry are achieved, then the general standard of living has robust potential to increase in the country as a whole. It is an idea that sacrifices may need to be made in the present in-order to benefit the future because without this initial sacrifice to boost growth, a country's economy could remain largely stagnant. This thesis reviews the literature surrounding this topic and then uses historical statistics and data - with a focus on the countries of Vietnam, the People's Republic of China, and Japan – to exemplify these trends. Economic growth, labor conditions, and the current and long term economic effects of low-cost labor are reviewed.

## Chapter 1: Introduction

History has shown the economic trend that occurs when a country encourages the use of low wage labor to induce manufacturing opportunities. It is a trend that often leads to industrialization because the cheaper labor force helps to make the country competitive on a global scale and this ultimately is the first step involved with a country leaving a traditional agrarian lifestyle and beginning basic manufacturing. As this industrialization expands, the manufacturing processes become more efficient, and current technology is instituted as part of the process. The maintenance and development of these new processes involves hiring more skilled laborers which increases the country's emphasis on education and ultimately begins to create a middle class of national, educated, working citizens. This is the beginning of the country reaching a general higher standard of living because products become cheaper due to more efficient manufacturing and workers begin to demand a higher pay. An article by Li and Zhong (2009) says, "The underlining assumption is that as a country gets richer by industrialization, it is more likely for that country to provide better welfare benefits to its citizens."

A country's culture, government policies, stability, and general acceptance for change are major factors that decide whether a country will succeed in achieving and going beyond industrial manufacturing as the primary source of income. Also, external factors such as wars, the global economy, natural disasters, and outside government interference can help or prohibit a developing nation from advancing. For example, many of the Middle Eastern nations did not follow the traditional industrializing process because of their large natural resource of oil that allowed them to advance quickly once the demand for their product became high. These countries gained wealth at an astronomical rate. Their need for a competitive wage labor force

was transcended by this external factor. Also, an insurmountable amount of writing exists concerning the importance of government in the role of economics. In 1944, author F. A. Hayek wrote the book, The Road to Serfdom, which lengthily and objectively emphasized the importance of a country maintaining an economic model that is largely decentralized from the government. This thesis does not seek to enter into this topic, but instead it will focus on the creation of a competitive market through a low wage workforce. The countries of China and Vietnam – both of which are still under strong socialist rule - have indicated that as long as government (central or not) is willing to instigate policies that allow for Foreign Direct Investment (FDI) and a certain amount of free trade, then creating a low-cost labor force that is globally competitive can attract both national and international business investors and companies that can establish operations in these countries. For this reason, this thesis seeks to focus on the futuristic benefits that a low wage labor force can specifically create and disconnect itself from the larger debate of all of the factors that must be considered in-order to generate industry. Monetary compensation for the common laborer during the initial phase of industrialization would not be ideal even from the view of Purchasing Power Parity (PPP) which would lead some to argue that using low-cost labor as an economic incentive is not a wise step for a country.

This thesis will objectively examine the argument that low workers' wages can be beneficial in the long-run in less developed countries in order to achieve industrialization and ultimately create a better standard of living for a country's general population in the future. The low wage labor force achieves this goal by creating a competitive labor market which has the ability to stimulate economic growth. Once the initial steps of generating manufacturing processes and industries are achieved, then the general standard of living has robust potential to increase in the country as a whole. Consequently, sacrifices may need to be made in the present

in order to benefit the future because without this initial sacrifice to boost growth, a country's economy could remain largely stagnant. Conditions in countries that have been classified as "underdeveloped" have been shown to be detrimentally worse than those which fall under the label of "developing" or "developed". Therefore, this thesis seeks to investigate the validity of allowing for sub-par working conditions and pay to exist in an underdeveloped country as a way of creating jobs and industry that could not initially be acquired without this competitive advantage.

The methods that will be used to determine the validity of this idea will involve the use of historical statistics to show the economic benefits that occur once an underdeveloped nation begins the process of industrialization. It will continue to view how the developing stage and the developed stage affect the country's finances and eventually the individual's quality of life. Measurements such as a country's per capita income, gross domestic product (GDP), and purchasing power parity (PPP) will be used to assess economic improvements in countries included in this study. Measuring total quality of life would involve generating statistics for education, housing quality, and other sociology-based measurements, which are harder to obtain in accurate measurements and therefore this thesis will focus largely on a country's economics with the assumption that economic growth will also improve general living outcomes such as caloric consumption and life expectancy.

## **CHAPTER 2: Review of the Literature**

Wen-hui Tsai introduces the idea that people who live in developing countries view words such as "industrialization", "economic growth", and "modernization" all as symbols of a pathway to one decisive goal: "a better way of life." The literature review will introduce the

economic benefits and disadvantages that industrialization creates, the improvements and decrements concerning quality of life that industrialization brings, the environment that is necessary for creating a competitive market that can sustain industrialization, and the working conditions that are involved in this process. In order to discuss industrialization and its economic effects, authors have generated descriptive words for each stage of this process. The term “industrialization” has no exact known origin, but it has been well defined by Alex Inkles through a work written in 1993. It is important to define this term from the start and therefore it is quoted below:

The process of increasingly shifting the composition of all goods produced by any society in two major respects: first, the share of all product resulting from manufacture rather than from agriculture increased markedly and, second, there is a major shift in the share of all fabrication which is undertaken not by craft hand-labor but by machine processes, especially as driven by inanimate sources of energy (Inkeles, 1993).

Inkeles does not only define industrialize well in his work, but he also provides powerful insight into this topic by defining words that pertain to industrialization such as “quality of life” and “modernization”. He separates words like modernization from industrialization stating that although they are similar, industrialization focuses on manufacturing and a move away from agrarian lifestyle whereas modernization focuses on technological, economic, and social change in which manufacturing does not necessarily need to occur. Authors Phelps and Ozawa define the stages of the industrialization process as being proto-industrial, industrial, and post-industrial. “Proto-industrial” is often correlated with the word “undeveloped nations” or “underdeveloped nations” and it is a stage where a country does not participate in manufacturing on a large scale nor has it developed the technology or infrastructure to achieve this. “Industrial” is typically correlated with the term “developing nations” which are countries that have begun large-scale manufacturing and countries where processes such as developmental infrastructure and



urbanization have fundamentally occurred. “Post-industrial” – often linked with “developed nations” – is the stage of economic development where the amount that a country manufactures decreases as other, more competitive nations arise to fill this gap. At this point, post-industrial countries typically develop a highly-skilled service market in the area of resource management (Phelps and Ozawa, 2003).

For the purpose of organization, the literature review from this point has been separated into three separate sections.

