

To Understand the World in 2050, We Need to Look Back at the Years 2000-2010

Holland Professional Club Presentation

By P. J. Thompson

March 2009

Note: What you are about to read is fiction!

The Economist

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Understanding our world at the 21st century mid-point; Looking back to the millennium decade.

Section 1: Introduction

It is March of the year 2050. We have arrived at the midpoint of the 21st century. We are still very early in this millennium and we are well entrenched in the “Modern Era”. This time milestone, 2050, has arrived to a lot of global fanfare and for good reason. Many of us acknowledge that right now, we have probably never had it quite this good.

To help us appreciate the well being of our current times, it might be helpful to look back to what got us here. I would propose that to truly understand the world in 2050, we need to look back to the first decade of this century. That would be the “millennium decade”, the years of 2000 to 2010.

So often, when we look back at our history, we construct a “timeline” sort of approach. We pick a date and then we present a chronology of events, working our way to the present, often with a rather anti-climatic arrival at the present time. Here, we are going to try something different. Rather than a review of history, this may seem a little more like a basketball game where we travel back and forth from the millennium decade of 2000-2010, to today. While we go up and down the court, we will touch on a few things that might have been important towards bringing our world to where we are today.

So here is this “tip-off” and the ball goes to our current time, today, the year 2050. What a time we live in! We as a people, now bask in a confidence of well being. We can credibly say that we are living sustainable, while only 40 years ago our sustainability was a lingering nightmare for concerned minds.

Perhaps even more satisfying is that, we as a global people believe that we are governing ourselves competently. Just 40 years ago, daily media routinely reported episodes of government folly in the manner of popular entertainment. Today, we also believe that we are not only economically prosperous, but we are economically competent as well. For sure, we still have plenty of challenges. But, with a look in the rear-view mirror to the millennium decade, we can see that we have come a very long way. Perhaps underlying our busy world today, it is not so much our technical progress and systematic solutions that we need to celebrate as much as the sense of global “well being” we have achieved.

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If we go back to the millennium decade of 2000-2010, global “well being” was likely not a common feeling among the people of those days. As difficult as it might be, we today, in the year 2050, need to think hard and try to put ourselves into the minds of the people of the years 2000-2010. This is as tough for us today as it would have been for someone of 2000-2010 to put themselves into the mindset of the 1960s. But this is what we need to do. To help, we will go back to the millennium decade and take a look.

Section 2: The Millennium Decade

The decade of 2000-2010 was a rather confusing and troubling time. It may be easy for us in 2050 to recognize that the millennium decade was a true gateway out of the 20th century. It would have been interesting if you had tried to tell that to someone during the years 2000-2010. To them, there was nothing nostalgic nor charming about those times. The mindset during the millennium decade was quite troubling. Some of the people during this time would actually start to view themselves as a paying a penance of sorts for what they perceived as sins of the recent past. What sins did they think they had committed? In some minds the sins of private and public excess, and of government and economic incompetence. Some of the people of the years 2000-2010 viewed themselves as inheriting a world from “the greatest generation” that had preceded them. This refers to the WWII generation who were viewed to have sacrificed so much of themselves for their posterity. Perhaps more accurately the people of 2000-2010 viewed themselves as having life ways that were unsustainable.

What contributed to such a troubled mindset?

Many of us today forget that this first decade of the 21st century was preceded by some significant years of prosperity. From about the mid 1980's up until 2007, the world experienced an overall ascent in economic progress (although unevenly distributed). For sure, there were a few cyclical recessions, but overall things progressed. At the time, Information Technology was one of the technical advancements most visible to the world. There were also developments at the time with what was then referred to as alternative energies. In reality there were many technical progressions at various stages of infancy, they just had less visibility.

At the time, the United States was deemed the lone superpower. This was due largely to their unsurpassed economic, political and cultural inertia. But the world of that time was experiencing the prominent and complicated rise of other powers, namely what was referred to then as the BRIC countries (i.e., Brazil, Russia, India and China). This resulted in some troubling undercurrents in those days.

