Globalization
and the Future of the Coal Industry

By Robert McGarvey, 2006

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Coal Markets Today

After a prolonged period of relative stability, volatility is rapidly becoming a fact of life in the coal industry. Markets began to feel the impact of strengthening global demand in 2003. Consider the following from the energy analyst firm of Platts early in 2004:

> *"Coal mine owners and investors say that supply and demand are now -- finally -- in balance. Shell-shocked coal consumers have other terms for it, as they find that both spot tonnage and new contract coal come at a dizzying price."*

The China factor is obviously a key driver of global demand. A consistently high growth rate in China in the last few years has changed the dynamics of global commodity markets, increasing demand for all types of coal. Predictably, rising demand and higher prices are having a stimulating effect on coal supplies, not the least in China itself.

> *"By the end of last May (2006), there were 2,743 coal-related investment projects being carried out in China, involving a total investment of 343 billion yuan (43 billion U.S. dollars*), Xinhua-run China Securities Journal reports*."*
>
> *"These projects, when completed, will increase the country's coal production by 800 million tons to over 2.1 billion tons."*

Coal producers, their investors and everyone else involved in this conservative industry today are both encouraged by recent developments and nervous at the same time. There are enormous pressures on suppliers to be aggressive; Wall Street in tandem with many utilities and steel consumers are pressuring suppliers to increase production, to make significant investments in new production, better equipment, transport infrastructure, etc. Many, accepting conventional wisdom, are committing considerable sums to these opportunities, but lurking in the minds of many seasoned coal veterans is an unnerving sense of *deja vu*. Hold on a minute, haven't we seen all this before? Could this be 1974 all over again?

Globalization Conundrum

Is the past a reliable guide to the future? Or has the market really changed in significant ways? Before we can begin to address these questions, we need to know a whole lot more about what's going on in the global economy. The world has changed profoundly in the 30 years since the 70's commodities spike. The fall of Soviet Communism, the emergence of the BRIC markets (Brazil, Russia, India and China) and the digital revolution are only some of the major changes that have reconfigured global growth. The question is, with all these changes, will coal markets behave as predictably as they have in the past or have we entered a new economic landscape with unknown and unpredictable risk factors?

In order to fully appreciate what's happening in the world and to begin to put some rational parameters around the risks inherent in globalization these days, we need a new context for analyzing global risk-a new theoretical lens through which to view the evolution of the global political economy. The source of risk is change, and there are cultural differences in the ways that nations, their politicians, central bankers, government bureaucrats, corporate leaders and individuals adapt (or not) to changes brought about by a dynamic global capitalism.

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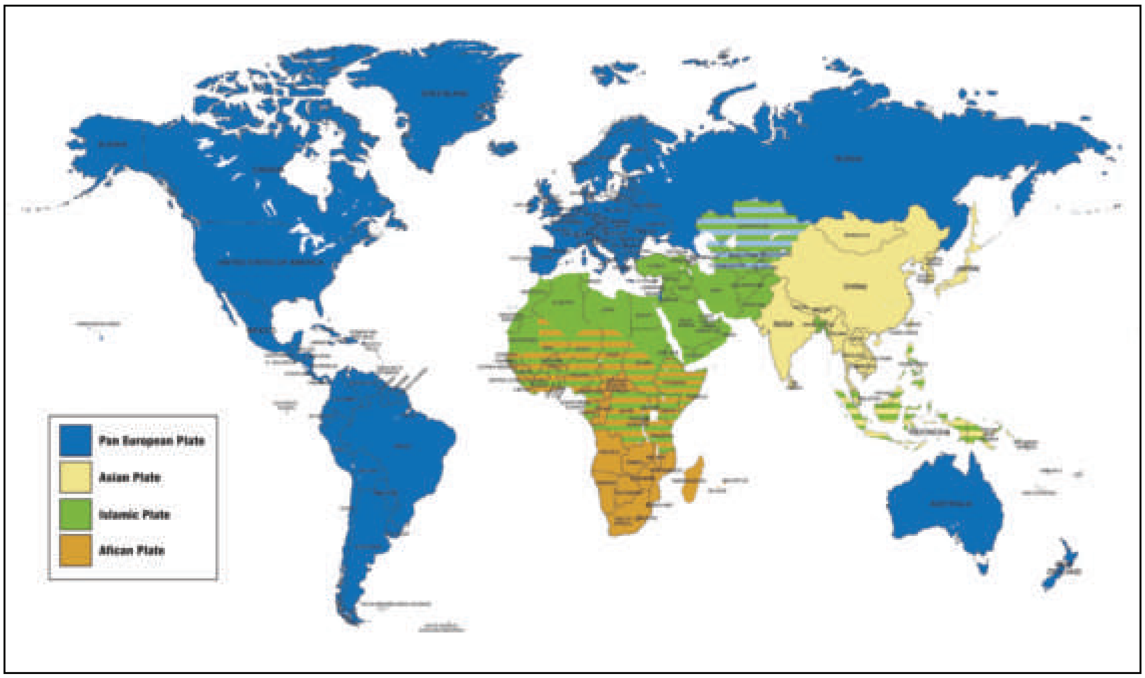
The Tectonics of World Politics

We'll begin with an overview of the *tectonics* of world politics, a theory that world society is composed not simply of discrete nations, but of much larger gatherings of nations and peoples distinguished by differing philosophical characteristics. These philosophical differences manifest themselves in fundamentally differing approaches to global capitalism, and, most importantly for this discussion, differing adaptabilities to change.



The Pan European World

The Pan European world comprises the peoples of Europe—East and West, Australasia, and much of the New World—North and South. The uniqueness of Pan European societies lies in their social dynamism[1]. The deep core of Pan European society, unlike that of certain other civilizations, is unable to resolve itself for any length of time into a stable and lasting philosophical unity. The result is a persistent reorientation of the

[1] Western culture is significantly more dynamic and therefore economically and politically advanced than the rest of Pan Europe. What Western culture shares with all Pan European societies, including Russia and other Eastern nations, is a similar pattern of history and overall philosophical direction.

philosophical principles of the group, which has manifest itself over the centuries in a progressively evolving sense of social justice. This ethical transformation has set Pan European society in motion, creating an internally driven engine of change.

