

Biopolitics, Development and Democratization: The Case of Korea

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The individual is foolish but the specie is wise.
Edmund Burke²

Man has existed for about 4 million years, which works out to about 200,000 generations. Human origins are traceable to shrew-like creatures that go back 150 million years; mammals originated with aquatic worms that go back 600 million years; and life itself descended from microorganisms that go back 3 billion years.

Biology and animal social behavior provides insights into the fitness of countries. This paper extends the bioeconomic ideas in Magee(1984,1993, 1998) to political institutions, specifically democratization and the economic development of countries.

¹ This paper is a collection of insights, metaphors and grand thoughts rather than a practical guide to policy. Previously presented at the South Asia Conference on Globalization Bass Lecture Hall, LBJ School of Public Affairs, University of Texas at Austin, April 9, 2005.

² Young(1993,57)

I. The Evolution of Nation States

1. 10,000 years of economic evolution from common goods to private goods

- A. For several million years, “common allocation” described how man consumed free goods, since supply exceeded demand (the Garden of Eden period).
- B. Around 8,000 BC, the agricultural revolution occurred, but the even bigger revolution was the invention of “property rights.” The agricultural revolution occurred because man’s population outstripped the supply of fruits, berries and game. The resulting starvation of man forced replacement of the commons allocation (hunting and gathering) with the private allocation of goods. The story of the Ice Age, barley and wolves as the first lawyers.
- C. From 8,000 BC until about 1800 AD, the world evolves away from common goods (provided by rituals or institutions) and toward private goods (provided by markets).
- D. In the 1770s, the second or industrial revolution began, with capita replacing land as the primary factor of production.
- E. In the mid 20th century, the digital revolution occurred, leading to the information revolution, in which we now participate. Gary Becker has estimated that 2/3 of the world’s wealth is now human capital, compared to only 25 % for physical capital and 10% for land and minerals.
- F. The products of this revolution are not private goods like food from the agricultural revolution and hard goods from the industrial revolution. Now the goods are intangible durables – ideas – and they are public rather than private goods. This makes this revolution both more and less egalitarian. Anyone can steal and use the ideas but there are a few winners and a lot of losers. Thus, there is greater equality in consumption (everyone can use ideas on the web) but less equality in the generation of incomes (the Bill Gates and Intel effect because of the winner-take-all phenomenon).
- G. Hangyong Lee (2005)³ study of Korean investment showed that fixed investment grew 64% from 1990 to 1997 but only 3% from 1997 to 2004.

³ Hangyong Lee, Session I, “The Impact of Uncertainty on Investment: Empirical Evidence from Manufacturing Firms in Korea” 2005.

- H. But, Lee and Yu's (2005)⁴ study of endogenous growth in this session found that the Korean growth miracle would not stop just because of the slowdown in the growth of factor inputs. Rather, the important less tangible elements of human capital and Korean technology were continuing to expand. This room full of PhDs is testimony to that and my own 10 Korean PhD students whose dissertations I supervised at Texas. These are all testimony to the wise Korean policy of human capital accumulation at the highest levels, because knowledge is the new wealth.
- I. After 1800 AD, in the more fit countries, the common provision changed: there was an increase public goods (roads, standards, defense) provided in common (by the government) that increased the fitness of England and the United States relative to their rivals.
- J. But, in general, the great march of history with the advent of modern civilization since 8,000 BC has been from the commons (hunting and gathering) to private property. Witness the three most capitalist countries in the world, the US, Japan and Germany with 1/3 of the world's GDP in 2003. Here Insill Yi's (2005) study of business diversification across 19 countries finds that there is a positive correlation between private ownership of bank assets and GNP per capita.

2. Biology, Economics and Politics

- A. Pioneering work from bioeconomists, with varying degrees public choice emphasis, include Alchian (1950), Becker (1976), Hirshleifer (1977,1978), Tullock (1990a,1990b) and Ursprung (1988). Hirshleifer (1978) and Tullock (1990b) presents important alternatives to government solutions to public good problems. Harlow (1988) has a biochemical basis for human risk aversion and Henderson (1989) and Rothschild (1992) suggest biological insights for popular business applications. For the use of biological ideas in the development of economic theories, see Nelson and Winter (1973) and Simon (1962). My own rational choice work on endogenous protection and rent seeking in Magee, Brock

⁴ Jong Won Lee and Byoung Gyu Yu, Session I, "An Endogenous Growth Model Approach to the Korean Economic Growth Factors," 2005.

and Young (1989) was based on a predator-prey model of lobbying and politics. This draft of this paper does not yet relate this work to dynamic games.