Looking back from the time of the millennium decade, the United States had gone through a succession of presidents that were each significant in their own way. Throughout the early-to-mid 1980's, the globally charismatic Ronald Reagan put the U. S. on a trajectory to be the lone global superpower. Though largely successful, he inadvertently, left quite a wake. Reagan's focal points were military strength, government minimalization and economic deregulation. Reagan was succeeded by the first George Bush. An able caretaker, Bush the 1st was plagued by an inability to articulate the prudent global vision he truly possessed, and also by having insufficient connections

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with the American populous. Bush the 1st was followed by a popular modern upstart named Bill Clinton. Full of industrious energy and late 20th century political acumen, Clinton was truly a man of the 90's and of his generation, including a highly publicized middle life crisis. Both Clinton and his successor, George W. Bush, (son of the previously named president and referred to now as Bush the 2nd) highlighted some flaws in American political leadership. Both Clinton and Bush the 2nd were enigmatic personalities. They were real characters. In the case of Bush the 2nd, his presidency is remembered by his administration's consuming reaction to the tragic terrorist attack that occurred in New York City on September 11, 2001. Bush the 2nd is viewed now to have failed in providing sufficient attention to matters of superpower sovereignty other than what was deemed at the time "the war on terror". This was coupled with numerous incidents of executive and administration incompetence. As a result, this presidency cast a cloudy shadow on the mindset of the millennium decade. Some of us today, remember the U.S.'s self initiated invasion of the country of Iraq. At that time, it was hoped in some circles, that success or even extended action in Iraq would ultimately restructure the Middle East region. Despite the peace this area knows today, the U.S.'s actions at that time, are now regarded as a policy blunder that has a spurious relationship with the peace the Middle East knows today.

Accompanying this troubled mindset were other undercurrents. The people of this decade came to acquire a haunting perspective about the earth's environment and what modern human life ways were doing to it. A prominent thinker at that time was the former Vice President, Al Gore. Gore conducted some serious study and engaged in promotional activities that brought the subject due attention but inadvertently, a fair measure of public lampooning as well. The concept of "global warming" was not fully appreciated by the populous of the millennium decade. The term actually conjured up humor in certain circles especially during regularly recurring winter cold spells. Also, at the time, the world became more seriously aware of its energy dependency. At the time remember, fossil fuels continued to exclusively power the world. This was made especially acute by the rapid development of the BRIC nations and in the absence of the energy solutions we routinely utilize today. What became the focal concept, coined in these years, was that of sustainability. Today, we enjoy, an ingrained acceptance of the many ways the concept of sustainability has become integral to our life ways.

During the global challenges of this millennium decade, the United States remained every bit center stage to the world events being played out. The U. S. was blamed globally for seeding many of the geo-political problems of the day. The world in this decade viewed the U. S. as a virtuous, but flawed nation that possessed a number of problems that they could not solve for themselves, and problems that spilled into the Globalized world.

What else was underlying this harsh global view of the U. S. during the millennium decade?

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Section 3: The World Wide Recession

If we had to pick one point in time to answer this question, it probably would be the year 2008.

Remember, the autumn of 2008 marked the start of the WWR, the World Wide Recession. Again, it is important to pause and reflect on this. We need to remind ourselves that while we today, in 2050, look back rather fondly to this as a defined period, in which the seeds to so many solutions were planted. But to the people of 2008 and the immediately following years, this was anything but a fond period as they lived through the weeks, months and eventually years of challenges.

For sure, there were a lot of problems in those days. The major problems seemed at the time to be economic and clearly they were. This was the era of “stimulus plans” and government spending to “prime the economic pump”. The very concept of Market Capitalism seemed in serious question. You have to remember that everything at the time carried the popular adjective “unprecedented”. Each weekend, newspapers would compile a “week in review” that highlighted a different and more harrowing aspect of the Global economic problems. The global economic world seemed to be at verge of collapse. At the same time, deep inside most concern minds was the realization that several more practical economic problems remained unsolved. This was the WWR, the World Wide Recession.

So from our point in the year 2050, can we imagine living through an era that was a bridge between the late 20th century prosperity and our well being of today?

The causes of the WWR are now economic folklore.

With all the seemingly unsolvable problems, where did a person of 2000-2010 think the solutions would be found?

Could it be in one of their “Stimulus Packages” that seemed absolutely critical but at the time almost unfathomable to the people of this era?

Ironically, the ultimate solutions to the WWR and many other problems of this era came not from the over-sized stimulus packages. Nor did it come from any brilliant new discovery or single idea. Rather the solutions came largely from refreshingly friendly sources. We understand now, that many of the solutions that are the foundation of 2050's well being are the products of our collective knowledge that actually existed in full abundance during the actual times of crisis. In addition, it is now pleasantly ironic that some of our previous perils actually did hold profound solutions all by themselves.

