



**TRANSPORT OF COMMODITIES AND COMPETITION FOR RESOURCES**

by

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THE ROLE OF TRANSPORTATION AND COMMUNICATION  
Seoul, August 22, 1992****TRANSPORT OF COMMODITIES  
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Trade in commodities has been one of the most important influences for change, cultural, political, religious, economic, in the history of the world. The extraordinary exploits and adventures of Vasco da Gama, Christopher Columbus, Ferdinand Magellan, Francis Drake, (to name just a few of the European explorers) were driven by the need to find a cheaper, more reliable form of transport for the spices of India and the Indonesian archipelago. The Dutch East India Company and the British East India Company were established to acquire these commodities and bring them back to Europe to enliven the dreary diets, particularly in winter, of the growing European middle classes.

These spices were so highly valued in Europe that they could still bear the enormous costs of overland transport, and numerous tolls en route. In the minuscule Banda Islands, at the eastern end of the Indonesian archipelago, ten pounds of nutmeg cost less than a halfpenny and ten pounds of mace (the membrane which surrounds the nutmeg stone) less than five pence. In Europe the price was 26 shillings and 320 shillings respectively. (One shilling = 12 pence) The spices of the East Indies were the precious metals of the vegetable kingdom. [1]

This insatiable desire for spices, driven by growing European prosperity, led to the development of maritime skills and capacities which enabled the European powers to establish factories, and then colonies, from the Cape of Good Hope around to Shanghai. Let me list some of the cities which were founded in that era of European maritime hegemony; Capetown, Natal, Bombay, Goa, Calcutta, Djakarta (Batavia), Singapore, Hong Kong, Shanghai, Maucau. The rediscovery of America by Columbus, 500 years ago, was also part of the attempt to find a sea route to the Spice Islands. The English sought to find a polar route north of Canada to the spice islands, and in this way the Hudson Bay Trading Company was established to pursue the lucrative fur trade.

Another crucial factor in the European penetration of Asia was the intense competition between the various European sovereigns. The Portuguese and the Spanish had taken their territorial disputes to Pope Alexander VI, and he had divided the non-European world between them at the Treaty of Tordesillas in 1494. But as the Reformation swept through northern Europe the newly protestantised nations saw no need, at all, to observe the geographical monopolies set down by the papacy, and fierce competition between the English, the Dutch, the Portuguese and the Spanish, often breaking out into

open warfare, greatly increased the pace of European exploration, and the growth of trade.

The importance and the value of pepper, cloves, cinnamon, nutmeg and other spices to the Europeans of the C16 and C17 is difficult for us to understand. But it was the demand for these commodities which led to European penetration of what we now call Asia, with enormous cultural, religious, economic and social consequences.

There are two elements in the international trade of commodities. The first is the cost of production. The second is the cost of transportation. If trade is to occur the combined costs must be less than the value of the commodity in the consumer market.

The transaction costs involved in commodity trade, as opposed to trade in services, are relatively low. Barriers of language, religion, culture and politics are easier to surmount when the trade concerns specified quantities of materials of easily determined quality. Thus trade in commodities can proceed for many years with few cultural or religious consequences. It is the wealth created by international trade, in commodities as in other things, which usually results in cultural, political and religious interaction and expansion. It was the wealth obtained from the trade in spices and then in silk and cotton which fuelled the establishment first of trading factories, then political concessions, then colonial outposts. Missionary enterprise was not caused by the desire for riches, at least not earthly riches, but the trading outposts and the shipping routes provided the missionaries with the means to carry out their work.

World wide trade in expensive or precious commodities has been with us since the Middle Ages. In the C19 trade in much less precious cargoes such as wool, tea, wheat, base metal ores, even coal, developed very substantially. The crucial economic element in this trade was the cost of transport from the hinterland to the port. Once on board ship transport costs were not a barrier to trade even for low value commodities such as coal or base metal ores and even over long distances. The rivalry between sail and steam in the latter part of the C19, which led to the development of unprecedented efficiencies and economies in sailing ship design and construction helped to reduce transport costs. Ocean freight rates (for tramp shipping) more than halved between 1870 and 1905.

