MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

Some thoughts about RISK

November 2014

Introduction

RISK is one of the most misunderstood aspects of life, of society and decision making. At the same time RISK is a big determinant of socio-economic performance in the future and quality of life for people.

Economic dysfunction

There is risk of massive economic dysfunction at some time in the near or more distant future. There is rather little understanding of how the economic system works in spite the large amount of data that are routinely communicated about the profit performance of corporations, the GDP performance of the national economy and the price performance of the capital markets.

The analytical framework for economic performances has its origins in thinking from the 18th century prior to the industrial revolution and the massive changes that have been enabled by increased productivity. The laissez faire free market capitalist ideas of Adam Smith have been more successful than the totalitarian communist approach to economy articulated by Karl Marx … but that is an inadequate understanding of economic possibilities and risk.

Working class labor has not been well served by free market capitalism. Working conditions in the 19th century were abysmal as documented by authors like Charles Dickens. Karl Marx saw the same conditions and suggested that communism would be a better system. In the 20th century there have been events like the Oklahoma dust bowl and the Great Depression which were hell for millions.

It took a world war and massive destruction to invigorate the economic system … hardly a desirable policy option for an economic system that really works.

For several decades after WWII, there was more stability in the economic system arguably achieved by having some better balance between the social programs of government, the pressures of labor unions, the growing productivity of technology and the goals of investors. However, this very tentative balance is in the process of disintegrating and disastrous consequences should be anticipated.

In the last five decades, improvements in productivity have been enabled by an amazing amount of progress in research and the development of new technologies. This includes but is not limited to computers, information technology and automation. What this means is that the aggregate performance of the economy is no longer constrained by people who produce, but by the needs

of people and their ability to buy … in other words we have a global economy that is no longer a shortage economy, to one that is largely a surplus economy.

This means that the price of labor in a global laissez faire free capitalist market is going to trend down and down and down.

This means that there will be social discontent and likely some form of uprising. When, where and in what form is difficult to predict … but the RISK of something like this happening is very high.

Knowledge and Productivity

There has been an amazing increase in knowledge over the past five decades

> *I installed a mainframe computer in 1967 with 4K of main memory. My mobile phone now has 4G of memory ... a million times more. This is an example of the massive power of technology now compared to five decades ago.*

There has been a comparable increase in business process productivity starting early in the industrial revolution and accelerating all the time.

Relative to previous times, companies succeed more now because they have an ability to sell a product into a market than because they are able to manufacture the product.

Also, relative to previous times, less labor and less skill is required for manufacturing. Skill gets embedded in the machinery that automates the process … including increasingly the robots that are able to do the work better than people.

This scenario means that in the end production requires very few people.

But this scenario also means that less people means less payroll and more profit … and the owners and investors in business do well while working people do not.

This is what Occupy Wall Street (OWS) was all about. OWS had concern that banks were facilitating an industrial society where finance on Wall Street was becoming more important than manufacturing business on Main Street.

Police, the Security Apparatus and Political Power

Years ago the police were sometimes characterized as 'thin blue line' that helped to keep law and order.

The reputation of the police is very different country to country. The police in Britain are highly regarded, while the police in many other parts of the world are seen as corrupt and in league with criminals.

In the United States the police have a better reputation in 2014 than they did 30 years ago, especially in the big cities like New York, Los Angeles and many others. However, since 9/11 the militarization of the police causes concern and the ability of government authorities to use the police in ways that intimidate people and limit people's rights.

This was evident during OWS. There is a risk that this could get out of hand.

The bombing at the Boston marathon in 2012 put police power on display and then again most recently in Ferguson, Missouri.

The history of the use of the security services in establishing and maintaining the power of political leaders should be a warning. Hitler, Stalin used the security apparatus, but so have leaders in Africa, Latin America, South East Asia … essentially everywhere and it still goes on.

Energy

There was concern in the relatively recent past that petroleum resources would be soon depleted, but with new technology this concern has gone away and is now replaced by concern that there will be 'stranded assets' because the resources we know exist cannot be used without doing irreversible damage to the environment.