- B. First, some bioeconomic background from Magee(1993). There are four forms of both animal and human interaction. Figure 1 illustrates that individuals can be cooperative, selfish, altruistic or spiteful. My behavior is cooperative if I help myself and help others; it is selfish if I help myself but hurt others; it is altruistic if I hurt myself but help others; and it is spiteful if I hurt both myself and others.

Figure 1. The four forms of behavior by humans and animals

		The Effects of the Actor's Actions	
		On the Recipient	
		+	-
On the Actor	+	Cooperative	Selfish
	-	Altruistic	Spiteful

Magee(1993, 121)

- C. Cooperative behavior is the dominant form analyzed in economics, because of the assumption that voluntary transactions necessarily involve mutual gain. The dominant form of interspecies animal interaction is selfish. Predators and parasites increase their welfare at the expense of prey and hosts. The symbiotic (cooperative) behavior of pilot fish with sharks and cowbirds with cows are exceptions. The second row of the figure is largely ignored by biologists because it is not equilibrium behavior.
- D. We can think of economic (cooperative) relationships as horizontal, because both parties gain (win-win). Political relationships can be thought of as primarily vertical, because they are about rights, redistribution and power, which are

- relative. Since political relationships are vertical, bioeconomics is particularly instructive for public choice theory.
- E. Cooperation rather than selfishness is a defining difference between humans and animals. It is also a difference between advanced and developing countries. Advanced countries protect general interests better from predatory and parasitic behavior by special interests. Economists call resources devoted to such behavior “rent seeking” to denote its redistributive and socially costly aspects.
- F. Cooperative behavior is the essence of business, where transactions are essentially win-win situations. Mergers and joint ventures are the same, witness Song and Chen’s (2005) paper on possible cooperation between Korea and China on hydrogen economic policy.
- G. Successful public institutions provide public goods, reduce negative externalities and overcome the negatives of market failures and prisoners’ dilemmas such as pollution. Countries which do that create economies which are more fit and dominate others on world markets. These are called advanced countries. To the extent that Korea succeeds in these areas politically, it will complete its entry into the club of the most advanced countries.
- H. Unfortunately, on this score, the Korean economy ranks much higher than its political institutions. For 2004-5, out of 104 countries in the world, the World Economic Forum ranked Korea 9th in Technology; 24th in Business Competitiveness; 41st in Public Institutions and 50th in Corruption (meaning there were 49 countries that were better).⁵
- I. The economic danger of political corruption is well illustrated by Argentina. Around 1930, Argentina ranked 8th in the world in per capita income. After Juan Peron became President, the focus of government changed from efficiency to redistribution to corruption – from what you knew to who you knew. Today Argentina ranks 67th in per capita income out of 220 countries.

⁵ http://www.weforum.org/pdf/Global_Competitiveness_Reports/Asia_Competitiveness_Rankings.pdf

- J. One danger sign in this regard is Koo's (2005) paper indicating that the current levels of government debt in Korea may not be sustainable.⁶

3. Nations as species and the superior fitness of advanced country democracies, 1800-1960

- A. From 1800 on, modern capitalist democracies were more fit and could outcompete countries organized by monarchies because they were efficiently able to sort the commons function (public goods into common provision and private goods into private provision).
- B. The democracies could mobilize more economic resources to fight wars and dominate their neighbors because citizens felt that their tax dollars were effectively their own (privatized) because of their participation via the vote.
- C. The democracies developed superior institutions because dominance competition led to more fit leaders, superior to those in noncompetitive autocratic regimes.
- D. Intra-specie competition eliminates the less fit and makes the specie stronger in inter-specie competition. Large business units, the *Chaebol* groups of Korea, are similar to countries in their use of inner cooperation to increase group fitness. But intra-*Chaebol* competition is required to eliminate less fit and less competitive division in order to strengthen inter-*Chaebol* and international fitness. The study by Choe and Roehl (2005) finds that the Asian crisis forced the *Chaebols* into greater efficiencies, divestiture of inefficient units and greater focus on core competencies.⁷

II. Biological Metaphors

4. Endogenous testosterone production

- A. Biological experiments show that when, say, 20 chickens are placed together for the first time, they will fight until a pecking order is determined, from 1 to 20. This dominance hierarchy reflects the relative fitness of the animals from the strongest to the weakest.