In the economic history of Australia the rapid growth of the wool industry was possible because even though the cost of moving the wool from the pastoral lease in the outback to the port of Sydney or Melbourne was very high (much higher than the cost of shipping from Australia to England) the value of the product on the English market was usually sufficient to cover the cost of that transport.

The development of the Australian wheat industry was not possible until the costs of internal transport, through the construction of railways, were dramatically reduced.

The big change in commodity trade in the last half century is the development of a very substantial trade in bulk, low-value cargoes, such as coal and iron ore. (See Table 1 for a variety of commodities and 1990 commodity prices). This trade has developed because the unit cost of transport, with the advent of the big bulk carriers, has declined dramatically. If trade barriers continue to be reduced, as they have since World War II, then the international trade in coal, for example, will increase dramatically. Under current protectionist regimes the variation in coal production costs from say Germany

at one extreme, to Australia at the other, is 3 or 4 to 1. There are very great opportunities for massive gains from trade if protection is wound back in Germany and other European countries.

If the cost of shipping continues to decline, perhaps because of unexpected technological developments, then even lower value commodities will become tradeable. Bottled water for drinking purposes is today shipped around the world. If property rights to water become established we may find a trade in water for less valuable purposes develop.

The price of both mineral and agricultural commodities has fallen steadily since international markets developed over a century ago. Regardless of wars and revolutions, and allowing for the spikes caused by interruptions to supply or unpredicted surges in demand, we find when we consider metals such as aluminium, copper, nickel, lead or tin, and agricultural commodities such as wheat and wool, a secular decline in real prices.

An interesting example of a successful wager based on this fact was the challenge which the noted US economist Julian Symon made to environmentalist Paul Erlich, author of "The Population Bomb" and other doomsday tracts. Symon, in 1980, asked Erlich to nominate five metals and if any one did not decline in price in real terms over the next ten years, Symon would pay Erlich \$1000. Erlich chose chromium, copper, nickel, tin and tungsten.

At the time predictions of \$100 per barrel for oil, were commonplace and other commodities were also regarded as certain to enjoy major increases in price. The Club of Rome predictions of increasing shortages and rising prices of every metal and energy mineral were still widely believed. Erlich obviously thought he was on a winner. But Julian Symon collected his winnings last year. Paul Erlich wisely declined to enter into a second wager for the year 2000.

The decline in metal prices has been accompanied at the same time by the exploitation of orebodies of lower and lower grades. In the 1770's it is estimated that the average copper content of the copper orebodies in Cornwall was around 13%. By the 1850's this had fallen to 8%. Such an orebody today would be considered very rich indeed. Open cut or open pit operations have been profitable in recent decades on orebodies of less than 1%.

A good example of this trend is BHP's Escondida copper mine in Chile. Current reserves indicate 1.8 billion tonnes of copper ore at an average grade of 1.6%. Fifty years ago such an orebody would not be considered of any value. Today Escondida is the jewel in BHP's crown. The greater part of the world's metals will come, in the future, from orebodies of lower and lower grades.

Paradoxically, this should lead to more international trade. The economics between different orebodies at 4% and 5%, is dramatically different from the economics between different orebodies of 1% and 2%.

Small differences in grades, in depths, in locations and, importantly, in perceptions of political risk, will govern investment decisions in an unprecedented way. Mineral and energy resources will grow in abundance as exploration technology continues to

develop, and as large areas of the world, hitherto unexplored, become available for exploration.

For example what was the Soviet Union comprises a substantial portion of the world's land surface area. It is highly prospective and the new independent countries of the region will be anxious to generate as much export income, as quickly as they can. Resource development is probably the quickest way forward for them and if they can establish a secure regime of property rights then there will be an upsurge of exploration and discovery. This will only happen, of course, if the governments of these new republics welcome foreign investment, foreign know-how, and foreign ownership of mineral property rights.