So let's start by going back to the World Wide Recession itself and its eventual recovery.

It may be helpful to remember that the root cause of the WWR was a global glut of product and service supply combined with a situation of grossly overvalued assets. Most visible were the overvalued assets (namely stock equities, residential homes and real estate properties). The highly publicized causes, (ie., financial innovations, unscrupulous mortgage lending practices and years of insufficient government regulation) have been thoroughly analyzed over the decades. The fact that a global financial crisis was triggered and a prolonged global recession resulted, is also well understood now. Today

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in 2050, we know that government stimulus and the regulation network structured at the time eventually saved the global financial system or perhaps more accurately worded “prevented a financial Armageddon”. (Note: it was correctly assessed at the time that saving the global financial system was the essential first priority).

But what was it that eventually pulled the world out of the existing World Wide Recession?

The DNA of the eventual solution can be traced by taking a different look at national income accounting along with some demographics that were playing themselves out during this era.

It has been long known that the key measure of an economy’s overall performance is Gross Domestic Product (GDP). This is the total value of final goods and services provided in a given period. Historically, there have been 2 approaches to assessing GDP.

One approach is to assess GDP in terms of the sum of all the money spent on “buying it”. This is referred to as the “expenditures” approach. Alternatively, GDP can be viewed from a perspective of the income derived from “producing it” which is referred to as the “income approach”.

Roughly speaking, the “expenditures” approach is mathematically the summation of:

- C: consumption expenditures of households
- I: investment expenditures by business
- G: government purchases of goods and services, and
- X: net expenditures by foreigners

There are certainly mathematical manipulations within this formula. For years much of the reported media referred largely to this approach when reporting on the economy. It had a visible and intuitive appeal. As a result, many policy makers for years turned to solutions focused on “consumption by people” or “spending by government” or “higher levels of investment” as a direct means to meet fundamental economic challenges.

The alternative approach, the “income approach” is admittedly more complex. It is a summation of numerous, relatively abstract factors which include: compensation of employees, rents, interest, proprietor’s income, corporate income taxes, dividends and undistributed profits. This in turn must be further adjusted by indirect business taxes, consumption of fixed capital and net foreign factor income earned in the U. S. ultimately arriving at GDP. This is a convoluted calculation for sure, making it hard to write exciting stories about and difficult to directly access for policy making. However, the “income approach”, despite its “user unfriendliness” more strongly points us to the vital and unappreciated factor which ultimately was the root to the recovery from the WWR:

Personal Income.

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Mathematically, a mere quick adjustment to GDP for social security contributions, corporate income taxes, undistributed corporate profits and transfer payments will give you: Personal Income.

Some key things were realized from the recovery from the WWR:

An over emphasis leading to over encouragement of factors especially consumer consumption and government spending can lead to bad problems in and among themselves. Episodes of inflation and deflation and deficits and gluts of over supply can be the inevitable collateral damages that by today's standards are deemed unnecessary and unacceptable.

It is Personal Income that is a root factor that should be focused on, monitored and encouraged to grow, for an economy to prosper. Other factors, although vital in their own way, if over emphasized or inappropriately manipulated can carry the potential for imbalances and excesses that can be unnecessarily crippling to an economy. This played out painfully during the years of the WWR during which large protracted declines of asset values were experienced. It was not until the global economy adjusted to GDP levels more reflective of the aggregate personal income of the people in the world that the economy found a foundation upon which it could build from and from which economic policy could be based.

But so what?

Back in the millennium decade, multitudes of people were becoming unemployed which had globally devastating effects on personal income. How could personal income possibly be a factor key to the economic recovery from the WWR?

The ultimate answer would be found in some fortunate demographics, namely, the emerging middle class. Today, in 2050, we recognize this as a key demographic, correlated not only with the recovery from the WWR, but with other social problems which we will soon discuss.