**Section 1: Outcomes of economic industrialization.** An article written by Bye & Mournier (1996) discusses the changes that industrialization has brought to countries with a focus on England and France. The article is split into two major sections. The first section introduces different developmental theories about how industrialization patterns occur and why they occurred in certain countries. The second section of the paper discusses the role of labor in the industrialization process. How people moved from agrarian lifestyles into factory jobs and how wages slowly changed including the creation of a minimum wage. It discusses the labor conditions that were necessary to make this process happen and the ultimate effects that this had on society. As a review, this paper is immensely important being that England is considered the birthplace of modern industrialization and it shows how even back then, many of the same conditions for market stimulation applied. Cristobal Kay, through his article published in 2002, compares and contrasts how countries begin to receive the benefits of industrialization. He compares Latin America with East Asia and is able to show how East Asia has achieved greater modernization than Latin America due to its ability to completely industrialize even though Latin America had achieved economic independence long before East Asia. In the case of Latin America, they did receive high economic growth rates for an extended period of time after World

War II, yet financial management and inability to bring manufacturing technology to the agrarian sector severely slumped growth by the 1980s. In contrast, East Asia was able to bring manufacturing to most areas of its economy and improve efficiency without incurring too much debt. This has ultimately allowed these countries to surpass the economies of Latin America which had previously been much larger.

A specific example of this is given by Nguyen and Ezaki concerning the country of Vietnam. The authors discuss how regional and global trade agreements have benefitted the country of Vietnam. The authors wrote:

When Vietnam started economic reforms 20 years ago, it was a very poor country with a per capita income of less than \$200 US. Most Vietnamese people then lived below the poverty line with an estimated poverty incidence of over 70%. The rapid economic growth over the last decade has not only increased the national income, but also sharply reduced the incidence of poverty. The percentage of poor people fell sharply to 50% in 1993, 37% in 1998 and 15% in 2002 (GSO 2000, 2003). The absolute poverty incidence based on the food poverty line also fell from 25% to less than 10% between 1993 and 2002.

These are specific, credible statistics that show how manufacturing can greatly boost a country's economic wealth. For Vietnam, it was necessary to instigate open trade policies so that the country could provide the low-cost manufacturing labor that other countries desperately needed. This has created benefits for this country in the form of countless new jobs. Countries such as China, Brazil, Mexico, and Bangladesh all have similar stories to that of Vietnam and there is supporting literature for each country.

Author Firebaugh uses a mathematical equation written to prove that there is an "r" value of 0.98 between industrial growth and income growth. This "r" value shows that the vast majority of the data is within an acceptable range of standard deviation which validates the data. Firebaugh ran the data through 59 of the 61 Third World Countries to obtain his data and he

came to some interesting conclusions. The first is that “Successful industrialization means that manufacturing growth does not just boost manufacturing, but boosts other economic sectors, as well” (Firebaugh, 2004). The second point that was made is that income and industrial growth are directly related to each other in Third World Countries where an increase in one will increase the other. Firebaugh has shown that Third World Countries that are industrializing – “developing nations” - have been clearly shown to be growing economically at a faster rate than Third World Countries that are not industrializing – “underdeveloped nations”. Also, most industrializing Third World Countries have a higher percentage of economic growth each year than the wealthy, developed nations of the world.

As with most topics, a lot of literature does exist on the other side of this argument, stating that industrialization is no longer a valid method for creating economic benefits in developing nations. An article written by Brady, Kaya, and Beckfield analyzes the effects of economic growth on a five-point scale. These are listed as caloric consumption, infant survival probability, one-to-five year survival probability, female life expectancy, and male life expectancy. Concerning GDP, female life expectancy, male life expectancy, and caloric consumption all increase on the basis of increased GDP, yet the article does include that the effects of this have decreased over the years. The authors state that since the 1980s, the effects of GDP have fallen to the point where it is nearly obsolete because GDP generally affects the affluent instead of the general population of a country as a whole. GDP, according to these authors, does not have robust effect on infant survival and one-to-five year survival (Brady, Kaya, and Beckfield, 2007).

Another pair of authors, Li and Zhong, wrote an article on how industrialization has increased China's overall GDP, yet that this has not been distributed equally. It states that government officials and workers benefit in much higher amounts than the private-sector employees do. A specific example of this is that employees of the state sectors received an average of 600 yuan medical subsidies whereas people working in private enterprises only received an average of 5 yuan in medical subsidies. This argument indicates that while often a net increase in GDP does increase a country's total economic wealth, it is not always the most accurate method of measuring the increases in a country's total quality of life for each individual. The political system of each country does affect the distribution of wealth associated with increased GDP.

**Section 2: Effects of industrialization on quality of life.** It is hard to argue with the increase of GDP that industrialization brings, but numerous authors have argued whether or not this increased GDP brings enough good to increase a people's total quality of life. An article written by Berg introduces this topic by stating that industrialization is a product of applied knowledge. As education increased, industrialization increased, and as industrialization increased the need for more knowledge was created. Berg argues that industrialization is strictly the outcome of increased knowledge and that creating market efficiencies is the natural pathway for people who seek to create a better lifestyle for their country. Zare, Haghgooyan, and Asi have also discussed how quality of life in industrialized countries is very important being that it is part of creating meaningful jobs, ensuring job security, making provisions for adequate pay and benefits, and ultimately increasing individual productivity. They argue that most countries that initially industrialize give minimal consideration to this topic and instead focus employees on a repetitive task that will produce exact desired results, but that as a country enters the post-

industrial stage of development, quality of life is given extra consideration since these countries typically need new, creative ideas in order to remain competitive because they no longer have the advantage of low-wage labor. An article written by Johnson has a broader outlook on industrialization and he does so from the viewpoint of the American coal industry. Coal was the founding fuel of the industrial movement and this dirty substance and continued to be used in high amounts in all developing and developed nations. He is quoted as saying:

As a cultural object, coal served as a reminder to industrial-age Americans that beneath the surface of the nation's veneer of steel, glass and light and beneath the exhilarating speed at which factories, ships, and railroads churned, there always stood this other implacable, bare-faced, and hidden material world with its furnace stokers buried in the depths of steamships, its miners sequestered in mountain hollows, its dirty ashes hurried out the back door, and its smoke and slag removed beyond the sight and smell of the nation's middle class. Nothing was darker, dirtier, or more decidedly modern than coal, and nothing evoked so explicitly the traumas of modernity as did this gritty black rock and trace of its lingering smoke.

This is an intense description of coal, yet Johnson clearly states that to create a "middle-class America" there was a dirty side of industrialization, to which he sees coal as the best example of this. This article is important in achieving a well-rounded view of the topic as it shows that industrialization will bring increases in certain areas of quality of life, but in other areas, it can be a detriment.