It is very easy to sit back and prescribe these things and predict, in consequence, a massive increase in world trade, an upsurge of wealth creation and prosperity around the globe. Life is not so simple. The cold war period, a period of very substantial economic growth for the free world, has come to an end. The free world won the cold war, in the end because it became so much richer than the communist world. It became more prosperous because it was free. The contrast between Western economic progress and communist stagnation and decline sapped the will of the communist ruling classes, the nomenklatura, and the system toppled.

Now that Marxism-Leninism has run out of all possible appeal what politically unifying doctrines will determine the fate of nation states and their peoples?

It seems clear that outside Western Europe and North America the major forces we can observe are nationalism and religion. The English historian George Macaulay Trevelyan described nationalism as:-

"that simplest of all ideals which has in its nature no political affinities either with liberty on the one hand, or with tyranny on the other; it can be turned by some chance current of events, or by the cunning or clumsiness of statesmen, to run in any channel and to work any wheel."

That may be true but the history of protectionism around the world is a history of the identification of trade barriers and trade restrictions with nationalist ideals and nationalist sentiment. I hope that the resurgence of nationalist sentiment in Central and Eastern Europe does lead to effective and efficient government and rapid economic recovery. However I will be agreeably surprised if that resurgent nationalism turns out to be coupled to a commitment to convertible currencies, free trade and open markets.

The big religious news of the 1990's is, first, that despite many decades of savage repression, Christianity has survived and emerged strengthened inside the former Communist bloc. Second is the fact of the resurgence of fundamentalist Islamic belief and authority throughout the Muslim world on the other. Both Christianity and Islam are missionary religions. However, Islamic fundamentalism draws its strength and support precisely because it condemns, totally, modernity and change. At the heart of modernity we find a willingness, a readiness to entertain controversy and debate, and to trade with people, which means in the long term developing on-going commercial relations with people, who are not relatives, not compatriots, not co-religionists, and not of the same race or speak the same language. That is probably impossible for fundamentalist Moslems to do.

There are, therefore, significant forces at work which, if unconstrained, will erect barriers to trade not only in goods but also in ideas. A much greater threat to the continuation of forty years of post-war economic growth than the rise of Islamic fundamentalism, is first the rise of environmentalism in the West, as an established religion and, second, the growth of supra-national, government cartels, which seek to suppress competition between sovereigns.

First, environmentalism and its consequences.

Since 1945, world economic growth has been driven by the United States. Western Europe, Japan and more recently the Asian tigers have played an important part, but the US has been the locomotive for the rest of the world. It has supplied the defence umbrella including the nuclear umbrella; it spent enormous sums on defence technology and capability; and at the same time maintained open markets and defended, through the GATT, liberalised trading rules.

The US was able to do all this because its economy was strong and its people were rich. That strength and prosperity was the consequence of a legal and political order based on private property, the rule of law, and limited government. The US constitution prescribes, in particular, a separation between church and state. The religious life of the nation is the outcome, only, of the private concern of the citizen.

The Pilgrim Fathers who landed in Massachusetts in 1621 were fleeing from religious persecution and discrimination. But they themselves were prone to intolerance and discrimination. Thus in 1786 the constitutional draftsmen in Philadelphia sought to establish civil peace and immunity from religious conflict by a rigid separation of church and state. So it is ironic that the religion, environmentalism, which has most successfully filled the vacuum left by the decline in Western Christianity should receive enormous subvention from the US Government, and should have its demands, particularly those overriding property rights, written into US law.

I see the battle between environmentalism and the legacy of Christianity in the West as of epochal significance. This is not the occasion to set out the recent history of this battle, it will be the subject of many books, still to be written. But the essential element of the environmentalist movement as it effects international trade, particularly in commodities, are the claims it makes for extra-territorial jurisdiction, on behalf of the metropolitan powers, on trade issues affecting the environment.

Logging in Malaysia, land clearance in Brazil, mining in Papua New Guinea, seal hunting in Labrador, are examples where environmentalists in Western Europe, North America and Australasia have sought to set aside municipal law and custom, sometimes successfully. Ecological or green imperialism is a new form of missionary enterprise, but instead of sending environmental missionaries to these developing countries the environmentalist movement seeks trading barriers on products which offend its susceptibilities.