For numerous decades, the middle class has been defined in various ways by different societies. A helpful definition has been: a group whose member's personal income leaves 1/3 for discretionary spending after providing for the basic necessities of food and shelter. This definition is especially useful because by its nature it somewhat factors in the purchasing parity of people regardless of what nation in which they reside. During the years leading up to the world wide recession, the millennium decade was recognizing the growing middle class in the largest developing counties such as China and India. However, at the time, there remained justifiable worries about the growing middle classes in China because of its communist dominated government and in India for a variety of government and social reasons. But what was not recognized at the time, and what has played out, from the time of recovery from the world wide recession, up to today, is an array of economic and social behaviors of a middle class that has emerged globally. The impacts of the global middle class are rooted in their very situation. These impacts are magnified by collective attitudes and they are then multiplied by collective ideas and actions. Our world today has been the beneficiary.

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How has this worked?

First, the situation of the middle class is that they are neither rich nor are they poor. This means they are not exempt from participating in the mutual struggle for existence, but at the same time they are not living on just sustenance. Governed competently, this creates not only expanded markets for goods and services; it also provides the workforce, the energy and the innovation on which economies thrive. With this come acquired attitudes. A concern for the well being of offspring becomes more prevalent. This encourages far greater development for human capital. A tolerance for delayed gratification is nurtured. People become more optimistic, happier and more influenced by abstract ideas as opposed to limited local traditional beliefs. Middle class people become more tolerant of one another and more supportive of their governments (again assuming competence).

What have been some of the more practical results of this?

Over the past 40 years, the global middle class has literally transformed countries and economies across our globe. What we did not fully appreciate in the decade of 2000-2010 was that it is the middle class that is much more likely to generate new ideas, invest in new technologies and invent new products, as opposed to the rich that tend to defend their existing assets. As people across the globe moved more into the middle class, their abilities multiplied, enabling them to leap barriers to entry into business, creating new companies, new products and services and multitudes of job opportunities.

Going again back to the millennium decade of 2000-2010, it was an unfortunate, but perhaps unavoidable set of circumstances, that for decades and decades, economic policy makers shaped policies to encourage unlimited top income potential with the hopes the successes of the rich, would “trickle down”. Simultaneously, these same several decades saw policy attempting to “include the poor”.

It is a combination of fortunate circumstance coupled with a measure of wise recognition that the middle class is now established as the true motor of economic growth. The WWR was a painful and perhaps too long period of suffering to learn this lesson. Yes, the “Financial Stimulus” measures of those days did prevent a total global collapse. Many of today’s regulation measures had their origin during that period. But during that 5 year episode, roughly 2008 through 2012, a major and rather permanent adjustment to global wealth occurred. There was no big “bounce back” in asset values, neither in stock equities nor in real estate. Likewise there was not a roaring spurt in GDP growth, and we now, in 2050, can be thankful for that. Rather what we saw actually starting in about the year 2010 was a large measure of global resiliency. The world saw a generation starting to take stock in itself under the realization that this was their time and the crisis for their generation to figure out. The “good life” became redefined, and as we will soon see, it fit right in with the times ahead. In summary, the WWR recovery was a result of the global economy adjusting itself to the measurement of personal income what ever its per capita measure might be multiplied by a growing global middle class. All asset values, all investment and eventually all GDP found a foundation it could work from.

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Section 4: Government Competence

During the years of 2000-2010, the dramatic emergency involvement of government was extremely alarming. These were days of true crisis. Had the governments of nations not reacted as they did, global calamity would have ensued. In the United States and in other capitalistic nations, great public versus private arguments took place. The country of China, with its emerging middle class, cast worries across the globe as to the ability of their one party central government to effectively manage the myriad of development challenges that they faced. Over the same years, in the U. S. there emerged concern over the competency of the people elected to government positions. It seemed elected offices increasing failed to attract higher caliber individuals.

During the millennium decade China and the United States were still trying to figure out the nature of their relationship with one another. A substantial amount of business and social interaction had accumulated. Despite this, there existed large issues between China and the U. S., a few of which continue to play out today. During the years 2000-2010 there was no question that fates of China and the United States were deeply interconnected.

In the year 2050, it is a comfort to the world that these two powerful countries are allies. Over the years it has been interesting for the world to watch China and the United States work through a number of misunderstandings and in the process, each country, actually improving itself. An area that misunderstandings have played themselves out, to the benefit of both countries, is that of government itself, and specifically in the areas of central control, democracy and competence of elected officials.

Going back to the millennium decade, the United States had a lingering distrust of China partially because of the perceived extent of central control of its one party the, Chinese Communist Party, the CCP. With much of the daunting transition of China's economy yet to be played out, coupled with the WWR, China, in the eyes of the United States was heading for serious trouble in the years ahead. Many in the U. S., as well as others in the world, quietly believed that China's central government would not be able to manage the challenge.