'Stranded assets' means that the maximum of profit potential for an oil company will never be realized, and this is a bad situation for some classes of investors who have zero interest in the impact companies are having on the larger society and the environment.

There are abundant supplies of coal … but the impact of burning coal is way worse than the impact of burning petroleum based fuels.

Energy has been the single most important thing that has enabled an improvement in the standard of living of people over the past 300 years. Without the present modern forms of energy using equipment standard of living and quality of life would drop instantly to something like what existed 300 years ago. The importance of energy cannot be overstated.

However …

Many of the technologies being used to convert energy into something useful in support of quality of life are technologies that have not been significantly improved and modernized for a very long time ... steam turbines, internal combustion engines, electricity generation, nuclear, are all relatively old technology with a thin layer of improved instrumentation that makes them look modern.

There have been significant improvements in the technology for finding energy resources and extracting them … but there have not been equivalent improvements in the way energy resources are processed and used. The reason for this may well be that the profit incentive for the corporation is to improve its own operations while ensuring that the market uses the products in the most inefficient way possible.

The energy industry is very concentrated with relatively few very large companies dominating the industry. These companies wield immense political power and have used it wherever they operate or want to operate.

The energy industry has a history of massive environmental degradation almost everywhere it operates, and has a very cavalier attitude to the people effected.

> *I have done work in the Niger Delta in Nigeria where many international oil companies operate. These companies have polluted the Niger Delta so that local artisanal fisherfolk can no longer survive. Who cares? Nobody ... it does not matter because it is not going to get onto the front pages of international newspapers. Shell, ExxonMobil, Chevron, Total and the rest are very good at Public Relations.*

Food

There are many risks associated with food. The supply chain for and technology of food is increasingly dominated by a few very large companies. The behavior of these companies has been questionable in the past and may well continue to be questionable … that is the financial results for the company being more important that the impact on people and society as a whole. There are already rules in place that inhibit a clear understanding of what actually goes on in the food supply chain in some of the states in the United States (for example, taking photographs of a food processing plant has been made illegal in some places).

There is a huge amount of food waste in the supply chain for food in developed countries because of the way food is distributed and marketed in stores … and there is a huge amount of food waste in developing countries because of inadequate storage and transport infrastructure and facilities.

As population grows, and as standard of living improves for those who are at the bottom of the pyramid, the demand for food will increase. This is going to put stress on land use. How this stress is handled will be a challenge. Industrial agriculture now dominates agriculture in developed countries and there are advocates who want this model to be applied in other parts of the world. If this is done clumsily (as it probably will be) there will be negative impact on many people and much of world society.

It has long been recognized that micro-nutrients are important in human health. Rather little is said about the negative impact of micro-toxins. There are many flows of micro-toxins that are now embedded in modern agriculture, especially arising from the high use of synthetic compounds to control pests and improve growth in plants, and to improve health and growth in animals.

Some in the food and agriculture sector are 'pushing back' against the domination of industrial 'big ag' with some success … but in a world where money profit is king, and every other effect is ignored, they are going to have difficulty getting and maintaining traction.

The insurance industry and risk management

Water

People in who live in well developed countries in modern times have little understanding of the value of water … but without water, trees and plants die, animals die, and people die. This happened in ancient times and has happened recently with the Sahel drought of the 1980s and will happen again … and maybe more aggressively as climate change happens.

People die in less than three days when they have no intake of water. This is not only liquid water in the form of a beverage, but also food much of which includes a water component.

The risk of water not being available to sustain human life is huge. Precipitation (rain) in a place like Libya is not enough to sustain the life of the population of Libya, and this problem has been solved for now by pulling water from the aquifer under the desert. This water is being depleted and will eventually run out. It is mined water … water that was accumulated may hundreds of thousands of years ago and not going to be replaced.