⁶ Chung Mo Koo, "Fiscal Performance, Public debt and Fiscal Consolidation in Korea," 2005.

⁷ Choe, Soonkyoo and Thomas W. Roehl. "What to Shed and What to Keep: the Divestiture and Consolidation Decisions of Korean *Chaebol* Groups after the Asian Crisis."

- B. When chickens are moved from a group in which they are inferior (say, ranked number 15) to a group in which they are superior (say, ranked number 5), their own bodies produce more testosterone and they become more aggressive and more successful at competing.
- C. In biology, elevated testosterone increases aggressiveness, confidence and decreases risk aversion. Negative external events such as the Asian crisis of the 1990s increases fear, decreases endogenous testosterone production and increases risk aversion. This is adaptive since fear reduces the tendency for animals to fight when they are in a hostile environment. Lee's (2005) study of manufacturing investment in Korea found increased risk aversion after the Asian financial crisis compared to before.⁸ Of course the same phenomenon could be explained by Friedman and Savage's (1940s paper) finding of an S-shaped relationship between utility and income [such that low people would insure against large losses but would buy lottery tickets to obtain large gains]
- D. Another biological insight is that those at the bottom of the dominance hierarchy have the poorest territories or their nests have no safety from predators. Matsuura and Takeda (2005) found that, consistent with biological expectations, the poor countries in East Asia were degrading their environments (increasing CO2 emissions) in their trade with Japan.⁹ However, the reverse was true for East Asian trade with the United States.
- E. One of the consequences of increased competition hierarchical competition within groups is that it increases the fitness of the members versus outside. Here the lesson from Singapore and Hong Kong's earlier openness is that global competition and increased openness makes a country more fit economically versus the rest of the world. While not the direct focus of their paper, Aizenman, Lee and Rhee (2005)¹⁰ the foreign equity stakes in Korea has increased from 2% of GDP pre-crisis to 23% within 6 years. While a consequence has been increased Korean holdings of international reserves and increased openness has short-term costs, the long-term effects are positive (the Michael Porter *Competitive Advantage of Nations* effect).

⁸ Hangyong Lee, Session I, "The Impact of Uncertainty on Investment: Empirical Evidence from Manufacturing Firms in Korea" 2005.

⁹ Matsuura, Katsumi and Fumiko Takeda. Session VIII, "Trade and the Environment in East Asia: Examining the Linkages with Japan and the USA."

¹⁰ Joshua Aizenman, Yeonho Lee, and Youngseop Rhee, Session II, "International reserves management and capital mobility in a volatile world: policy considerations and a case study of Korea", 2005.

**5. Biological competition generates the fitness superiority
in democracies via dominance hierarchies (pecking orders)
and the superiority of capitalism via animal territoriality**

- A. Animals allocate resources in two ways. The first, animal territoriality was the earliest form of private property. The second, dominance hierarchies, is practiced by migratory and mobile species. The dominance hierarchy is the earliest form of politics. In nature, the strong dominate the weak, economically, politically and socially. The pyramid of nature is the ultimate dominance hierarchy: carnivores eat herbivores, herbivores eat herbs, etc.
- B. Private property be the greatest social innovation of modern man because it facilitated the accumulation of wealth and economic surpluses which permitted farmers to move to cities, not have to grow their own food, then urbanization, permitting economic specialization and we are off to the races with culture.
- C. Nations can also be thought of as economic units which also require boundaries that facilitate national private property to encourage the accumulation of public goods like law and order, public safety, etc.
- D. In fact, the great superpowers have all had well-protected natural boundaries. Egypt was geographically from the ancient world and lasted 2500 years as a civilization before it was overrun in 600 BC; ancient Greece was an island, partially protected from invasion by water; Rome was protected by water on three sides and vulnerable only on the north, the side on which it was eventually overrun; Britain, the United States and Japan were all protected from invasion by water. Thus, nations have property rights. Sohn and Yeo (2005) explores this issue of national security and its relationship and effect on international trade.¹¹
- E. The country parallel is the degree of private competition, which enhances the fitness of national firms. Again, private competition increases the fitness of national firms against international firms. Kikuchi and Kobayashi (2005)¹² found that in 2000, only 50% of the telecommunications operators in the Asia-Pacific region are privately owned, compared to 63% in Europe and 74% in the Americas.