Authors Fehige and Frank continue thoughts on this topic by bringing up the ethical logic of utilitarianism and how it interacts with industrialization. Utilitarianism is defined as the idea that one should do whatever is necessary to achieve the greatest common good for the people. The author uses a story about a trolley that is about to hit five people because it is out of control, yet you have the option to push a large man onto the tracks which would kill him yet stop the trolley and therefore save five other lives. Utilitarianism believes that pushing the large man

onto the tracks would be the right choice to achieve the greater common good. The article continues to discuss the difference between this ideology and moral sentiments that we feel during these situations. If this thesis is to provide evidence that initial low-cost labor can eventually boost a country's industrialization efforts which will then lead to a better future quality of life, then utilitarianism must be discussed as it is essentially the idealistic viewpoint that my thesis is adopting. By sacrificing currently labor conditions, we can save thousands because of the result that this will eventually produce. This topic will be discussed in greater detail later, but the concept is similar to Fehige and Frank's image of the large man who must be pushed onto the tracks to save five other people. Just as Johnson showed that industrialization can create a disadvantage in some areas of society (including environment), so the utilitarian view of economics should not be overlooked because a society must decide whether the benefits of industrialization outweigh the more current detriments that it has potential to cause.

Van der Veen continues with the topic of the effects of industrialization concerning total quality of life, yet he states that industrialization is a necessity. As the populations of countries increase, rural farming and agricultural jobs along with small business shops do not create enough jobs for people and therefore industrialization is a necessary process in economic evolution to ensure and sustain urban growth of the increasing population. Yet this trend is intertwined with the idea that industrialization also created the need for an urban society where a large workforce could inhabit a small area of space in-order to be closer to their work. It is an idea that industry created the need for urbanization, but that regardless, increased populations needed to urbanize and therefore industry was created to make more jobs.

An important part of quality of life is that it does not only pertain to working conditions on the job, it also takes into consideration the benefits and downgrades that employees face

outside of the working environment. Items such as pay grade affect how well an employee is able to live, including housing, food quality, and other such matters. A specific example is given by Richter, Panday, Swart, and Norris in which the conditions in Johannesburg, South Africa, are examined closely. Johannesburg is a city that has grown rapidly due to industrialization in recent years and with this growth, the city has changed. This is an article about the population shift in South Africa from being rural to being largely urban caused by a new influx of industrialized jobs. As people move quickly into the cities, slums arise and living conditions are often very poor. Although most children participate in school, the family life is disrupted due to lengthy job working hours in the city. This leads to adolescent development problems and the use of illegal substances. These are just some of the changes that occurred when industrialization of these nations led to quick urbanization.

An ultimate opinion of quality of life comes from Antonides who has written an article concerning income evaluation and happiness. He states that although industrializing countries may create tough work environments, there is a link between greater income and general happiness. This study is done specifically concerning the Dutch people, yet it pertains to other people groups as well. Antonides was able to conclude that as income decreases, so does the general happiness of a household for at least a brief period of time. Being that industrialization has been shown to increase household income through authors such as Nguyen and Ezaki, it can be correlated that industrialization can increase household happiness and general quality of life if working conditions are reasonable.

**Section 3: Creating a competitive market and working conditions.** This topic has a basic point that low wage labor is typically necessary to create large-scale industrialization since this allows for an initially competitive low-wage labor force, yet having low-cost labor is not the

only item that is necessary for industrialization to arise. An example of the country of Vietnam is written by Dixon who writes about how it is not the government type that instigates industrialization, but instead it is the government policies. The belief was that State Owned Enterprises (SOEs), like those found in Vietnam, were not a viable way to create economic growth and that only complete free market systems were effective, yet later it was seen that a system in which states did not give up complete ownership of the business sector was effective. It is a hybrid version where a certain amount of private ownership is allowed but with large amounts of state regulation with examples being Vietnam and China. The author concludes that these two types of government regulation show that a free market economy is not what directly causes economic growth, but that instead it is when a government becomes supportive of industrialization that economic growth can occur.

On the other hand, Balimunsi, Kaboggoza, & Abeli indicate that a privatized sector leads to more intense working conditions, but that the working efficiency is greatly increased. This study specifically analyzes the logging industry in Western Uganda by comparing government-run facilities with those of the private sector. Authors Lallukka, Rahkonen, Lahelma, & Arber have written material that suggests these intense working conditions strongly affect “outside of work” conditions. These authors used a “job-strain model” to classify different types and jobs and the amount of activity that each one involved. In jobs that had very high demand for results and included active labor, a trend emerged that reduced the amount of sleep that an individual received and escalated that amount of sleep complaints in this sector of worker. This trend applied to both men and women. Apart from sleep issues, domestic conflicts and health problems are some of the areas observed for very active workers, especially for people who are between 40-60 years old.



In an extensive study of labor force and the effects of industrial growth, authors Waghorn, Chant, Lloyd, & Harris attempted to find trends in the psychological health of labor workers. They concluded that as the amount of people in the labor force increases, so does the amount of people with anxiety and depression disorders. One would logically conclude, therefore, that increase in manual labor manufacturing leads to a higher amount of psychological disorders, yet the article believes that this is not altogether true being that other disorders such as schizophrenia did not increase. Still, the article does stress the importance of increasing psychological assistance to employees as the economy grows, especially in the fields where employees do repetitive tasks for extended time periods. A separate study was done by Arvidsson, Malossi, and Naro in which the Milan fashion industry was studied. The Milan fashion industry has shown that general satisfaction with work does not always come from high wages. It is equally important to give your workers a sense of autonomy in the work place where they do not feel “forced” into something. This is one way to bring greater contentment even when wages must be kept low to remain competitive, yet most industrialized jobs have limited autonomy due to standardized processes these jobs create.

The review of the literature should give the reader a background to the information that surrounds this topic. At some points it may have seemed to have been off-topic or very broad, but it is important to establish a wide basis of understanding so that when we begin to focus into the thesis’ topic, the many questions that a reader would normally have should have been largely discussed in the literature review above. We have defined broad terms such as industrialization, quality of life, utilitarian ethics, and others. We have also reviewed studies and accumulated data about the effects of industrialization. All of this information should prove useful to the reader as we enter into the argument of this thesis.

### CHAPTER 3: Methodology

The methodology for writing this thesis will be done mostly through observing and researching historical trends. The purpose of my thesis is to examine the argument that low worker's wages can be beneficial in the long-run in less developed countries in order to achieve industrialization and ultimately create a better standard of living for a country's general population in the future. By closely observing historical and real-time examples of how industrialization and working conditions are interrelated, my thesis statement can be objectively justified.