A place like California has a deficit of precipitation or renewable water. Water is piped in from a long way away, but this is limited and now no longer able to be increased. Decisions about water use and agriculture are made based on money profit considerations … and as long as there is water that can be pumped from aquifers now, most people are going to do what they want now and not give 'much of a damn' about the future.

Fracking (hydraulic fracturing) for petroleum products is a technology that has increased the accessible reserves of petroleum, but it is also a technology that poses risk to underground water. When fracking is done following best engineering practice, then the risk of a catastrophic accident that pollutes important aquifers used for human consumption is quite low, but experience suggests that as the company aims for profits, then good engineering and best practice becomes secondary to low costs and more profit and eventually … sooner rather than later … there is a catastrophic situation. We have seen this with the BP oil spill in the Gulf of Mexico. The petroleum industry as a whole has a track record of huge pollution which are of no account and huge profits which are everything that matters.

While the petroleum industry is dominated by a very small number of very large companies, there are also a very large number of small operators. The small operators can do immense damage and, Unlike the big companies like BP, they do not have the financial resources to make good on the damage they do. There is a risk that the big companies will 'subcontract' risky operations to these small operators and then hide behind various 'legal constructs' in order to insulate themselves from the costs of the damage done. 'Rule of Law' increasingly allows big companies to game the system for their own benefit and at the expense of society at large.

Built infrastructure

There was a time when the built infrastructure of the United States was the best in the world, but rather little investment in built infrastructure has been made for the last fifty years. The roads and bridges in the United States are in need of massive maintenance and upgrading but there is no political appetite to get this done. This is evidence of systemic dysfunction in the modern enviro-socio-economic system that political and corporate leadership does not seem to understand..

> *I believe President Obama was surprised at the modern infrastructure in China when he was attending the APEC summit in November 2014*

For all practical purposes, the only infrastructure that has been built in the United States in the last fifty years has been private infrastructure that would be highly profitable for its owners. This is all the modern laissez faire free market capitalist system will fund … everything that the world really needs to be a better place cannot get funded.

The built infrastructure of the United States was designed during a period when energy was very low cost and low priced. Accordingly this infrastructure uses a lot of energy inefficiently. The money profit return of the investment was optimized by low initial capital investment with later high energy use but at low cost. The consequence of this is that the United States uses a lot more energy and has a bigger carbon footprint than other developed countries in Europe.

Minerals

Land

Social tension

Climate Change

The United States has a massive carbon footprint and has been the biggest global carbon polluter in the world for over a century. Recently the aggregate carbon emissions from China have exceeded those of the United States, but on a per capita basis the United States pollutes at a rate that is more than four (4) times that of China.

If the supply chain for products that are consumed in the United States are factored into the analysis … the United States has a huge role in the pollution that is physically located in China but associated with products that will be shipped to the United States.

For most of the industrial revolution, the energy industry has had more energy supply than there has been energy market demand. The energy industry has done everything possible to ensure that the demand was as large as possible, including enabling push back against technological progress that would improve energy use efficiency.

More recently the power of the industry in political terms has been used to push back on initiatives to improve the carbon footprint efficiency of the industry.

The risks associated with climate change are difficult to understand . Climate scientists are certain that there will be climate change, and many believe this will manifest itself in increased instability of the weather compared to what we have been accustomed to.

This instability will in itself have potentially huge repercussions in nature, both in terms of the trees and plants that grow, and the animals and birds that live in nature. Many species must be expected to die out. Whether or not these species will be immediately important to human life is unknown.

Whether or not this instability will produce 'tipping points' is uncertain, but it the risk that this instability will produce a tipping point and global temperatures will increase significantly cannot be ignored. There is increasing evidence that there has been a tipping point with respect to the melting on the icecaps in both the Arctic and the Antarctic.

The risk of a climate change induced catastrophe is aggravated as long people expect that the free market capitalist system will allocate investment resources in an optimum manner to minimize the risk. This cannot happen, because the metrics used in free market decision making only focus on money and financial capital, ignoring impact of society and the environment.