It was from the depths of the Dark Ages that the present progressive cycle in Pan European history began. Throughout the intervening centuries, the various nations of this political world have been slowly transforming their essential character, progressively liberating themselves from medieval restraint[2]. Massive institutional changes have occurred in the general movement away from the restriction of feudal life with its vast concentrations of power and rigid social divisions, to more open and democratic institutions. These changes, which have occasioned the rise of representative government and several connected stages of capitalist development, have unleashed vast quantities of human potential, stimulating innovation and creativity, and consequently greatly expanding the total energy and wealth in Pan European societies.

The Islamic World

It is somewhat ironic, given the present state of world politics, to note that the Islamic world shares many philosophical similarities to Pan Europe. The Islamic world, like Pan Europe, is in motion, characterized by a similar internally generated dynamism. However, despite these innate similarities at the core, it appears that the world of Islam and Pan Europe are historically counter-cyclic. During the Medieval Period, when European societies were at their lowest ebb, Islam was in full bloom, characterized by dynamic expanding societies making significant contributions in science, mathematics, literature and poetry. At a time when there was little capitalist development in Europe, Islamic traders ruled the Mediterranean and beyond.

From that point in time many centuries ago, however, the two most dynamic political worlds have almost completely reversed their relative positions. Pan Europe has progressively widened the estate of ownership in its societies, with vast economic, political and social consequences, while Islam has for many centuries been slowly

[2] The date upon which serfdom was abolished seems to be a critical starting point. England abolished serfdom out of necessity at the time of the 'Black Plague' in the 14th century; France during its 18th century Revolution, Germany and Russia maintained the institution of serfdom in some form or another until the 19th century.

narrowing its estate of ownership, becoming less tolerant of diversity, less capitalistic, and in the process, more similar politically and economically to Medieval Europe.

The Asian World

The Asian world is governed by quite different philosophical conditions. These nations, including China, Japan, East Asia, parts of S.E. Asia and the Indian sub-continent, tend to preserve a philosophic and therefore ethical balance over long periods of time. As a result, they have a strong bias toward the preservation of the social status quo. The challenges the more successful Asian economies face, now that they've integrated into the global economy, is how to stay competitive, i.e. adapt to meet new challenges, when the social dynamism necessary to accomplish this goal is alien to their central character.

Japan is a case in point. Significant changes (that widened the estate of ownership in Japan) were imposed by the U.S. occupying authorities after World War II, and, despite a period of painful adjustment, the Japanese economy responded vigorously, rising to dominate world trade in the '70s and '80s. However, having developed a 'system' that worked, the Japanese found it difficult, if not impossible, to sustain the degree of social dynamism necessary to maintain their economic momentum. The result was the 'lost decade' of the 1990s[3] where the Japanese economy experienced negative growth and massive deflation. Today when it is becoming increasingly obvious that economic success requires progressive social and political reforms, the Japanese government seems about to retreat to older more conservative social norms.

Today, both India and China are experiencing massive changes, a vast widening in their estates of ownership, as their economies literally explode onto the global stage. It can be expected that their essential conservatism will eventually re-emerge, and like Japan they will, no doubt, attempt to stabilize around a fixed social order, albeit on a higher level of efficiency than historically.

[3] It does not appear that Japan even now, in 2006, is prepared to deal with its problem; Japan appears frozen, unable to resolve a crisis that continues to dampen investment and growth.

The African World

The African world, those non-Islamic portions of Africa south of the Sahara, is like Asia philosophically and therefore socially conservative. Like Asia, Africa is having change imposed upon it by external forces beyond its control. Unlike Asia, African institutions have disintegrated under the twinned forces of 19th century colonialism, and now, 21st century global capitalism. This disintegration has led to a breakdown in traditional African social and political structures and a general narrowing of the estate of ownership in Africa.

Major Trends in Pan European Development

Suggesting that Pan European societies are dynamic is one thing, but in what ways does this dynamism impact the economy? Having examined economic history, many observers speculate that technological innovation and driving improvements in productivity are the principal drivers of capitalist development. Certainly innovation had a dramatic impact on the Industrial Revolution and many economists today see knowledge driving modern day innovation, growth and change.

However, innovation or indeed technological leadership has seldom - in itself - automatically led to capitalist growth. China provides an interesting historical example. Although the Chinese at various times in their history have enjoyed a clear technological superiority over the rest of the world (inventing gunpowder, printing presses and iron ore production centuries prior to their Western counterparts), they were not able to exploit these technological advantages within their historical system of centralized political/economic control. Chinese economic growth has, until very recently, been stymied by historic limitations on the rights of individual ownership and the absence of appropriate property forms necessary to exploit the opportunities and create sustainable asset wealth.