- **First:** it must be proven that industrialization does increase a country's economy and general wealth.
- **Second:** it must be shown that historically industrialization has occurred largely in countries that have a competitive labor force that has initially worked for low wages. This way production can be competitive on a global scale and the subsequently generated profits can be invested back into the economy.
- **Thirdly:** it must be shown that as the industrialization process matures and a country's economy grows, the general quality of life for citizens as a whole in this country will begin to increase.

I will use three countries as specific examples of how industrialization has had an effect on their economy and general quality of life. My first country is Vietnam which is an example of a country that has recently begun the industrial development stage of its economy. It is an important source as its economy is still emerging, yet there has now been enough time since the start of its economic growth to generate factual statistics. The second country that will be

viewed in detail is the People's Republic of China which is towards the end of its industrial development stage and has now begun to increase its wage payment. The third country that will be examined will be Japan as an example of a country that long ago forsook the need for low wage labor as they found other ways to become globally competitive, yet by looking at its history, one can see that initially its low-wage labor is an important factor that contributed to the rebuilding of this country's industry in the post-WWII era.

By analyzing the historic trends of these countries, we get a sample of a country in the early stages of industrialization, a country in the later stages of industrialization, and a country that had become fully industrialized, also known as a proto-industrial nation. The countries make a good sample source as they all come from East Asia and once again it must be made clear that this review of the countries will focus on wages and working conditions as factors that affected industrialization. To say that other influences such as – natural resources, war, foreign aid, and government policies – did not play an important role would be ignorant. Still, a trend will be shown that industrialization was greatly aided in these countries when each of them allowed their low-cost labor force to compete on a global market and acquire simple manufacturing markets.

## **CHAPTER 4 ANALYSIS**

### **Section 1: Industrialization and the economy**

**1.** First, it must be proven that industrialization does increase a country's economy and general wealth.

In-order to justify the use of low-cost labor to induce the beginning stages of industrialization through a more competitive work force, one must prove that industrialization of a country has a positive effect on a country's economics. When it has been established that industrialization will increase a country's general wealth through growth in sectors of Gross Domestic Product (GDP) and Gross National Income (GNI), then individual welfare can be discussed.

This is a very simple point to make that almost no economist will deny: industrialization of an under-developed country will increase GDP. A layman's example can be given to further discuss this point. If a farmer grows crops and uses a horse to plow his fields, he may be able to produce around 12 tons of food per year. Now, if the farm decides to industrialize his farm equipment and buys a tractor, then he may be able to increase his productivity ten-fold and produce 120 tons of food per year. By industrializing, the farmer has increased his personal product output. When a country institutes this mentality as a whole through the process of industrialization, then GDP will naturally increase for the whole country.

This was a simplistic example of the effects of industrialization on GDP, but since the post-WWII era, a general trend between GDP from manufacturing and income growth has been established. In poorer regions of the world where countries are industrializing and therefore manufacturing products, income inequality has decreased (Firebaugh, 2004). According to Firebaugh, income grew fastest in countries where industrial manufacturing processes grew at a faster rate than other sources of income such as agricultural production. He finishes by saying, "Clearly, poor countries that are industrializing are growing faster economically than poor countries that are not" (Firebaugh, 2004, p.102).

As previously discussed in the review of the literature, Firebaugh was able to prove in his study that there is an “r” value of 0.98 between industrial growth and income growth. This “r” value shows that the vast majority of the data is within an acceptable range of standard deviation which validates the data. Industrial growth can be largely associated with GDP increases and income growth can be largely correlated with GNI. What Firebaugh was concluding is that with increased GDP there is also an increase in GNI. Other studies have confirmed this economic trend.

So when we are discussing the effects of industrialization concerning GDP and GNI of less-developed countries, previous studies have established that clearly there is growth in these sectors. These are very general economic trends that address a country's general wealth, but whether this money is distributed back to individuals is something that needs further debate. Later, we will see that a general rise in GDP and GNI does affect other market sectors that can lead to a better quality of life for the individuals of a country, but what must be discussed first are the conditions that can create a competitive, industrial market.

## **Section 2: Creating a competitive market.**

2. Second, it must be shown that historically industrialization has occurred largely in countries that have a competitive labor force that has initially worked for low wages.

Industrialization arises from a great number of complex conditions that have been studied at large. In its beginning stages, there was a huge need for the technology and new processes that increased workplace efficiency and created an environment for mass-production techniques. Authors such as Tsai have reviewed the importance of government with strong statements that his paper is quoted to say such as, “A societal democracy is more crucial than political democracy in economic development. By societal democracy we mean freedom for

occupational and geography mobility, freedom for choosing one's own life opportunity, and freedom for private property ownership" (p.37). This thesis does not deny that these aspects of a country's development are of great importance to a country's economy. What this thesis seeks to address is the role that cost of wage labor has on industrialization knowing that it is not the only factor that is involved, yet it seeks to show that it is not a factor that can be overlooked.

National low-cost labor force is a workforce that will ultimately lower the product cost per unit. According to my thesis idea, this is a sacrifice that employees must make in-order to increase the country's total economy. One may argue that many of the countries with the highest GDP's also have some of the highest per capita incomes. This is true and many of these countries have found ways to exclude the need for low-cost labor that is competitive on a global scale. On the other hand, as authors Appelbaum and Christerson indicate, "Low labor costs are an important consideration in cheap apparel exports, but high-wage areas can be competitive in high-value exporting" (p. 209). Most developing countries struggle to compete in the high-value market because they are still building their infrastructure and increasing their country's education and technology. Developed countries that compete in the high-value export market typically have strongly developed these areas and have created an economic efficiency that can sustain higher wages while remaining competitive. For developing countries, low-cost labor is an important advantage that the country has to be globally competitive and that is why typically these countries will initially focus their industries towards making cheaper products that cannot be produced as efficiently in other sectors of the globe. A hybrid example of this will be discussed in greater detail later, but Japan after WWII had to lower its labor cost initially in-order to produce more jobs for the country even though it had previously had large amounts of industrial technology and infrastructure. Once the country was able to rebuild jobs and re-

develop its economic infrastructure then the wages of workers began to rise again. Japan – a country that had been very developed for its time pre-WWII – used low-cost labor as a competitive advantage to rebuild its economy after the devastation of the war.