¹¹ Sohn, Kiyoun and Taek Dong Yeo. "Does the international trade help to enhance national security?"

¹² Toru Kikuchi & Chiharu Kobayashi, Session III, "Network Externalities, Competition, and Trade: East Asian Perspectives" 2005.

- F. One can think of economic (cooperative) relationships as horizontal, because both parties gain (win-win). Political relationships can be thought of as primarily vertical, because they are about rights, redistribution and power, which are relative.
- G. One insight from animal dominance hierarchies is that political rent seeking and corruption is just a transaction cost of interactive activity. The animals decide the question of who gets to redistribute wealth from whom when the pecking order is established. Species with lower transaction costs for redistributive conflicts experience greater survival. The same is probably true for competition within versus among lobbies and competition within versus among nations.

**6. Endogenous testosterone production explains
how democracy can contribute to economic development**

- B. Politics in democracies is a form of dominance competition in which leaders rank order themselves from the strongest (the president) to the weakest (local officials).
- C. Democracies may have superior fitness because the vote privatizes government action in the mind of each voter. The emotional gratification of voting (I just threw the bums out) likely mobilizes the biochemical production of testosterone in the human body, resulting in greater aggression, confidence and accomplishment.
- C. In this way, democracy promotes economic development because voting generates a more aggressive and competitive populace, meaning greater economic competition and fitness
- B. Darwinian processes lead humans to compete in dominance hierarchies to become the alpha male or female leader of the group.

7. Advanced countries escape economic competition via specialization

- A. In complex societies, hierarchies multiply. In nature, species proliferate and specialize until every food niche is filled. The economic parallel is the principle of comparative advantage. But a cost is greater vulnerability to redistributive predation from other groups.

- B. The species of Australia evolved independently from those in North America. But Australia has many of the same animals. Australia has a Tasmanian wolf, a native cat, a flying phalanger (like our flying squirrel), wombats (like our groundhogs), and marsupial anteaters, marsupial moles and marsupial mice.
- C. Life is easier in advanced countries because there is greater specialization (eg professions) and hence less head to head competition compared to developing countries.
- D. International trade theory is a case study in the history of economic specialization, starting with Ricardo and comparative advantage.
- E. The great lesson of globalization since 1980 is that free international trade does indeed promote specialization, efficiency and economic progress. Trade expansion has accentuated factor endowment polarization into the low-wage (labor abundant) and high-wage (human capital abundant) blocs, with resulting specialization gains. Dinopolous, Fujiwara and Shimomura (2005) have generalized the Ricardian and Heckscher-Ohlin-Vanek theories to hold even in the case of quasi-linear preferences.¹³ Hoa (2005) studies the growth of Korean trade with six major trading partners using a generalized gravity econometric model.¹⁴

8. Greater competition for resources forces more fighting and steeper hierarchies; this explains greater inequality in developing countries

- A. Dominance hierarchies get steeper with increased competition. . In poor countries, there will be more resources devoted to fighting over the hierarchy and the distribution of income and the distribution will be more unequal.
- B. While economic development and abundance flattens hierarchies, so there is greater equality of income distributions in the advanced countries.
- C. Increased competition does the reverse, such as globalization leads to greater income inequality, at least in the United States and other advanced countries.

¹³Dinopolous, Fujiwara and Shimomura, "International Trade Patterns Under Quasi-Linear Preferences," 2005.

¹⁴ Tran van Hoa, "Impact of Economic Policy Reforms, Regional and Global Shocks on Trade and Growth in East Asia: The Case of Korea," 2005.

- D. With steeper hierarchies, despotism is more likely in poor countries because the stakes of hierarchical competition are greater.