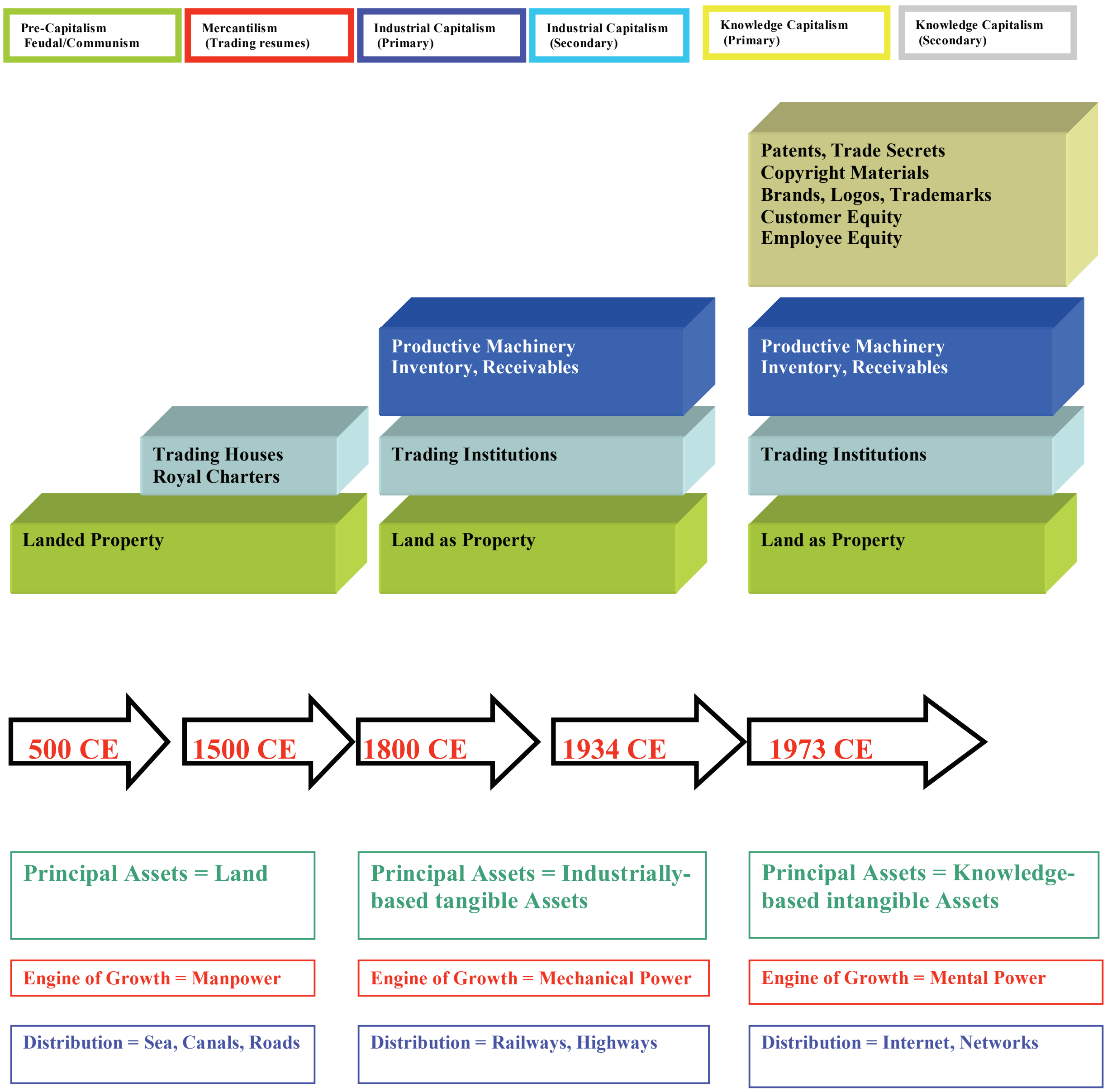
The institutions of ownership and property are vital to capitalist development, but more importantly, they are responsible for two major trends driving globalization:

(1) The historic capacity of the capitalist system to expand the property matrix, increasing the quantity and quality of economic assets available to the economy, and
(2) Steadily widening estates of ownership, increasing over time both the proportion and absolute numbers of people owning and controlling those economic assets.

Naturally, in combination, these dynamic forces have had a profound impact on long-term growth in the economy. For as you increase the absolute number and total proportion of 'owners' in the economy, the opportunities to add value to an ever-expanding matrix of economic assets can lead, when optimized, to a geometric expansion in market activity and economic growth.

Not surprisingly, this growth comes with a price. Both of these major trends carry significant associated risk. The asset changes that have accompanied the expanding property matrix, for example, have at various points in history, led to sharp and painful learning curves for business people, investors, bankers, securities regulators, and the public at large, as they slowly come to grips with new and unexpected orders of risk. The Dotcom bubble is only one of many instances in history when a 'new' economy, founded in a new class of assets, seduced investors into periods of 'irrational exuberance' with catastrophic consequences.

Capitalism’s Expanding Asset Foundation



Economic assets have undergone an extraordinary metamorphosis over the centuries. The expansion in the property matrix, leading to significant changes in capitalism’s underlying asset foundation, is amply demonstrated in economic history.

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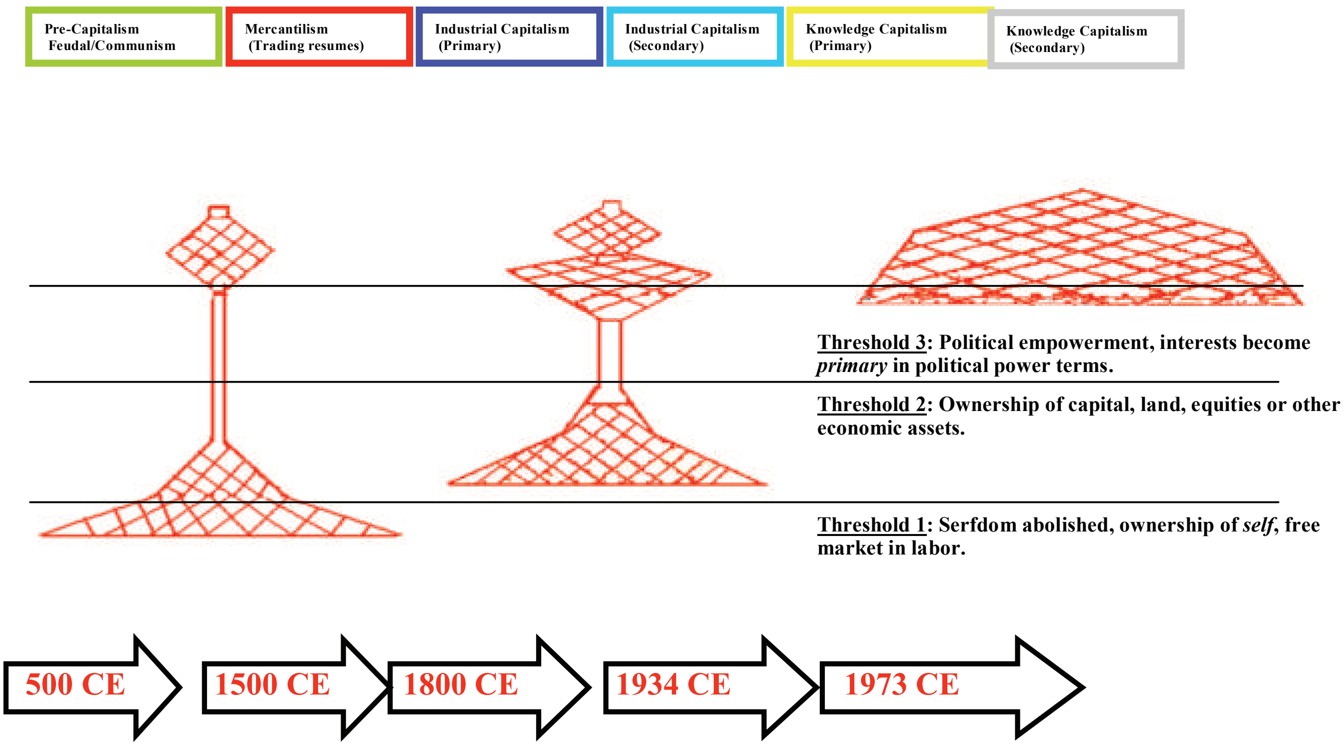
During the roughly 1000-year Medieval Period (5th to 15th centuries) of Pan European history, property per se was limited in its definition and very restricted. Feudal economic life, such as it was, revolved around rural agriculture. There were very few identifiable economic assets during this period; apart from coin and a few trading ships, landed property was the principal economic asset. And we should not forget, the control of landed property was solidly in the hands of the aristocratic 'few'. With little in the way of private property ownership, there was very little trading and as a consequence, few markets in Medieval Europe. This pre-capitalist economy operated essentially as a command economy, not dissimilar in ownership structure to Soviet style communism.