Nationalism

Knowledge

There has been a very rapid increase in knowledge during the past 50 years. The increase in knowledge is accelerating. Much of the increase in knowledge was centered in the West for much of the recent past … since the modern industrial revolution, but in the future the increase in knowledge is going to be in other parts of the world as well.

The United States is at risk because its education infrastructure is not working well. Too many youth in the United States are not getting an education that fits the needs of society and the economy for the future. Europe, the former Soviet Union, India and China are going to be powerful centers of knowledge in the future, and in turn this is going to change the profile of global innovation and economic performance.

Knowledge is going to drive enviro-socio-economic performance in the future. It is likely that this is not going to be an advantage for the United States, and this is problematic. Many aspects of the past success of the United States are going to be challenged by the newly emerging knowledge driven societies, and the United States might be put at serious global disadvantage.

Knowledge has the potential to change the world for the better.

Knowledge also might be used to enable bad actors to dominate everything. This is a huge risk.

The location of industrial capacity

In 1940, the people of the United States did not want to engage in the war against the Axis powers … Germany, Japan, Italy … but when the United States declared war after Pearl Harbor in 1941 the industrial capacity of the United States was rapidly mobilized to produce military hardware and ammunition on a massive scale.

Fast forward to the present day, and the industrial capacity of the United States has been largely dismantled. Without industrial capacity to back it up, the military power of the United States is seriously compromised.

Most modern production now relies on a long supply chain that winds its way through many countries. This will be dislocated in a war situation, and much of modern production will not be possible.

Outside the war scenario, the location of industrial capacity has an impact on enviro-socio-economic performance. Multinational companies have moved their production from places like the United States and Europe to low labor cost, low tax, low regulation locations around the world and in the process have increased their profits but at the same time have had impact on the society where they used to manufacture.

The industrial heartland of the United States and much of Europe has been gutted as companies have relocated their manufacturing to other parts of the world. The owners (stockholders) have seen wealth increase from this strategy, but workers and society as a whole have had their wealth compromised.

Low wage cost countries have had benefit from this … and this should not be ignored.

The question of where industrial capacity should be located should not be based on maximization of business profit, but on a more complex analysis of all the benefits and impact on all the capitals and not merely on what is best for the company's investors.

Migration

People have always migrated in search of a better situation … going back to the beginning of history. Migration looks different today than it did in the past because the means of transport are different and the regulatory environment is different … but migration is still happening on a massive scale.

Education

Education is already in deep crisis, though this is not widely recognized. Around the world there are many more young people than there are educational opportunities. In countries like the United States, something has gone wrong and a lot of expense is not resulting in educational excellence. The discussion about private versus public education is more about competition of ideologies than serious problem solving of educational performance issues.

Getting education right for the future is a big deal, and the track record of reform in the education sector is not at all good.

If the educational establishment wins, the future of education is bleak. That is not to say that there are some wonderful people in the system, but the system as a whole is not working well and in the main is backward looking. This will not work for a future that is going to work.

Privatizing education is no solution if what is privatized is the 'same old same old'. Doing things that really don't work, more efficiently, is not much of a solution.

Science is pointing at the fact of children being 'hard wired' for learning, while most schools are designed to teach in ways that are generally opposed to what would normally be natural for children.

MORE TO COME

Nuclear proliferation

Guns, the arms trade and violence

Guns get more and more powerful with the ability to do more and more damage. For most of the world outside the United States, there was a time when most guns were in the hands of the military, and few guns were in civilian hands. In the last forty years since the mid-1970s guns are to be found everywhere, and the consequences have been almost all bad.

In the United States, the 2nd amendment to the Constitution has been used to enable gun ownership in the United States, but also has been an enabler of the international trade in guns.

Guns may have the power to win an argument, but they have no power to solve a problem.

Technology has made it possible to manufacture more and more powerful weaponry, and increasingly there is the potential for this weaponry to be used in ways that are anti-social.

There is something wrong with a world where anything that makes money profit gets done whether or not it does damage to society or to the environment and things that are really needed but cannot make quick profit never get done.