This low-cost labor often does not just mean that the amount that an individual is paid for their work is low, but in developing countries, global trends have shown us that the working conditions themselves are often harsh. The hackneyed word of “sweatshop” has been given to generalize a workplace where workers labor under harsh conditions to produce industrial goods. There have been intense ethical debates about whether or not sweatshops are moral, but both sides of the debate have a hard time denying the sweatshops are often the best option that the workers of an underdeveloped or developing country have to support themselves and their families. The other option is often simply unemployment which the workers themselves do not wish for as employment is voluntary. Sweatshops developed as a trend in industrialization. Authors Bye and Mounier discussed how the peasants in the initial industrialization quickly left the harsh agricultural conditions of the feudal system to join the urban labor forces in factories that were equal to or worse than most modern day sweatshops. These factories are opportunities that are being utilized by an economy and still remain competitive because if all countries exploited it, it would cease to be a competitive advantage (Powell & Zwolinski, 2012). The companies, people, or corporations that own these sweatshops are assumed to be focused on maximizing their profits and this causes them to typically minimize wages and de-emphasize the importance of good working conditions in their facilities. Nevertheless, because they understand profits, they will continue to employ workers to the point at which one more worker will cease to increase their profits (Powell & Zwolinski, 2012). In addition to this, no economic conditions have been presented that would pay workers more or that would allow for substantially better

working conditions without harming individual workers or a country's economic through the loss of jobs.

It is these sweatshops that are found most commonly in early-stage developing nations. Sweatshops have been largely discussed for their current conditions from an ethical standpoint and they have been shown to have economic backing, but there are few that would agree that this is a good long-term solution because they fail to adequately meet labor rights. Essentially, they can be viewed as mutually beneficial exploitation where the labor jobs benefit the worker but it does not uphold the worker's full labor rights and in return the employer can sell his/her product more competitively (Arnold, 2003). What many authors have failed to address is a futuristic outlook towards sweatshops. Sweatshops bring current jobs under non-ideal conditions, but they do boost a country's employment rates and national income. As this income is brought into the country, its infrastructure and education will rise and the country's base-line poverty rating will decrease. Detailed examples of this are given later in the paper through the countries of Vietnam, the People's Republic of China, and Japan, but other countries such as Brazil, Mexico, and Bangladesh all follow similar trends.

### **Section 3: Sociological issues and quality of life**

**3.** Thirdly, it must be shown that as the industrialization process matures and a country's economy grows, the general quality of life for citizens as a whole in this country will begin to increase.

Two economic trends have now been discussed. The first is that industrialization does increase a country's general wealth in areas such as GDP and GNI. The second trend that has been discussed is that low-cost labor can be an important contributing factor to industrialization



that will boost a country's income, but that initially labor rights will be demeaned. The viewpoint here is that if an underdeveloped country is willing to properly use its low-cost labor advantage, then perhaps the current generation will not see too many of the benefits that this advantage brings as initial labor conditions are often harsh and provide minimal income, but the future generations will benefit from this industrializing process.

The first areas affected will be caloric consumption, infant survival probabilities, and life expectancies as these are typically income related (Brady, Kaya, and Beckfield, 2007). What comes after the initial income increase is harder to measure and more subject to other factors such as the government system, but trends have shown that infrastructure, education, and other areas that significantly improve the individual quality of life in countries do begin to increase once a country is further along in the developing stages of its economy. This is because with the growth of industry in a country, the demand for education rises (Berg, 2007). With each stage of development, products typically become more and more complex. A country may begin by manufacturing textiles and clothing, but this may drive demand up for sewing machines and so instead of importing their sewing machines, a country will begin manufacturing its own sewing machines. These trends continue on and if a country seeks to eventually make the more high-end products that have higher margins and therefore can demand higher wage labor, then education must increase. Industrialization is a motivation for education and provides jobs for people with education (Berg, 2007). Although low wage labor makes it hard for families to afford school, industrialization brings urbanization and many studies have shown that it is much easier for urbanized populations to receive education than for the people of a rural demographic.

The question that must be asked is whether this is a sacrifice that a country should make; is the cost worth the benefits? Although economic benefits have been shown to increase in the

future, sociological benefits, income distribution, and general happiness that are all important in creating a better quality of life must be discussed.

A largely discussed side of industrialization is income distribution. Yes, industrialization has been shown to increase total GDP, but often this money is not distributed proportionately to the people in a country, which has led to the argument that industrialization does not in-fact increase individual quality of life. Li & Zhong focus this aspect of industrialization on the country of China and Nguyen & Ezaki focus on it in Vietnam. The Gini coefficient is typically used to indicate income disparity between populations and even in these two countries that are still largely centralized there is a good bit of disparity. These trends are commonly seen in any developing or developed country of the world. It is simple economics that cause this because the business owner almost always makes more than the common laborer. One cannot deny that income disparity exists in every country, yet even with income disparity, quality of life can be increased by a country's GDP growth in other ways. An increase in GDP means that the country has not only produced more products than before, but generally this comes with more money. Although the money is not always distributed equally to individuals, even laborers reap strong benefits from this growth. Roads and infrastructure are built with this money. Schools for their children and social programs are also derived from this money. Increased GDP caused by industrialization does affect individual quality of life; it is just often done in indirect ways that are much harder to measure on an individual level.

Low-cost labor is often associated with long-hard hours, but an individual's quality of life pertains also to their lifestyle when they are out of work. The review of the literature discussed an article by Lallukka, Rahkonen, Lahelma, & Arber who were able to see noticeable trends in sleep complaints and active laborers. These were very high, but also top level workers with high

amounts of responsibility were shown not to sleep well either. The study showed that too much repetitive labor or too much responsibility leads to impaired sleep habits. With this in mind, one must remember that most under-developed countries are focused around agriculture which would also involve high amounts of manual labor and sleep complaints according to this study. The study by Lallukka, Rahkonen, Lahelma, & Arber did show that those with mild amounts of both active work and responsibility slept the best at night with minimal complaints. These are the kind of jobs that are created once a country is transitioning from a developing economy with low-cost labor to a developed economy that has high amounts of service jobs. If a country allows for low-cost labor to be present in order to boost its economy, then there is a high chance that more service jobs will be created. Once again, the initial process of industrialization will come with some harsh working conditions, but once this creates a developing economy, even the country's individual quality of life will increase in the future. By making some sacrifice now, laborers can increase their quality of life for future generations.

#### **Section 4: Specifics**

The purpose of this section is to give specific historical examples of low-cost wages leading to greater wealth in the future. The three countries of Vietnam, the People's Republic of China, and Japan were chosen as examples. They are ideal because they are in the same general geographic location, yet they are in different stages of economic development. In addition to this, each country's government is different from the other which is important in showing that government policies do not always dictate economic growth; instead low-wage labor is also a strong contributing factor.