All this began to change in Northern Europe in the 16th century. Capitalism began to stir; trade and commerce began their inexorable rise. During this mercantilist period, capitalism grew in large measure through the creation of trading houses and, more formally, Royal chartered trading monopolies. The East India Company (1600), the Virginia Company (1606), and the Hudson's Bay Company (1670) are examples. These trading houses and chartered monopolies represented new forms of economic property and, eventually, significant assets to the founding members. In the more successful enterprises, asset wealth accumulated in large amounts, developing over the period into a considerable economic and political force.

By late 18th century, Britain was leading the world into a new 'industrial' form of capitalism. The Industrial Age really hit full stride in the mid 19th century when steam power and the railway networks became widely accessible and affordable for local manufacturers. This new production and distribution infrastructure allowed industrialists to produce their goods in mass quantities and get them to market at a profit on a regular basis. In other words, steam power and railways, by linking factories to customers and a stream of future earnings, created collateral value in industrial assets. This revolution, creating entirely new classes of bankable assets in 'industrial plant' and 'inventory', was a critical foundational reform that triggered and sustained economic growth in the Industrial Age.

Capitalism's Widening Estate of Ownership



Over the centuries, there has been a vast widening in the estate of ownership in Pan European (particularly the Anglo) economies; massive increases in the numbers and proportions of individuals who own their own home[4], own shares in public companies, or who have more direct ownership of small privately-held businesses[5]. More indirectly, ownership of various forms of 'human capital' have been realized in western society due to the almost universal commitment by western government to advanced education and technical training of all sorts. As a result, the proportion of individuals 'owning' and value-adding economic assets is much greater than it was in the past. All this has

[4] http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2731620&dopt=Abstract, in the US and the UK, home ownership today stands at about 70%, this is up from approximately 30% home ownership at the end of the 19th century.

[5] http://clinton4.nara.gov/WH/Accomplishments/Small_Business.html, Again, US government statistics support an explosive growth in small business ownership. These statistics from the Clinton era are typical of the late 90s. Similar trends are present in the UK and other western economies.

occurred despite a recent and quite staggering concentration of wealth upward in the economy.[6]

Widening in the estate of ownership is a major driving force behind capitalist growth. However, it does generate its own special types of risk—political risk in this case.

There is little argument about the impact of property ownership on individuals; asset ownership can be a reliable source of income and a storehouse of accumulating value as (historically) assets have generally risen in value over time. The rights of ownership, if they are to have real meaning, must be legally defined. Of course, it is at the legal level where individual entitlement to property is established and maintained. But ownership rights also exist at the higher political level, where the rules of ownership are established by society. Anyone who owns a house knows that legal title attaches great value, but the rules that govern home ownership are made by local councils, regional and state levels of government. Ownership's political character is conditioned by this duality; it is the central reason why the advance of democracy has been so important to the evolution of capitalism. In a very real sense, the security in assets is a function of the degree to which those who own property have their interests appropriately represented in the rule-making process at the political level.

The widening estate of ownership has triggered several stages of political reorganization in Pan European history, most notably the Age of Revolution during the 18th and 19th centuries. During the Commercial Revolution and the early stages of the Industrial Revolution, vast commercial empires were constructed as early capitalism began to re-emerge in European culture. Major fortunes were amassed, controlled by middle class individuals who, as a general rule, had little or no political influence. During this pre-democratic era, political power was almost exclusively in the hands of absolute monarchs of one sort or another. Needless to say, this was a recipe for conflict. And certainly conflict was the order of the day during this critical period. In almost every situation, a rising merchant or industrial class, whose asset wealth was under threat

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[6] http://www.endgame.org/primer-wealth.html, The facts are indeed staggering and could potentially be fatal to western capitalism, In the late 1970s, the top one percent of the US population held 13 percent of the wealth; in 1995 it held 38 percent, today it is over 40%.

by an absolute monarch or aristocratic class, championed political reforms. The more recent evolution of representative democracy, which has transitioned western institutions from their early producer bias to more broadly based consumer bias, has paralleled the growth in asset wealth and become more inclusive as asset ownership has become more widely distributed in the economy.