What the U. S. and the world misunderstood was how much government power was truly "decentralized" in China. Although highly visible, when it came to actual governing, China had a huge head start in the development of its local governments. Yes, China did for years have a justified reputation for local government corruption that is common among almost all developing countries. Little known to the rest of the world at the time, China's economic development policies played a crucial role in the establishment of local government bodies across the vast country. China did this inadvertently through its system of value added taxation, VAT. During China's early economic rise in the 1990s and in the millennium decade, it instituted a 17% VAT on most manufactured products. Under this system, VAT was levied on goods as they move from the raw material stage through various processing stages and then on to the customer. This tax has been collected in this manner throughout China for decades, although significantly lowered in recent years. The effect was a large build up of funds for local governments who were able to retain significant portions of the VAT taxes. Local governments being flush with cash were able to attract good pools of talented individuals.

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After gaining an understanding into this situation, shortly after the recovery from the WWR, none other than the United States was able to help China with the daunting task of becoming more democratic. However, for the U. S. to truly help China, it had to clear up another significant misunderstanding. This was the misunderstanding that the majority of Chinese people early in this decade wanted democracy. Despite highly publicized protests and propaganda of those times, for the majority of Chinese people, especially the masses in rural area, this just was not the case. In the Chinese mindset, complete with misunderstandings of its own, democracy had deep flaws. The Chinese flawed view of democracy held that all things, elected officials as well as policy were up to a majority vote, "50 +1" as they would commonly phrase it. The Chinese long held to their Mandarin philosophy, that government positions should be held by people of established competence, not necessarily popularity. Further, policy decisions are best made by a group of wise elders rather than thrown to the fate of a crowd. Flawed as this may have been, it was a real mindset well established across China. It was the United States that helped China educate its masses on the distinction between pure democracy and a representative republic. This proved to be invaluable assistance to China and enabled both countries to bond ever closer.

It may seem remarkable today, in 2050, that China's government continues to be controlled by one party, the CCP. The CCP has made great strides in the areas of transparency, freedom of speech and human rights. And there is certainly a sense of stability that the Chinese people crave. But truthfully, it is the competency of the countless local governments that have made China the vibrant power it is today.

What did China pass to the United States in return? For that we can today look at our nation's comprehensive civil service examination series which virtually every elected official in the United States voluntarily completes almost without exception with the results being a matter of public record. Many of us here in the year 2050 recall back to some disturbing trends in western politics particularly in the U. S. It seemed increasing numbers of elected officials were becoming embroiled in a wide variety of personal episodes. Everything from hiring illegal alien nannies, to failing to pay taxes, to marriage infidelities keep being publicized. In truth it was actually only a minority of elected officials actually engaged in such shenanigans. Most in the U. S. accepted this as part of politics. However, over the decades, political scientists came to the stark discovery that the cumulative effect of this, over time, was a dramatically reduced propensity of the "best and brightest" of our populous to seek elected office. This propensity was studied to exist for elected officials at all levels, federal, state and municipality. With consideration of the troubles governments faced, especially in the years following 2000-2010, this was to become a problem. Just one of a number of corrective solutions was the implementation of the comprehensive civil service examination. Today, although not legally required, it is a credential that virtually all elected officials ascribe to. While standardized tests continue to have known limitations, this one in particular has given the public and the media one discrete measure of competence for elected officials. Ironically, the best and the brightest have aspired to project themselves using this measure.

Going back to the year 2008, we should remember that a unique first for elected offices occurred in the United States. That was the election of the first African American

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President, Barack Obama. Former President Obama, today at age 87 is America's oldest living ex-President. President Obama proved to be the right leader at the right time for the U. S. and for the world. Viewing Obama's 8 years in office today only reaffirms that those years were a true gateway between times of structural collapse and that of renewal. Clearly, not all of the vigorous legislation achievements of that era were successful. Equally evident is that the vast majority of measures enacted during the Obama years were discontinued, some even reversed. For as we know today, life, economics, governing and even politics itself continues to follow cycles. Ironically, after President Obama, the United States would not elect another African American President until a completely overhauled Republican party would put forth President Tiger Woods in the year 2036.