### **Vietnam: Early stages of a transitional economy**

The first specific example of a country in the industrialization process reviewed in this study is Vietnam. Author Dixon labels it as a transitional economy that still has a large rural/agricultural focus, yet one that has greatly increased its GDP due to the rise in industrialization. According to a comprehensive study done by Wagstaff, between 1990 and 2006, Vietnam had an average per capita GDP growth of 5.3% each year. This is a very high, sustained growth rate. Vietnam has an economy that has experienced high rates of economic growth and high amounts of capital inflow towards industrial investment. At the beginning of its economic reform in the mid-80s, Vietnam was one of the poorest countries in the world concerning per capita GDP (Dixon, 2003). It is a country that is still largely controlled by State-Owned Enterprises (SOEs) and where a certain amount of foreign investment has been discouraged due to the intense government regulations and the inefficient protection of private property (Dixon, 2003).

One of the reasons that Vietnam has achieved high growth rate is that it has one of the most globally competitive low-cost labor forces in the world, especially when it was initially beginning to industrialize. Around 1985, Vietnam had an annual per capita income of around \$200 per person and an estimated 70% of its population lived below the poverty line (Nguyen & Ezaki, 2005). For this reason it was high-labor industries like textile factories that first came to this country because to this day the industry demands a high level of human labor to complete the process. According to this author, the percent of the poor population fell from around 79% - 50% in 1993, and to 15% in 2002. Based on the food poverty line, the poor population fell from 25% in 1993 to less than 10% in 2002. Another source also looked into this issue and states that in 1993 the poverty percentage was 58% and that by 2004 it was under 20% of the population

(Wagstaff, 2009). Although these statistics vary somewhat, it can clearly be seen that the amount of people living under the poverty line in this country was drastically decreased at the same time that GDP was drastically increasing due to increased industrial development.

While GDP increased and poverty decreased, distribution of the increased wealth of the country was not equal. The Gini model is an international method for measuring income distribution in a country where 0 is perfectly equal. Wagstaff has written that, between the years of 1993 to 2004, the Gini coefficient increased from 0.34 to 0.37. This increase would be considered very moderate and the fact that the number remains in the 0.30s is very reasonable by most economist's standards when compared to global coefficients in recent years. According to Nguyen & Ezaki, 96% of this rise in inequality can be traced to the large difference between the rural and urban economies.

These authors also noted that higher income groups had the tendency to work in more developed industries and other formal services. In 2002, 90% of the people living below the poverty line worked in rural areas. Still, Vietnam has managed to maintain an unemployment rate of only 7% throughout the early 2000s which is high by even developed country standards (Nguyen & Ezaki, 2005). This number is slightly skewed by the fact that 20% of the working force has been noted to be underemployed (not receiving full time labor hours and therefore less annual income), which is a statistic that largely affects low-income workers.

As Vietnam is developing and general wealth of the country has continued to increase, there has been a rise in demand for high quality of life from the working class of people. Incidents such as the strikes at the Nike factory involving over 20,000 workers in 2008 have been clear indications of this (Mantsios, 2010). In the sectors that are not state-owned, the government is caught between making their country more attractive to capital investors and

increasing quality of life through increased wages and better work environment. This is why I see Vietnam as a perfect starting example of a country that became attractive and competitive on the global market due to its low-cost labor force. They were able to increase their industrialization and urban industry greatly which had buoyant effects on the country's GDP, unemployment rate, and percent of the population that is labeled poor. This was also shown to create a higher inequality concerning distribution of wealth and also harsh working condition realities. Between 1993 and 2002, the poorest 10% of the population accounted for only 3.4% of the total wealth whereas the richest 10% of the population accounted for over 27% of the total wealth (Nguyen & Ezaki, 2005). However, Vietnam is now in the beginning stages of protecting worker's rights and slightly increasing minimum wage standards. It will be shown later by the examples of China and Japan that Vietnam is highly likely to begin increasing its working conditions and total quality of life in the coming years. Even between the years of 2002 to 2006, the total consumption per capita (of food and other non-food items) increased by an average of 7% each year (Wagstaff, 2009).

The case of Vietnam is an historical example of a country that had social and income disparity under a low-wage labor force for many years and it is now beginning to not only increase their economy, but also their living and working conditions. It was this low-cost labor that attracted global industry and though conditions are rough in this country, it is beginning to reap the benefits that industry brought with it. Using utilitarian ethics, one can justify these temporary, harsh work conditions with the ideal that they were leading to a better future that would not have happened without them.

### **The People's Republic of China: Later stages of an industrializing economy**

In some ways, China is much like a more powerful/influential version of the Vietnamese economy. They attracted global industry by opening their country's doors to being the low-cost, manual labor force that could make products cheaper and therefore more competitive, yet over the last thirty years, this country has greatly evolved from this standard of labor and conditions. Major economic reforms began around 1978 when more than 80% of the population was rural (Thorborg, 2006). It was around this time that China opened its doors to global industry to create more jobs for the large population. By 1994, just over fifteen years after this time, China was able to double its GDP twice (Sun, 1997). This was not just a burst of growth for this country either. If we look at the years between 1990 to 2006 (another period of just over fifteen years) we see that China's per capita GDP continued to grow at an average rate of 8.5% each year (Wagstaff, 2009). Even during the global recession of 2008, China maintained GDP growth rates over 8% indicating continued economic strength.

The fact that China has decreased government control of many economic sectors cannot be overlooked and therefore it will be briefly discussed. Reforms have happened fast in this country where in 1988 the government employed 38.7% of the population and less than ten years later in 1995, it employed only 27.3% of the population (Li & Zhong, 2009). Although this paper seeks to focus on labor cost as a factor that increases economic growth and minimize discussions about the largely study political economic factors, there are some interesting trends that tie-in with quality of life. Before economic reforms began in the early 80s, China's rural population received very low wages and income with the idea that the government would provide extended social coverage to meet the population's extended needs (Thorborg, 2006). When the country started industrializing and the government allowed for more FDI to instate itself into the economy, there were concerns about who would provide welfare. The workers

were still paid very low wages and induced into harsh sweatshop conditions. Reforms in the 1990s did allow for standards of minimum wages and such as to be established, but healthcare benefits were still meager. During the 1990s, the Gini coefficient increased from 0.31 to 0.39, indicating a higher wealth disparity in this Communist country. With time though, the system has begun to balance itself out as the cost of labor in China is increasing. In the early 2000s, China's per person saving rate was extremely high because they had less consumer confidence and therefore wanted money saved-up in case of an emergency (typically medical since the government had reduced these benefits). In recent years – even with the global recession of 2008 – China has become one of the biggest domestic consumer markets in the world. This does not only indicate market strength and consumer confidence, but it also indicates the existence of excess income which the country can spend on commodities. Household needs are being met better (not perfectly) and quality of life has increased by this standard in urban China.