The Stages of Economic Development

Stage 1: Feudal (or Communist) Command Economy

- Pre capitalist, concentrated economic control, little or no private property ownership
- Few, if any, markets
- Concentrated political control
- Economic and political stability

Stage 2: Mercantilism or Neo-mercantilism

- Early stage capitalism, beginnings of private property rights, (trading resumes, Royal chartered companies, etc.)
- Markets (cities) begin to emerge or re-emerge
- Concentrated political control
- Increasing economic volatility, political stability

Stage 3: Primary Industrialization

- Accelerating capital growth, rapid growth in industrial assets
- National markets consolidate, rapid urbanization
- Devolving political control, producer-dominated politics
- Economic volatility leading to political instability

Stage 4: Secondary Industrialization

- Stable capital growth, established industrial assets
- Stable growth of trans-national markets
- Broadly representative political institutions, consumer dominated politics
- Economic stability, political stability

Stage 5: Primary Knowledge Economy

- Accelerating capital growth, rapid growth in intellectual assets
- Rapid growth of globalized markets
- Continued devolution of political power, increasing consumer activism
- Economic volatility leading to political instability

Stage 6: Secondary Knowledge Economy

- Stable knowledge capital growth, established knowledge assets and intellectual property rights
- Global market consolidation (might occur)
- Continued devolving political control (might occur)
- Economic and political stability (might occur)

The Twin Asset Revolutions Configuring Global Capitalism

From an asset and economic development perspective, there are two major transformations being undertaken simultaneously around the world. The advanced economies of the Pan European world and selected Asian economies, e.g. Singapore, are engaged in transitioning from an industrial asset base to a knowledge asset base, while major emerging economies in Asia and Pan Europe are transitioning from agricultural (or communist command) economies into industrial asset foundations.

The Developed World: Initiating the Knowledge Asset Revolution

Since the 1970s, there have been revolutionary changes taking place as Western economies transition from economies largely underpinned by familiar industrial assets to economies dominated by 'intangible' knowledge and relationship-based assets. For those who doubt that major changes are impacting the economy, consider that between 1995 and 2002 the world's 20 largest economies lost 22 million industrial jobs. Nevertheless, despite the shrinking of their industrial work forces, the output in these countries as a measure of GDP increased by an astonishing 50%[7]. Today, in the U.S and other Western economies in particular, market services have displaced industrial production as the primary engine of growth[8]. Studies suggest that 'intangible' assets are now contributing over three-quarters of U.S. GDP[9]. Consider the following observation from Juergen H. Daum, Chief Solution Architect of SAP in Walldorf, Germany: "… *indeed the source of value creation in the industrialized economies has shifted from tangible to intangible assets. In 1982, the value of tangible assets, reported on the balance sheet of Standard & Poor 500 companies in the U.S. on average made up still most of the market value of these companies. To be exact, 62% of the market value of S&P 500 companies in the U.S. in 1982 was covered by the value of tangible assets. In 1998, this ratio has been totally turned around"*[10].

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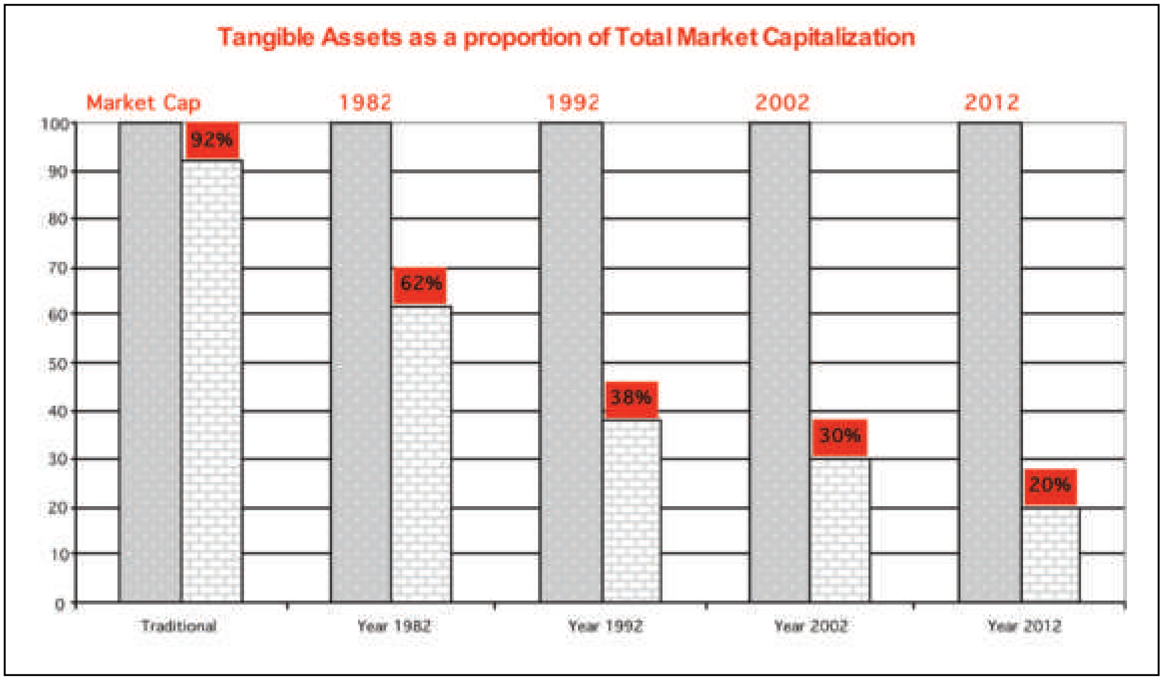
[7] "The Misery of Manufacturing", *The Economist,* September 27, 2003

[8] Consider that in 1965, the ratio of service to manufacturing jobs in the US was 1.5:1. Today, it's about 5:1. Source: Bureau of Labor Statistics, Payroll Survey.

[9] KNOWLEDGE AND SHAREHOLDER VALUE, Baruch Lev, January 2000, Page 2

[10] http://www.juergendaum.com/news/07_06_2001.htm



Source: Brookings Institution, study of S&P 500

A Digital World?