Section 5: Sustainability

Aside from economics and politics, it is important for us to take stock in some other aspects of our well being here in the year 2050. Back in the years of 2000-2010 the WWR seemed to eclipse everything. But lingering in the psyche's of the people at that time were some other major worries. Would their current life ways be sustainable? Would they deplete the energy sources their world had become dependant on?

Over the past four decades the concept of sustainability captured the essence of these worries. It probably would not have been any comfort to our predecessors in the years 2000-2010 that they were by no means the first group of humans to grapple with this.

Earlier in this piece we referred to the concept of "collective knowledge". Throughout mankind's history our accumulation of learning has enabled us to tap into our environment to access resources for our sustainment. However mankind's success in this endeavor has not been a smooth ascent of progress. We know, that throughout centuries of our own history, we have had numerous episodes of elevated progress followed cyclically by decent sometimes to the point of collapse.

For an illuminating body of study conducted on this very subject, we can refer to the 18th/19th century philosopher/economist Thomas Robert Malthus. Malthus was actually a minister of the Church of England and a professor of history and political economy. For his day he, developed some rather profound economic and demographic theories. Malthus thought hard about the subjects of human's capability to sustain itself relative to human progress and human population growth. It was Malthus' position that human population grows "geometrically" (meaning by multiplication) while human progress and therefore resource availability grows "arithmetically" (meaning by addition). The conclusion of this position is that human population growth eventually outstrips available resources generated by progress and that the ultimate results are occurrences or even combinations of famines, diseases and calamities resulting in collapse. These episodes are now commonly referred to as Malthusian Cycles. In truth, all episodes in history that were labeled Malthusian Cycles were actually regional , meaning a society or regional area experienced development, expanding population then eventual crash due to the populations inability to sustain itself. All of this would probably have seemed over dramatic to the average person in the years 2000-2010, but concerned minds really did question if mankind would out grow the capacity of his environment. Could our world of 2000-2010 be heading for some sort of global Malthusian Cycle?

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But back in the years 2000-2010 the numbers were already showing ominous revelations. Specifically, in the preceding 20th century, global population had quadrupled. Although the global economy had increased by 14 times, energy use had increased 16 times. Further troubling was that water use had increased 9 times and carbon dioxide emissions 13 times.

We noted earlier the dramatic rise in the emerging middle class, particularly in countries like China and India. We noted how this emerging middle class, multiplied by its per capita income would eventually lead the world to recovery from the WWR of 2008-2012. Surely this would be accompanied by increased global consumption.

Early in the millennium decade, Lester R. Brown wrote a warning about projected consumption levels:

“If the western model were to become the global model, and if world population were to reach 10 billion during the next century, as the United Nations projects, the effect would be startling. If, for example, the world has one car for every two people in 2050, as in the United States today, there would be 5 billion cars on earth (about 10 times the number of in the millennium decade). Given the congestion, pollution and the fuel, material, and land requirements of the current global fleet of 500 million cars, a global fleet of 5 billion is difficult to imagine. If petroleum use per person were to reach the current U. S. level, the world would consume 360 million barrels per day compared with current production of 67 million barrels.”

Lester R. Brown wrote warnings about food consumption:

“Consider a world of 10 billion people with everyone following an American diet, centered on the consumption of fat-rich livestock products. Ten billion people would require 9 billion tons of grain, which is the harvest of more than four planets at the Earth’s current output levels. With massive irrigation-water cutbacks in prospect as aquifers are depleted and with the dramatic slowdown in the rise of land productivity since 1990, achieving even relatively modest gains is becoming difficult.”

So for our predecessors, living during the years 2000-2010, not only did they have a WWR to contend with, there were some pretty scary trends gaining recognition. But here again, during the perils of the millennium decade there were some positive things that were already in the process of playing themselves out.

One such thing pertained to overall global population itself. Yes, global population throughout most of the 20th century grew at a spectacular rate. However, in the few decades leading up to the millennium decade rates of population growth had actually already started slowing. A “demographic transition” had been occurring. This “demographic transition” had multiple studied causes. In order to recognize perhaps the most important cause, we need to go way back to the life ways of our Agrarian predecessors, the peasants, who needed as many children as possible for practical reasons but at the same time faced of high rates of child mortality. As the agrarian peasant life way faded away, people became wage earners many living different life ways in cities with new means of life support and therefore not as dependent on having a large number of children to provide for their social security in old age.