None of this would come to much in the medium to long term if vigorous competition between sovereigns, as took place in Europe in the C15 onwards, were to continue. Some countries, under strong political pressure from domestic environmentalists, might deny themselves economic advantage from trade. But those which did not would draw

ahead, economically, from those which did. An evolutionary pattern of competition and emulation of the most successful would continue, as it has for several centuries.

But a very significant trend towards government or sovereign cartelisation is emerging. If this trend persists then international trade will become subjected more and more to controls and regulations imposed by cartel officials. A very useful example of a sovereign cartel is the Law of the Sea Treaty which very nearly succeeded in establishing an international government cartel controlling the production, price and consumption of nickel, manganese and cobalt. Let me briefly recount the history.

In 1972 the Club of Rome published its "Limits to Growth" report which predicted imminent depletion of reserves of almost every significant mineral and energy commodity, particularly oil. This depletion would inevitably lead to escalating prices, and although it is difficult for us, with the benefit of hindsight, to understand how or why, the Club of Rome predictions became part of the established wisdom, influencing the media at all levels, governments, banks, international agencies, and so on. The oil shocks of 1973 and 1979 were in part a response to the wide spread acceptance of Club of Rome predictions.

It had been known for some time that on the sea bed at various places in international waters, clusters of nodules of highly mineralised materials could be found. These nodules were particularly rich in nickel, cobalt and manganese, and two or three international consortia were formed, during the 1970's, to see if this material could be profitably brought up from the ocean depths.

At the same time various UN agencies had been engaged in attempts to put together a treaty which would codify international practice concerning rights of passage and obligations of seafarers on international waters. Jurisdictional matters over contested waters were part of these negotiations.

Because of the conventional wisdom of the day concerning declining reserves and rising prices of base metals, the diplomats who were pursuing these things thought it would be a good idea to establish a regime which would lead to the exploitation of these sea bed nodules.

The regime for deep sea mining as part of a Law of Sea Treaty which was proposed, and which was supported by the US State Department, the entire US liberal press, and by the then Australian Government, led by Malcolm Fraser, was, in retrospect, frankly preposterous. Two international institutions, politically constituted mini-United Nations, were to be primarily responsible for deep sea mining.

The organisation which was to be responsible for the legal framework, for the allocation of mining rights and production quotas, was to be entitled "The Authority". The other international organisation which was to carry out mining operations, in competition to private mining consortia, was to be known as "The Enterprise". These two organisations were to be constituted by representations from member states of the UN. They would be overtly political bodies.

The Authority was to grant mining permits to private applicants but only on the condition that half of the seabed area which had been prospected and delineated by the private consortium was to be ceded to "The Enterprise". Also mandatory was the transfer

of all the technology which was necessary to obtain these metallic modules from ocean depths of between 2 and 3 kilometres.

None of this would have mattered much if "The Enterprise" had to compete on equal terms with land based mining companies such as my own company, Western Mining Corporation. Under such terms I doubt that a pound of nickel would have ever come from the deep ocean floors, despite the arrangements which were being built into the Treaty for interest free capital subscriptions to these two bodies, "The Enterprise" and "The Authority", the greater part of which would have come from the US.

But an essential part of the rent-seeking endeavours of the third world diplomats involved in the negotiations was a guaranteed market share for the production output of "The Enterprise". In order to ensure guaranteed market share for what was likely to be by far the most expensive nickel in the world, it was essential that all other producers limit their production. "The Authority" was to have power over market access in order to achieve this matching of supply and demand.

As a result of representations by Australian Government and Australian mining industry representatives at the LOS conferences, a clause was inserted into the treaty which purported to protect the interests of land based nickel producers from production quotas imposed by "The Authority". If the Treaty had actually come into effect I doubt that those clauses would have been worth much.

This regime was based on the central planning ideas still then prevailing in the communist world. The fundamental doctrine was that the resources of the sea were "the Common Heritage of Mankind".