One of the most controversial aspects of 21st century globalization is the outsourcing of high skilled knowledge-intensive jobs from western businesses to India or other emerging economies. Many see outsourcing and other similar developments as proof of a truly global digital economy, a 'flat world' so to speak. There is no doubt that outsourcing is a serious business (and now) political problem in the developed economies, but the economic reality is significantly different if looked at from the institutional level. Although the Knowledge Revolution per se, has global implications, in significant ways the knowledge 'asset' revolution is quite localized. The process of converting intellectual forms of property and relationships of various types into formal assets requires a wholesale social commitment to change. There are suites of accompanying political, legal, accounting, management and attitudinal adjustments that are necessary to establish solid, dependable assets out of such intangible forms of wealth.

This underlying institutional transformation is only a reality (at present) in the advanced post-industrial economies.

The Emerging Economies: Industrial Asset Revolution

If Foreign Direct Investment (FDI) and international trade statistics are anything to go by, industrialization in China, India and several other Asian economies is exploding. (FDI in developing economies is directed largely to ‘Greenfield’ industrial development, where as FDI in USA, and other developed economies, is largely directed toward corporate takeovers.) OECD (Organization for Economic Co-operation and Development) countries’ net direct investment outflows to the rest of the world reached record levels in 2004 (US $261B FDI). China and a couple other financial centers in Asia continue to receive the lion’s share of direct investment. India is making steady progress in establishing itself as an attractive place for FDI. Inward direct investment has tended upwards since the late 1990’s to reach 5.3 billion in 2004.

But East Asia is not the only part of the world experiencing massive primary industrialization. There are many of the later developing economies in Pan Europe going through the same stage of development. FDI in South America is growing. Inflows in 2004 to Brazil were $18B. Chile was $8B. Argentina was $4B. All inflows are twice the levels of 2003. Inflows to Russia, having already picked up in 2003, gained further speed in 2004. As in earlier years, much investment went to the hydrocarbon sectors but there is a growing tendency towards consumer goods lately.

Growth is the order of the day as these twin revolutions impact the global economy in significant ways. The good news is that for the first time in history, the majority of economies around the world are transitioning out of low growth agricultural economies into more efficient, industrial stages of development. The bad news is that for the first time in history, both the newly industrializing economies and post industrial economies (former bastions of stability) are entering into stages of growth that bring with them higher than expected levels of economic and political risk.

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The Sources of Economic Volatility

Economic Volatility: *rapid swings in GDP performance, inflation, unemployment, FDI and discriminatory practices. These periods of change often lead to instability and roller coaster like volatility.*

Although economic volatility can have many causes, it has historically been most common in those periods of adjustment when a new class of assets, with new and unfamiliar risks, is being incorporated into the economy. For example, at the time of the Commercial Revolution during the 17th and 18th centuries, there were several notable episodes of economic volatility associated with growing international ‘trade’. The most famous of which was the South Sea Bubble.

The South Sea Company was chartered in 1711 and granted a monopoly by the King of England for trading in the South Atlantic. Speculation around this new ‘monopoly’ enterprise was swift and excited. Unfortunately for the South Sea Company, Britain and Spain went to war again in 1718, undermining the trading opportunities with Spanish colonies in South America. But like many a modern-day business, the significance of these commercial reverses were not immediately apparent to investors. Indeed so popular was the stock that investors ignored the bad news and kept buying. As a result, the stock kept rising rapidly, encouraging more buyers and creating a momentum of growth that seemed unstoppable. Behind the scenes however, South Sea Company management (like the more recent Enron management) could see the writing on the wall and soon began to dump their shares into the rising market. Eventually word got out, the bubble burst, and panic selling initiated a market crash and economic crisis in England.

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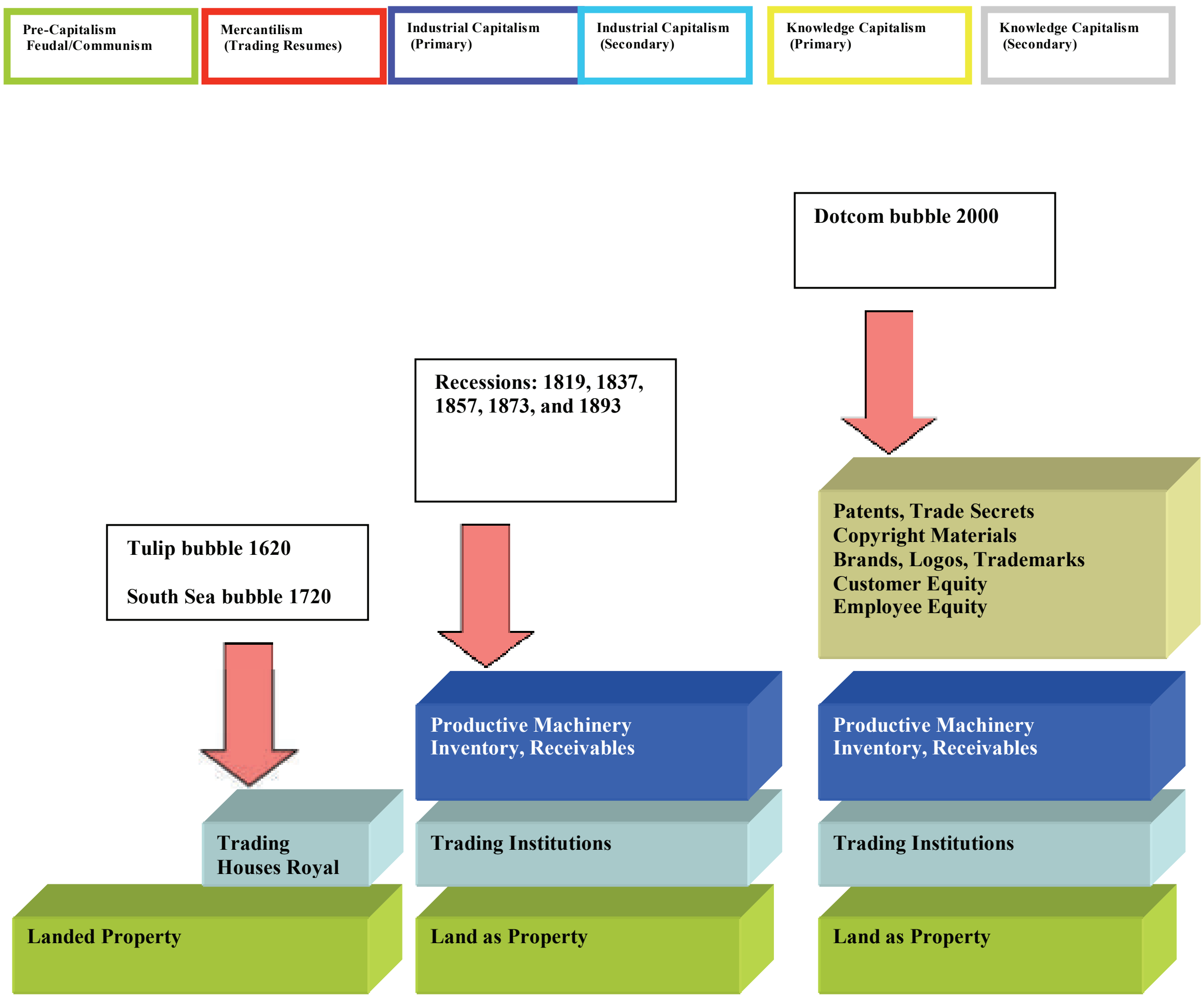
Although many see the South Sea bubble as simply a case of stock market greed, it was in many ways a function of unfamiliarity of risk. There was ignorance on the part of management, investors, securities regulators and the public at large with the nature and scale of trading risks. A new class of assets was being incorporated into a medieval economy that had been very slow moving and predictable; the Tulip bubble in Holland and the South Sea bubble were part of a steep learning curve associated with such changes.