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The slowing of global population growth was actually startlingly apparent in wealthier capitalistic countries. By the millennium decade the fertility levels of such countries had fallen below 2.1 children on average for every woman which was deemed as the "replacement level". This meant that existing populations would be nearly maintained but would not grow. Any population increases occurring in the wealthier capitalistic countries were due to immigration rather than increases in fertility. This particular trait of the developed world extended to developing countries as their populations emerged to the middle class. This has kept global populations leveled out to about 8.5 billion opposed to some of the dire predictions of 10 or even 15 billion held at the beginning of our century. This has turned out to having beneficial effects on global consumption. At the same time, our global population is getting older. This too is a good thing relative to global levels of consumption.

Earlier in this piece, we made reference to Al Gore, the topic of global warming and some of the conflicted mindsets of the millennium decade. Here too, another positive trend that started largely during the years 2000-2010 has played itself out over the past 40 years. It is that of ecological awareness. Despite some real cynicism that existed during the years 2000-2010, ecological awareness had truly taken hold at a global level. Remember, our predecessors at that time were dealing with some tremendous challenges. There were wide wealth disparities between developed countries like the United States and Western Europe and a number of up and coming developing countries. Further there were serious oppositions to global environmental standards that on one hand were difficult to enforce uniformly and further complicated by trying to impose environmental standards on developing countries by other countries who had polluted the world with seemingly reckless abandon during their own development. But ecological awareness coupled with favorable demographic and economic developments would prevail.

For a reference we can turn to an economist of the millennium era named Simon Kuznet.

Kuznet did some fascinating work which correlated economic inequality with increases in per capita income. Kuznet's work confirmed the intuitive notion that economic inequality did in fact increase with overall rises in per capita income. However, Kuznet's studies showed that this was true only up to a certain point after which inequality levels and then eventually declines. This was depicted by the "Kuznet Curve". Over the past 40 years we can happily report that the world has experienced an "environmental" Kuznet curve of sorts. What has happened is that during the early years of development, countries like China and India had expectedly low levels of per capita income. As their levels of economic activity increases, their levels of pollution increased for sure. Less attention could be paid to environmental needs while these countries had to grapple with more social needs. However, with the emerging middle class, previously spoken of growing

and this correlating with higher levels of per capita income, these more developed nations did, in fact, largely by decree of their more concerned and demanding middle class, enact stricter environmental standards and these nations also proved to be more globally cooperative even to the point of taking the lead in enacting global environmental standards. It would have been very hard for someone during the years 2000-2010 to recognize such an emerging trend given the highly publicized global environmental conflicts around matters such as the Kyoto protocol.

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Section 6: The Energy Problem

Now, to most concerned minds in the years 2000-2010, this ideological battle needed to be set aside, so the world could deal with the problem that it was consuming more energy than the earth could provide.

Energy, this topic alone has shaped so much of modern human life ways.

Everyone is a consumer of energy directly and indirectly on a daily basis. Historically, we remember that when energy has been cheap and plentiful, nobody really even thinks about it. In decades past, even slight blimps in energy costs would cause traumatic episodes particularly in wealthy developed countries like the U. S. We can easily accept today what most of our predecessors understood as the cause:

Energy Dependence.

In early decades of this century people classified sources of energy by their pattern of use. If widely used an energy source was considered "conventional". And to be widely used an energy source had to be relatively cheap and available. An "alternative" energy has been another classification which would be just the inverse of "conventional" meaning it would be either not relatively cheap or not conveniently available and often neither. During the years 2000-2010, people globally were already very aware of the precarious dependency the world had for fossil fuels as a conventional energy source. A number of prominent alternative energy sources came into intense development and increasing use. These, of course, would be: solar, wind, biomass and geothermal. What was recognized back in the millennium decade and what would prove to be an incredibly valuable trait amongst these four alternative sources was the fact that their fuel supply was for all practical purposes, infinite. The highly appropriate label "renewable" was therefore attached to these "alternative" energy sources. But people of the years 2000-2010 often mistakenly used the terms "alternative" energy and "renewable" energy interchangeably. Fortunately this distinction would clear up as these alternative sources made their way to being conventional to all of us today.

How did this come about?