9. An r-K theory of economic development

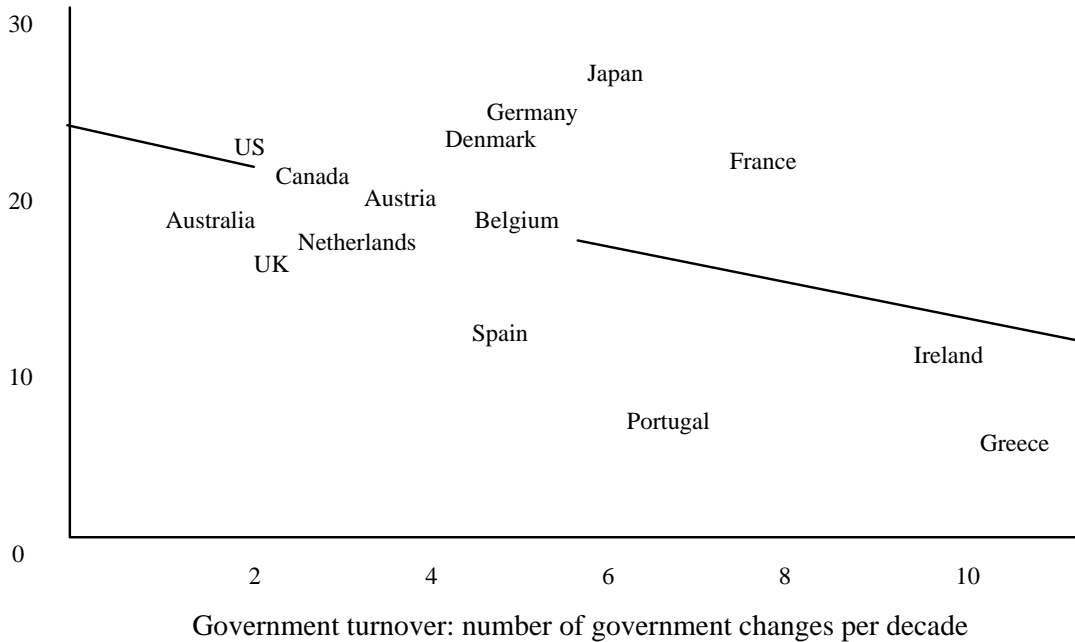
- A. MacArthur and Wilson (1967) suggested that species employ two survival techniques: r strategies and K strategies. Mnemonically, r species can be thought of as roaches and K species as cows. The r strategists include insects, fish, and amphibians while K strategists include birds mammals, and man. The r strategists are lower life forms and have opportunistic life strategies, short lives, many offspring, low levels of parental care for offspring, and small body sizes. The K strategists are higher life forms like mammals and have more sedentary life strategies, longer lives, fewer offspring, higher parental care for offspring, and large body sizes.
- B. The reproduction strategies of insects is an r strategy: lay hundreds of thousands of eggs and leave the young to fend for themselves. This contrasts with the K strategy of the cow which has a nine month gestation period. In general, r strategists thrive in high variance environments while K strategists do better in stable environments.
- C. The lesson from r versus K theory is that r-species live in in harsh environments with high volatility (i.e., developing countries) while K-species live in more lush environments (i.e., advanced countries) with low volatility. The job of good governments is to promote stable environments that encourage long-term investment and prosperity. Willett and Kim (2005) showed that a managed float may have been Korea's optimal post crisis exchange rate policy to deal with volatility. Baak (2005) showed that Korean exports to Japan were reduced by the volatility of the Korean wan. Shang-Jin Wei and my former student, Changkyu Choi (2005), showed that lower exchange rate volatility is associated with higher FDI for bilateral foreign direct investment (FDI) from 16 source countries to 57 host countries. Slavov (2005) showed the negative effects of exchange rate volatility on the macroeconomic stability of small economies in East Asia. Gilroy and Lukas (2005) provide a sophisticated theoretical treatment in Korea's IT and Chemical industry using an option framework.

- D. The insight from r-K theory is that developing countries have yield larger numbers of offspring per family with lower levels of parental investment; generalists rather than specialists; greater hierarchical (e.g., political) competition; for them to be risk lovers; for them to have short time horizons; for them to employ scramble competition strategies; and for their national citizens to be more adept at hierarchical and social climbing behavior.
- E. The r-K strategy distinction is insightful in explaining both economic and political behavior between developing and advanced countries. Developing countries face highly variable economic and political environments. We observe that developing countries display high reproductive rates and lower parental investments in their children than do citizens in high income countries which have fewer offspring per marriage and invest greater amounts of parental investment per child. This is rational in that individuals will shift from K toward r strategies in the face of greater economic shocks.
- F. Higher levels of economic competition in large urban centers push individual to specialize more, like K strategists. Country dwellers rationally opt for generalist r strategies. Societies like Japan which are moving up the world economic hierarchy are basically employing r strategies while those at the top like the United States and the Europeans adopt various exclusionary devices (e.g., protectionism, etc.) to fend off the interlopers.