The increased industry did not only affect the country's GDP, but it also affected the population's welfare. The country's poverty population based on food availability reduced from 22% in 1990 to 8% in 2001 (Wagstaff, 2009). As wages increased, so did educational programs and an emphasis on manufacturing education in particular became much more important to the Chinese society. With education came educated labor which demands a higher price and ultimately creates better job and financial conditions for the educated man or woman.

Having spent some time in the People's Republic of China in 2012 working for a manufacturing consulting firm in the capital city of Beijing, I was able to gain many contacts that hold insightful information into the trends that this rise in education is leading the Chinese economy towards. One gentleman in particular that I worked closely with has worked in the country for over twenty-five years in the manufacturing sector of the economy. Having owned



many companies and seen many trends flow through the country, his insight into the topic of Chinese manufacturing is invaluable. Referring to him by a pseudonym, Mr. Burton, he was able to explain some of the more recent trends that the Chinese economy has gone through.

According to Mr. Burton, only ten years ago the number one reason that foreign companies would move their manufacturing to China was because of the low cost of labor that the country offered. The second most common reason to move a business to China was to source parts as once again it could be done cheaper there. The other reasons that a business might enter the China market were for its engineering talent which was low-cost and effective and the final and much less important reason during this time was to make products for the country's domestic market. Mr. Burton explained that this is a trend that in the last few years has been almost completely reversed. Now the number one reason that new manufacturers are entering China is to compete for a share of the domestic market which has become a huge wealth of consumers. The second reason manufacturers move to China is that the engineers are highly qualified, but they are still one-third the cost of the average American or European engineer. Although China's labor is still relatively low cost, there are many countries where it can be done cheaper (examples like Malaysia and Cambodia) and therefore simplistic manufacturing is largely leaving China and instead more technical manufacturing which requires engineers and other educated labor is increasing.

These trends are of great economic significance concerning the country's standard of living. They are leaving the basic phases of industrialization and beginning to enter into more sophisticated markets. This is a trend that most post-industrial countries have followed and it has been shown to be a healthy trend. At this point in China's economic development, the advantage of simplistic low-cost wage labor is no longer as significant as before because they are focusing

on other methods for remaining globally competitive, but many sources have indicated that it was this advantage that brought the initial influx of industrial jobs into this country that was once strongly rural. Working conditions were not the best during the initial phases of growth, but the information above indicates that conditions have gotten much better and that they are projected to continue to rise.

### **Japan: A developed economy**

Modern Japan had a second ascension of industry. Pre-WWII the country had been extremely modern and industrialized for its time, but for many years after this war it suffered. It received an estimated 500 million USD per year from 1950 to 1970 of aid from the United States to help rebuild (Loaiza, Rivas, & Rangel, 2008). In order to build their country and re-create their economy, Japan found itself in a unique situation. It was a country that was willing to work at a very low labor cost and therefore it could compete with other developing nations through this advantage. On the other hand, it had the high labor productivity that was equal to any fully developed nation (Drucker, 1987). Japan was able to do many of the more intense industrial processes that during this time only developed nations had the infrastructure and technology to do, yet Japan had the cost advantage and it could therefore do it at a cheaper rate. By 1965, Japan had surpassed its era of post-War rehabilitation and begun a period of high economic growth (Hara, 2011). This is why Japan focused on exporting labor-intensive technological products like the cars which is an industry that Japan developed in the rebuilding period after WWII. In other developed countries, these types of industries already had unionized workers and so Japan was able to gain a large market share through competitive pricing (Drucker, 1987).

Japan was the leader of the Asia-economic boom that has become so influential in the last 30 years (Loaiza, Rivas, & Rangel, 2008).

By the 1980s, Japan's economy had become the second largest economy in the world and with that came a demand for higher quality of life (The World Bank, 2012). Labor became unionized and therefore more costly, but Japan found ways to remain competitive through excellent management development and factory automation (Loaiza, Rivas, & Rangel, 2008). Japan's economy is still the third largest in the world and although its growth in recent years has become much slower, it is considered to be one of the world's most developed nations. Like the previous examples of Vietnam and the People's Republic of China, Japan used low-cost labor in conditions that were not ideal to create a competitive labor market. This was most definitely not the only reason that the Japanese economy expanded exponentially, but it is an important factor that cannot be over-looked. Also, much like China, Japan had a twenty year period before 1973 where the average economic growth was around 9.1% and then Japan had a more stable twenty years after 1973 where the economic had a more steady growth rate of around 3.8% each year (Hara, 2011). It appears that China has been following a similar trend.

Quality of life of the people of Japan was largely affected by increased jobs and income in the country. From 1955 to 1975, the amount of people registered in the "lower" strata of the income bracket greatly declined while those registered in the "middle" income bracket increased by 75% during this time (Hara, 2011). This marks the trend from the Japanese industry using very low-cost labor to the Japanese increasing wages and obtaining better jobs to create a healthy middle class. As would be expected, with the growth of the middle class, education increased and the mortality rate decreased. One interesting factor for Japan is that overall, the Gini rate decreased slightly from 1955 to 1995 showing that there was less income disparity between the