> *There is something wrong with a situation where it is easier to get a gun than to get a good meal. This is how I described the situation in much of Africa during the last 30 years.*

There are several countries where those in power remain in power because they have more guns than the opposition. Syria is a contemporary example.

There are many places where control of the neighborhood is determined by the gangs ability to be violent.

There is a risk that violence with escalate in the future and get out of control. Widespread access to guns and the arms trade will make the control of violence difficult, if not impossible. Widespread disaffection with the state of society and the economy makes this risk bigger and more uncontrollable.

Addiction

In spite growing knowledge about the science of addiction, laws and social behavior related to addiction are dated.

In the 1920s, alcoholism gave rise to legislation in the United States and 'prohibition' which failed. Addiction to alcohol is a serious problem … a serious medical problem which is not adequately addressed in modern society.

Drugs of various sorts are also a problem. While many drugs have medical benefits that are very important in the health of people, these same drugs often have side effects that offset the good they do. Many drugs have addictive characteristics and this can get out of control.

Many drugs have been made illegal except in a medical setting, but the law does nothing to diminish demand in situations where the drugs are addictive. This is a perfect opportunity for highly profitable trade or trafficking in drugs.

The global drug trade is probably as large in money terms as the international oil industry … and even more profitable. The so-called 'war on drugs' has cost a huge amount of money, but the results have been quite small. The demand side of the illegal drug trade has not been addressed in a meaningful way, and nothing changes.

It was recognized that prohibition did not work for alcohol … and it seems that making addictive drugs illegal is not working either.

Society is at risk as long as there is inadequate attention being paid to the health dimension of addiction in all its forms.

Mental health

Mental health issues are not new … but mental health remains poorly understood, attracts too much stigma, and is underfunded. Knowledge about mental health may be increasing, but access to good mental health treatment is difficult.

Many of the problems that manifest themselves in society originate with mental health problems of some sort.

Hope

Totalitarianism / Fascism

Geopolitics

History suggests that there is 'peace' when there is a dominant superpower. In the 19th century there was something referred to as the 'Pax Britannica' but it might be that this was only seen as 'pax' from the perspective of the British. There was peace during the so called 'cold war' although there was a lot of tension as the United States and the Soviet Union pushed to test the limits of what was possible.

But while there was peace at one level, at another level there was turmoil and violence. Civil wars erupted in all sorts of places, and the killing was on a terribly large scale. Some of the killing and violence was described as genocide.

In 1991 the Soviet Union disintegrated and the United States became the only world superpower. It is too early to judge the performance of the United States as a unique superpower, but there are signs that the world is destabilizing in many disconcerting ways. Part of this is a result of policy choices made by the United States, and part is to do with technological progress that is enabling a different world order than the one that has existed in the past.

In 1941 there was an attack on the United States at Pearl Harbor. This attack was ordered by the Imperial Government of Japan. In 2001 there was another attack on the United States at the World Trade Center in Manhattan (the 9/11 attack). This attack was carried out by non-government actors. The idea that society can be put at risk by non-state actors is new, and a complete rethinking of local, national and international security is required.

The power of modern weaponry is such that immense damage can be done by a small group of people with access to this weaponry. Some of this weaponry may be classified as 'weapons of mass destruction (WMDs) but powerful conventional weaponry has a lot of power to do damage and terrorize society.

Creating 'terror' is relatively easy … and more so in a world where there is almost instantaneous communication with virtually no ability to control or stop the messaging.

There is a huge risk that the world is going to be 'terrorized'. This will grow as long as there is a large part of the world's population that has little hope for a decent life and there is the basis for blaming rich countries … the west in general and the United States in particular … for this state of affairs.

A policy framework that is based on the idea that people who are embracing terrorism because of their poverty should be punished has the distinct possibility that it will fuel more hate and more terrorism. This seems to have been the experience since the 9/11 attack … but the West seems to

be of the view that more punishment will resolve the problem while the root cause of the situation remains unaddressed.

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