Figure 2 Government turnover and the level of economic development

Economic development:

GNP per capita in 1990
(\$ thousands)



- G. The political implications of the r-K theory are that politics will be more chaotic in developing countries and more predictable in advanced countries. The extreme case of an r-strategy country might be Bolivia. Bolivia has had more than 190 coups in the last 160 years. In Japan (as well as Mexico) the same political party was in power, until recently, for nearly 50 years.
- H. Notice in Figure 2 that higher government turnover countries are more like political r strategists with lower levels of economic development (see the lower levels of GNP per capita in Greece and Ireland) while lower government turnover countries are more like political K strategists with higher levels of economic development (see the higher levels of GNP per capita in the US and Canada).

10. Firms competing with governments and the decline of the power of nation states relative to the market

- A. Henderson(1989) reports the following experiment by Prof. G.F. Gause of Moscow University in 1934. He put two protozoans in a bottle with an adequate supply of food. If the animals were different species, they could survive and coexist. If they were the same species, their food sources and strategies were too similar and they could not. This led to Gause's principle of competitive exclusion: no two species can coexist if they make their living the same way.
- B. There are clear lessons from Gause's experiments for business units: differentiate to avoid head to head competition with rival firms. The same principle may apply to competition between government and business. Both are competing for consumer dollars. The government has the power of taxation but businesses have more attractive products and power to lobby.
- C. There is constant competition between governments and business for economic resources. While government command over resources has grown this century, the efficiency of democratic institutions appears to be falling relative to business.
- D. This happened at the end of the 19th century as national corporations eclipsed the states in the U.S. Business successfully lobbied to transfer power from state governments to the national government. The same is happening today as multinational firms and banks eclipse nation states. Over 50 regional trading arrangements are eclipsing nation states for the control of international trade. The political power of nation states is declining.
- E. Global firms may have some role in the Asian crisis but they have had ameliorating effects in the post-crisis period. Harada (2005) found that Korean bank scale efficiency deteriorated until 1998, then gradually improved. Banks with high foreign ownership performed better than other Korean banks. Bonin and Imai's (2005) study of soft-related lending showed that news of the likely sale of two Korean banks to foreign financial institutions led to drops of 2% in the stocks of related and presumably weaker borrowers.¹⁵ I presume this signals higher lending standards and thereby increased efficiency and better lending in the Korean economy.

11. States competing with firms forces states toward more vertical hierarchies: ie, greater autocratic structures. Could this why Russia is failing because it is a democracy and China is succeeding because it is not?

¹⁵ Bonin, John P. and Masami Imai. "Soft Related Lending: A Tale of Two Korean Banks."

- A. In fact, advanced democracies are being replaced with virtual states, whose focus is international rather than domestic markets. Rosecrance's(1996) "virtual states" parallel virtual corporations as the most efficient political institutions in the world. The 1996 world competitiveness rankings by the World Economic Forum ranked Rosecrance's(1996) two virtual states -- Singapore (#1) and Hong Kong (#2) as the most competitive countries in the world and more competitive than the United States (#4 behind New Zealand).
- B. These states are economically superior because to compete with multinationals, they must be organized along nondemocratic lines – as are Singapore and Hong Kong.
- C. One way small countries become big and successful is by competing on world markets. Growing globalization has led to an increase in optimal country size,, witness the proliferation in free trade agreements and Kiheung Kim's (2005) finding that the Korea-ASEAN Free Trade Agreement increased bilateral trade by 11% for the IT industry.¹⁶

¹⁶ Kim, Kiheung. "The Economic Effects of Forming Korea-ASEAN Free Trade Agreements: The Case of IT Industry."