The primary stage of industrialization in the United States was also characterized by economic volatility. The years 1819, 1837, 1857, 1873, and 1893 marked the beginnings of periods of grave economic disturbance that were caused by currency fluctuations, stock market crashes, banking and liquidity crises, and trade difficulties. The 1819 depression was one of the most volatile. The industrial era began in the U.S. with a great burst of nationalism. During the early 19th century, several major economic reforms, including the establishment of a national bank and protective tariffs, were undertaken to protect fledging American industries. Beginning in 1819 with cotton prices already declining sharply, the new Bank of the United States imposed strict credit restrictions. Although designed to curb inflation, these restrictions triggered a financial panic that swept across the economy. Unemployment rose rapidly, banks failed, prices fell, and investment collapsed. Much was learned from this self-inflicted wound, but more learning was required, as volatility swings in economic fortunes became regular features of the early primary stage of industrialization in the United States.

More recently in the U.S. as a consequence of another asset revolution, we've had the great Dotcom bubble. And while it is true that the Crash of 2000 did incalculable damage to investors and fledgling knowledge-based companies around the world, we can see that the meteoric rise and fall of the Dotcoms was, historically, nothing new. All these famous bubbles had their roots in a brave new commercial world, with dreams of staggering new wealth. In the case of the Dotcom bubble, it was the digital world with its strange intangible sources of wealth that captivated so many for so long. What none of these enormous market bubbles did was reverse the course of economic history. Growth in trade flourished in spite of these early bubbles, and the knowledge revolution continues despite the Dotcom market crash. At each stage, however, risks are identified and a body of experience and knowledge was assembled, institutional reforms undertaken, so that the new forms of wealth could be more effectively managed at all levels.

Periods of Economic Volatility



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The Changing Context of Risk

If economic history has anything to teach us, there could well be trouble ahead. All major economies, in both the developed and emerging sectors are transitioning, entering exciting new stages of economic growth. Unfortunately, they can be expected to experience the inevitable disruptions associated with those transitions: banking and currency crises, fiscal and monetary confusion, stock market bubbles, etc. As a consequence, global coal markets appear set to enter a new and more volatile period.

Coal Markets – Conflicting Signals

There are definitely grounds for optimism in the coal industry. The global economy is expanding, experiencing unprecedented growth that, long term, will increase demand for commodities of all types. The 'BRIC' markets (Brazil, Russia, India and China), representing approximately 2.5 billion people, are industrializing rapidly. Over the course of the next 20-30 years, these economies can expect to see their GDP per capita increase by roughly an order of magnitude.[11] The impact of these quantum leaps in purchasing power could dramatically impact global demand; coal and other commodities will certainly be impacted. Indeed the Oxford Research Group in the United Kingdom has estimated that world commodity supplies, even if fully developed, will be insufficient to meet demand if, as anticipated, global standards of living move to western levels in the coming decades.

But in the Near Future…Increasing Volatility

Coal markets are expected to show increasing volatility in the short to medium term. However rosy the global demand picture is, further into the future, it is expected that in the short to medium term, the increases in coal prices of late will lead to a re-balancing of supply/demand as new sources of supply are brought on stream. Although there are some well-known factors moderating this process such as inadequate transport infrastructure, shortages of tires and seaworthy bulk carriers, new environmental

[11] If western models are repeated, GDP per capita will increase from roughly $1000 per capita to approximately $10,000 per capita during the transition from agricultural to industrial economies.

restrictions and complicated permitting processes, the fact remains—there are enormous resources and/or reserves of coal (with the possible exception of hard coking coal) available for development. The aforementioned Chinese new production is but one piece of a global picture of expanding capacity.

A rebalancing of supply/demand with a return to historic prices would not surprise anyone familiar with the coal business. What's troubling is that it's generally considered (in these optimistic times) to be a worst-case scenario. The reality could be much worse.

The China Conundrum

It is entirely predictable that emerging economies will follow in the historical footsteps of their western counterparts and experience severe growing pains in the primary stage of industrialization; banking crises leading to general recessions are very much a part of this process. The most likely candidate for trouble these days is China.