It took a painful clearing up of people's continued misunderstandings about energy. Back in the years 2000-2010, concerned minds accurately viewed the fossil fuel dependency as a long term crisis. In the United States there were widely publicized political concerns of a nation dependant on the supply of oil from countries of which they would otherwise condemn. During these years, it was the mistaken notion that some form alternative

energy or a combination of all would largely replace fossil fuels as an energy source. This notion was wrong on technical grounds for the simple reason being that the world consumed just way too much energy for this to be practical. This was becoming apparent even in the years of 2000-2010 when the commercialization and infrastructure development for these alternative energies faced virtually impossible economic as well as technical barriers. After all, it had taken all of a century to build the infrastructure that

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supported the hundreds of millions of engines, the thousands of filling stations and hundreds of oil refineries.

Given known eventual depletion of oil reserves, what would happen?

Enter the emerging middle class.

Consider how they redefined the meaning of the “good life”. Consider the greater concern they grew for the posterity of the fewer children they would leave the world to. Consider their eventual greater tolerance for abstract ideas and their demand for government to be economically competent, globally cooperative and this coupled with an almost universal intolerance for individuals who lack competence to exist in an elected office. Witness the virtually global government incentives that have been constructed towards environmental protection, but specifically on energy use. In 2050, we now have in place international climate agreements which include universal carbon-emission caps that would have been regarded as fantasy to the leaders and people of the years 2000-2010.

But knowing now, that what used to be called alternative energy sources (even though conventional now) would not be sufficient, are we saying that the egalitarian collective mindset of the emerging middle class is what ultimately solved our energy and sustainability crisis?

Not by itself.

Especially, if we acknowledge some of the significant economic pain that it took to get to where we are today. We can look around today in 2050 and clearly see that we still use fossil fuels as a source of a lot of our energy. What has changed so much is truly the way we use energy and for those of us today who remember back to the years 2000-2010, we can say that the global energy picture has been completely transformed.

For sure, there was some pain. Especially for some of the developing countries and even developed ones like the United States. After painfully recovering from the years of the WWR, Americans probably had the toughest time with the experience of the continuous increasing costs of fossil fuels that corresponded (actually quite correctly) with their growing scarcity and their effects on the global environment.

Enter the innovation of the emerging middle class.

In 2050 we can observe two directions of innovation pertaining to energy. Yes, much greater economies of scale have been achieved for the generation of solar, wind, biomass and geothermal energy sources. But at the same time there have been huge gains in what we call local power sources which help energy generation to occur much closer to the point of use. Additionally, a person from the years 2000-2010 would marvel now at how our households, our durable goods and we as individuals are able to control with precision the actual quantities of energy we use. Our friends back then marveled at the global and social impact of their information technology. Those with long memories today just observe the plethora of energy efficient devices and our abilities to monitor and use energy and just smile. If only our predecessors during the years 2000-2010 could have been so empowered.

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Section 8: Global Peace

A final observation today, in the year 2050 is the relative peace that we find our world to be experiencing today. Over the centuries mankind has experienced some horrific conflicts that have altered our ways living in our world. Today, we can not turn a blind eye to existing conflicts that are very real nor can we ever become complacent about world peace. But, by all recognized standards our world is at a measurably higher degree of peace than at anytime in recorded history. Many point to the increased global wealth that has occurred over such a wide span of our world today particularly in the past 20 years. Others point to the greater cultural interconnectedness of our world and still others to the greater cooperative capacity and competence of national governments. But truthfully an underlying demographic that had long been projected is pleasantly showing its effects. Our global population is in fact aging. This was factor was projected by our predecessors. The median age is that at which 50 percent of the population is older and 50 % are younger than that age. During the years 2000-2010 the world's median age was 28 years old. Today, in the year 2050 it is 38.1 years old. Many of us have always known was that even the slightest increases or decreases in averages can have magnified effects across an entire population. Sometimes this can be a good thing. In the situation of our aging global populations, for example, numerous studies now show that as people age their desire, tolerance and overall propensity for conflict diminishes. This has had a profound effect on the peace and well being of our world.

Section 9: Conclusion

In closing, it is difficult to be conclusive at the end of a piece like this. History has showed us that life truly does work in cycles and the well being of today could be easily altered by cyclical threats or perhaps even threats that are truly structural such as those faced by the people of the years 2000-2010. But we can look at our history as well as our present day and observe many points of hope. Perhaps taking from our last observation we can end here by saying that with age comes wisdom!

Thank you.