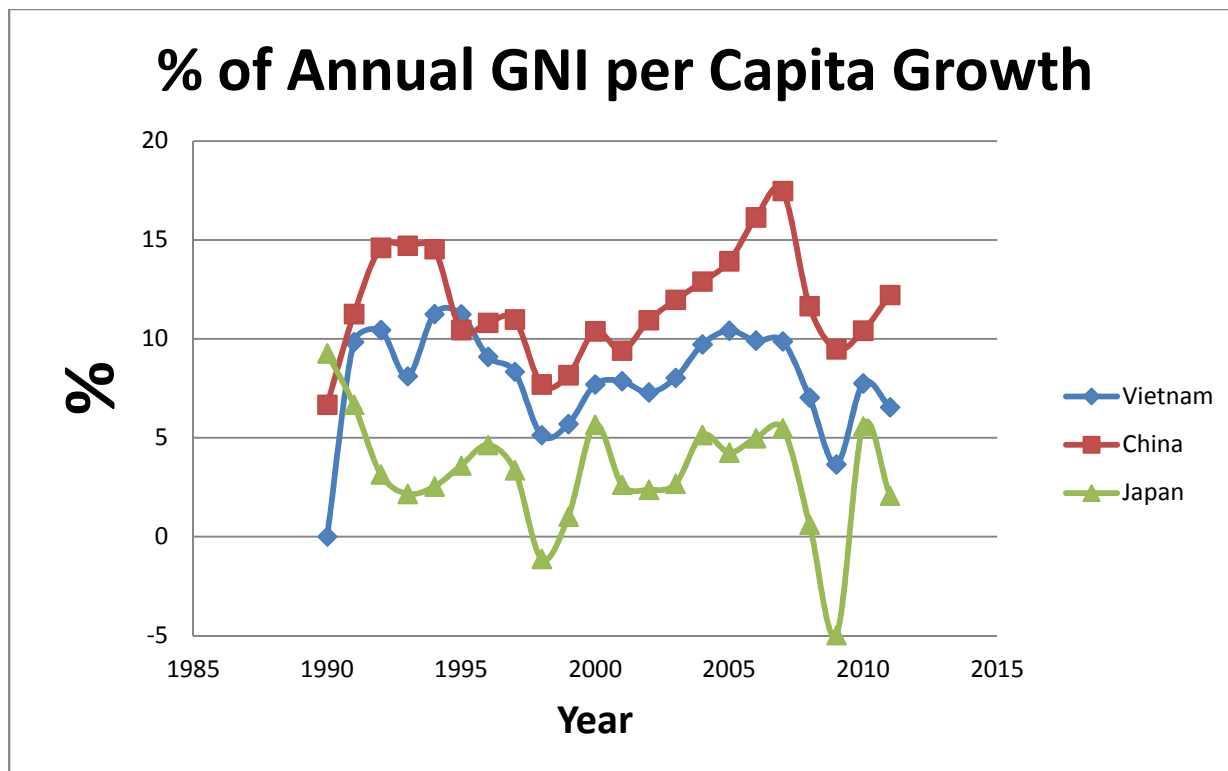
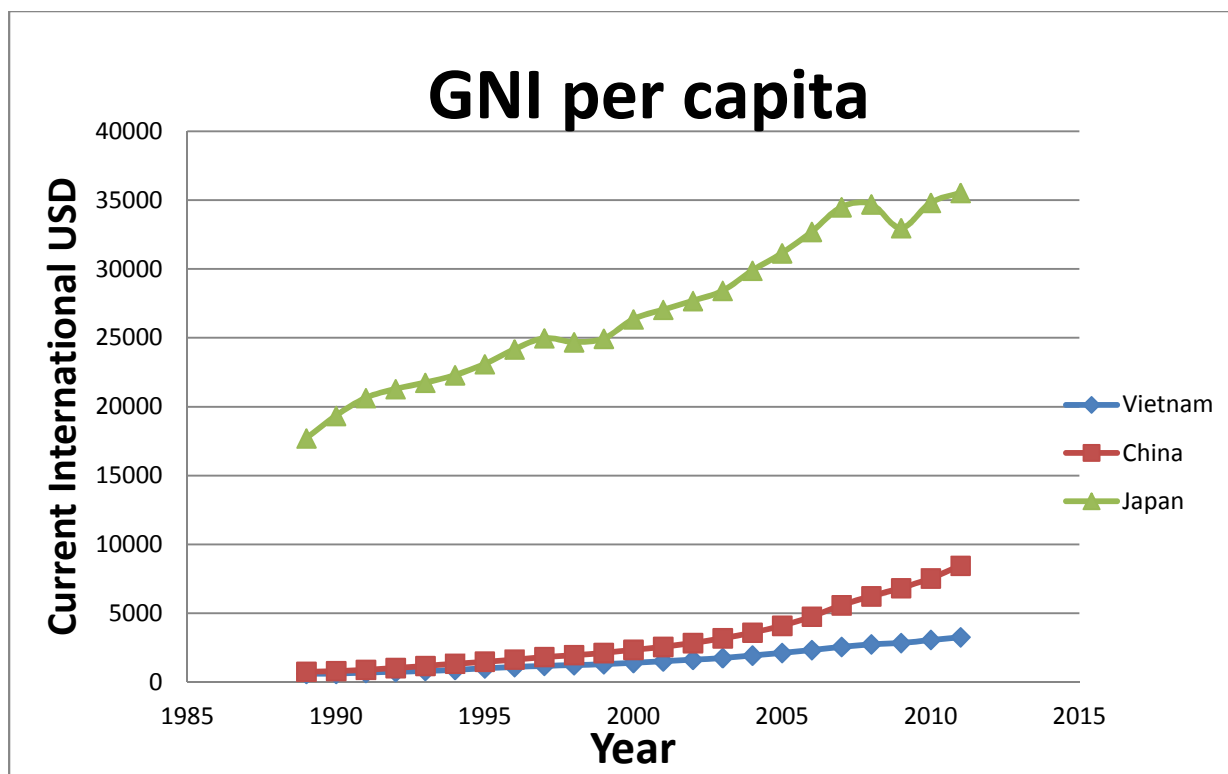
rich in the poor over time (Hara, 2011). This is contra to the trends seen in China and Vietnam and it can be largely attributed to the wealth of the Japanese middle class.

**Charts:**

The Chinese, Vietnamese, and Japanese have all been discussed in detail through the information above. Trends were identified from the countries and examined. Below are seen two charts which list the Gross National Income per person for the countries that were recently discussed: Vietnam, China, and Japan. Unlike GDP, GNI per capita indicates the average of how much an individual in a particular country is receiving each year. The statistics begin in 1990 and continue through 2011. The charts were created using information from the World Bank website (2012), which compiles global data. Income per year is measured as a standard of current United States dollars.

It can be seen in the first chart that all three countries have experienced a growth in GNI over the last 11 years and that even during the recession of 2008, the industrializing countries of China and Vietnam maintained growth, although Japan (being a post-industrial country), did experience decline during this time.

The second chart is important because the first chart makes it appear that Japan has had greater GNI growth in recent years, but the second chart shows GNI per capita as a percentage of annual growth. Using this chart we see that China has maintained steady GNI growth rates since 1990 that are usually over 10% whereas Japan's growth has been much slower. The average percentage growth for Vietnam from 1990 to 2011 was 7.9%, for China it was 11.7%, and for Japan it was 3.3%. These increases in GNI of developing nations indicate a rise in income which would increase the population's ability to increase their quality of life.



**Conclusion:**

The historical trends that have been indicated by the three countries of Vietnam, China, and Japan all indicate that these countries were able to achieve significant economic growth because of industrialization. Low cost labor was clearly not the only advantage that these countries had during their respective industrialization periods, but this thesis study has shown that it is of high significance. It was indicated that if a country uses low-cost labor to boost its economy, the conditions that the workers are in and the pay compensation itself are often not ideal. This is a sacrifice that often comes with economic growth and yet it is a sacrifice that can be justified if the low-wage laborers look to the future of their country and families because if economic growth occurs, then working conditions and general quality of life for the entire country will improve. This thesis does not seek to answer whether allowing tough working conditions and low payment is the right or wrong decision, it merely seeks to observe this trend and provoke the readers to decide for themselves whether sacrificing now can justify the creation of a better standard of living for a country's general population in the future.

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