For instance, consider the banking situation in China. Now that the four major Chinese banks have been privatized (with incredible fanfare and historic IPO's), unwelcome news is beginning to emerge. Consider the following from David Lague writing in the International Herald Tribune: "… *the China Construction Bank, the first of four big state-owned banks in the country to start an initial public offering, has spent much of the past two decades handicapped by a mountain of bad loans. In recent years, two of its chairmen have been removed on suspicion of corruption. One, Wang Xuebing, was sentenced to 12 years in prison three years ago for offenses committed earlier while he was head of another of the Big Four, the Bank of China."* [12]

True, the Chinese government has been active attempting to restore confidence and stability in the banks, investing 1.7 trillion yuan ($205 Billion) in cleaning up NPLs (non performing loans). But analysts believe the true extent of these bad loans is much larger, between US $384 – 864 billion[13]. Furthermore, these bailouts are not dealing with

[12] http://www.iht.com/articles/2005/10/20/business/bank.php
[13] Lynette Ong, an economist by training, is a long-term observer of the Chinese economy. She can be contacted at LHLO@lycos.com.

the root source of the crisis—the incompetence and corruption that created this problem in the first place.

Furthermore, there are real problems caused by excessive growth in the Chinese money supply. Loose fiscal and monetary policy has fueled a real estate bubble in the country's major cities. According to official Chinese statistics, investment in real estate reached just over $100 billion in 2003, an increase of 35 percent year on year; this in a market with 100 million square meters of vacant office space[14].

Although formal statistics and almost all informed predictions continue to support strong growth in China, it is prudent to consider alternatives. If a banking crisis were to occur, it would no doubt trigger major corrections in the stock market and precipitate a collapse in property values. A greater economic recession in China would impact the commodity markets immediately; demand for coal of all types would fall rapidly. Chillingly, the 800 million tons of new Chinese production could suddenly appear in global coal markets leading to great swings (downward) in thermal and metallurgical prices.

Growing Global Protectionism

As difficult as the market volatility question is, there are other political changes that will complicate strategic calculations considerably. There are worrying signs of increasing global protectionism. The Doha Round of Global Trade Talks collapsed recently, ending in recriminations and finger pointing. The Europeans blamed the loss on American negotiators, suggesting they attached conditions that were simply "unacceptable" for developing countries, while the U.S. accused the Europeans of "lacking the ambition" necessary to reach a deal. During his tenure as Fed chairman Alan Greenspan viewed growing protectionism in the United States with alarm: *"I am concerned about the recent evident weakening of support for free trade in this country… Should we endeavor to freeze competitive progress in place, we will almost certainly slow economic growth over all."*

[14] Analysts warn China on verge of economic crisis, By John Chan, 18 February 2004

Globalization and the Future of the Coal Industry

By Robert McGarvey, 2006

Slowing economic growth could be the least of our problems. Historically, the post-war era has been exceptionally stable and predictable. Stable global institutions, progressively freer trade and unprecedented growth in global GDP have characterized the six post-war decades we have just experienced. Growing international cooperation, founded in a strengthening belief around the world in the reliability and impartiality of markets, has encouraged deep economic integration in the developed world and triggered a large-scale division of labor globally. All this progress could be put in jeopardy by a breakdown in the post-war consensus.

Now days, what tends to be forgotten is that Imperialism, the global system that preceded our present ear of prosperity, operated quite differently. A system of imperial preference (economic protectionism) was characteristic throughout the global economy in the early stages of the 20th century. It has been identified as a principal source of economic conflict and contributed strongly to the two world wars. In particular, the imperial system was blamed by many for fostering a belief in the minds of the (then) newly rising powers of Germany and Japan (who had no empires) that markets could (and would) be over-ridden if larger imperial interests were put in jeopardy. In hindsight, it's obvious that imperial preference played a role in the breakdown of the 19th century free trade consensus, and provided an indirect justification for the use of force in acquiring access to vital resources. Essentially, it helped unleash the dogs of war. A core belief in the reliability and impartiality of global markets is vital to maintaining order in our present international system. Unfortunately, there is growing evidence that longer-term scarcity of raw materials, coupled with rising protectionism is undermining that sense of order, give free rein to a poorly disguised 'Scramble for Resources'.

For example, in pursuit of its aggressive energy ambitions, Russia is forcefully re-nationalizing many of its own private-sector energy companies and re-exerting its political and military authority over nominally independent Azerbaijan, Georgia and Kazakhstan, oil rich states in the Caspian. Russia's treatment of Shell at Sakhalin-2 and BP on the Siberian Kovykta field is only part of a larger pattern of aggressive behavior by the Kremlin to maneuver the energy sector for political ends.

While the Russians are clearly using an iron fist, they are at least polite enough to cover it with a velvet glove. Meanwhile, Hugo Chavez of Venezuela and Evo Morales of

Bolivia are sending in their armies to seize natural gas fields. For their part, the Chinese, Indians and other emerging nations have been aggressively using state-owned (and financed) companies to secure international supplies for their energy-hungry industries.

Changing Market Dynamics

For the first time in living memory, there is a growing realization that the balance of market power in the coal industry is - maybe - shifting. Coal customers, particularly utilities and steel makers, are vulnerable to supply disruptions and/or massive swings in the price of coal and other commodities. As a consequence of this price uncertainty and the growing awareness of longer-term supply limitations, the psychology of global coal markets can be expected to undergo fundamental changes in the years to come. Coal suppliers, transport organizations and end consumer organizations can be expected (reluctantly to be sure) to begin modifying their priorities in the face of these challenges, altering fundamentally their relationships in future.

Changing Long-Term Market Dynamics

The Past: 30 years prior to 2004	The Future: 30 years post 2005
Predominately a buyers' market	Increasingly a sellers' market
Stable market balance (tending to oversupply)	Unstable balance, increasing volatility
Global political stability, free trade	Shifting alliances, rising protectionism
Focus on price	Focus on security of supply
Maintain supplier distance	Supply chain integration (real or virtual)
Adversarial supply relationships	Increasing cooperation

The challenge for coal suppliers will be to navigate this new and unfamiliar terrain. In many ways, the dynamics of the market place are changing the nexus of competition, shifting it from individual 'companies' to the larger 'supply chain'. The investment required to meet new demand and growth opportunities in the coming years is enormous. Coordination and shared risk will be the order of the day as suppliers, transporters and consumers of coal grapple with what could be roller coaster-like swings in the price of coal (and other hydrocarbon-based energy sources). The ability to align organizations strategically and to cooperate up and down the supply chain will become increasingly important to growth and survival.

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