It was a proposal to socialise, on a global basis, the mining industry in three important base metals. Today it seems sheer lunacy but we should not forget that the Law of the Sea Treaty almost came into effect. However President Reagan did not understand the perverse consequences of the Treaty, and accordingly refused, in 1982, to sign it. His refusal forestalled the Treaty since without US commitment it was of no value. He was pilloried in the establishment press in the US because of his refusal, and the Australian Government of the day, likewise, attacked him strongly.

The story of the Law of the Sea Treaty is useful because it is now clear that the suppositions of mineral scarcity, upon which the proposed deep sea mining regime was based, were complete folly. And yet it very nearly came into effect.

At Rio de Janeiro, in June last, many of the world's nations, including the US, signed a Global Warming Treaty, and Agenda 21. Most other nations, but not the US, signed a Bio-Diversity Treaty. The Global Warming Treaty commits the signatories to reducing CO<sub>2</sub> and other anthropogenic greenhouse gas emissions but does not commit the signatories to targets and timetables. The supposition underlying the Global Warming Treaty is that increasing CO<sub>2</sub> concentrations in the atmosphere will lead to increasing global atmospheric temperatures and rising sea levels, a supposition now viewed with increasing scepticism by the leading scientists in the climatology field.

Within five years or so it is likely that the significance of CO<sub>2</sub> or otherwise on global temperatures will be established beyond argument. If the scepticism of the leading professionals is justified then, presumably, since there are no specific obligations, the



treaty will be quietly forgotten; those politicians who rode the wave of environmental catastrophe will be retired or too powerful to criticise, and the international bureaucrats will have found some other crisis to justify their activities.

The Rio "save the planet" summit should be seen as part of the cartelisation process (which includes the attempt to obtain a Law of the Sea Treaty) and was the outstanding feature of Operation Desert Storm against Saddam Hussein. What is driving this process?

Let me put forward a tentative explanation. The obvious point to make is that environmentalists in the US, Western Europe, and Australasia, need international treaties to lock their governments permanently into policies which would otherwise change as a result of changes of government after elections. The consequences of international treaties, backed by powerful vested interests of the UN, are far more difficult to reverse than purely domestic policy. The environmentalist movement is organised internationally. Organisations such as Greenpeace maintain operations in many countries, and the capacity of other environmentalist groups to cooperate in international campaigns is impressive.

What is curious however is the ready acceptance by national leaders, particularly in the West, of treaties and international organisations which will dramatically impinge upon, and constrain, their sovereignty. Why would a US President go to Rio and sign a document such as the Global Warming Treaty which promises nothing but economic pain for his country?

The answer, I think, is that politicians all around the Western World are increasingly feeling unwanted, unloved, disrespected. What should be more natural that they should club together in order to feel better about themselves. The number and significance of these clubs has increased in recent decades. The European Community is one of the best examples. The UN of course has provided authority for Desert Storm and may well provide cover for some sort of military action in the Balkans.

In every case the prestige and standing of the nation state, confident of its legitimacy and its values, is eroded.

This process of cartelisation is a most serious threat to the competition between sovereigns, or nation states, which has been the major spur to human progress. Under conditions of competitive sovereignty, international trade could often proceed with considerable freedom. Those sovereigns which adopted liberal trading regimes did much better than those which embraced and enforced mercantilist regimes.

The rapidly growing countries in the West Pacific, particularly, have much to lose if this process of sovereign cartelisation proceeds. I do hope that as they grow in economic strength their confidence in their own legitimacy and culture will enable them to stay aloof from these cartels.

1. Keay, John "The Honourable Company: A History of the English East India Company." Harper Collins, London, 1991.

**Table 1**

<u>Commodity</u>	<u>US/cents/lb</u> <u>1990 price</u>
Gold	560,000
Silver	7,134
Uranium Oxide	1,255
Nickel	400
Tin	280
Pepper, Black	220
Wool	205
Copper	121
Tea	92
Aluminium	74
Zinc	69
Lead	37
Rice	18
Sugar	13
Alumina	12.2
Bauxite	7.5
Petroleum	7.5
Wheat	6.2
Coal	2.3
Iron Ore	1.4