III. A Life Cycle Metaphor of Democracy, Development and Globalization

- A. Is democracy good for economic development? We saw earlier that there may be biochemical reasons for “yes.” A life cycle metaphor suggests that countries might be thought of as individuals moving through their lives. Think of a parent as parallel to an autocratic leader while democracy might parallel an individual making their own decisions without guidance.
- B. Just as children do not make all of their own decisions, very young nations with inexperienced and uneducated voters appear to be less successful with democracy. While Pinochet was a reprehensible political leader, said to have had at least 3,000 killed from 1973 through 1990, the one thing he may have done right was economic. He forced Chile to eat meat and vegetables rather than candy for nearly two decades, vaulting Chile ahead economically.
- C. Just as older, more experienced, mature individuals make decisions, so might nations be better at democracy after they are older economically and institutionally. Democracy might just be an income-elastic luxury good, like yachts.
- D. Also, there may be justification for protection in younger less developed nations. We do not make start to work and compete in the market and be self sufficient at age 6. So we might not expect young nations not be ready for full globalization until their institutions can compete with the wily and experienced competitors in world markets.
- E. Japan, China, the US and many countries protected their markets when the economies were young. This explains the possible optimality of higher tariff rates in countries at lower levels of economic development. But efficient countries try to get away from protection, because it traps a country into producing what it is worst at rather than what it is best at relative to the world market – its exports.

12. Evidence on democracy and development

- A. The democracy factor. A study by Barro (1999) was a panel of 100 countries between 1960 and 1995. He found that improvements in the standard of living precedes increases in democracy.
- B. In 1987, 40% of the countries of the world (66 out of 167 countries) in the Freedom House survey were “electoral democracies.”¹⁷ By 2002, this number was up to 63% (120 out of 190 countries), an increase of 57.5%. Over that same time, real per capita GDP rose by 49.1%.¹⁸ Evidence from Barro () indicated that causation runs from economics to politics. Since democracy grew faster than income, economists would say that democracy was “income elastic,” with an elasticity of 1.06 (57.5/49.1). In economic terms, the political freedom democracy provides is a luxury good like yachts.
- C. Consider now three freedoms: political freedom (democracy), educational freedom (literacy) and economic freedom (property rights). What is their effect on economic development?
- D. The idea that political and educational freedom appear to assist but may not be necessary for economic development come from the former Soviet states and Cuba, all of which have high literacy rates but less successful economic development.
- E. Other examples that political freedom not necessary for economic development come from Hong Kong and Singapore, neither of which have political freedom, but which have per capita incomes in the highest 15% in the world.¹⁹ India has political freedom but less economic freedom, with per capita incomes in the bottom 30% or so of countries.²⁰

11. The value of protecting capital

¹⁷ <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan005781.pdf>

¹⁸ This uses the growth rate of 2.7% per year for the world economy from 1990-2002. Source: <http://www.worldbank.org/data/wdi2004/pdfs/table4-1.pdf>

¹⁹ Per capita income in the US in 2003 was \$37,500; in Hong Kong it was \$28,800 and in Singapore it was \$24,100 according to the World Bank. <http://www.worldbank.org/data/databytopic/GNIPC.pdf>

- A. In the 20th century, the three largest economies in the world in terms of GDP are the US, Japan and Germany. Income in these three countries equaled 32% of the income earned in the world in 2003, according to World Bank PPP measures. Until about 1990, you could not get any more economic freedom squeezed into Japan and Germany – they grew out of pre-World war II states in which business ran the government. Since 1990, each country has faltered economically. Japan has suffered from business-government special-interest sclerosis while Germany has chosen reunification of the country and the provision of government services ahead of purely private interests.
- B. But these traditionally large economies are now being challenged by China (now #2 in the world), with a total PPP income nearly 60% of US income and India (now #4 in the world and ahead of Germany), with a total PPP income nearly 28% of US income.²¹

12. Evidence on globalization: It has helped the richest and the poorest countries but the middle income countries have grown the least ²²

- A. In 1980, the difference in per capita income among three groups of countries was enormous. Average GDP per capita was less than \$300 in the low-income group, roughly \$2,500 in the middle-income group and more than \$20,000 in the high-income group.
- B. After two decades of globalization, by 2000, per capita incomes in the high-income countries in 1980 had increased by roughly 50 percent in real terms due primarily to innovations in biotech information and communication technologies.
- C. At the other end, the poorest countries grew even faster: during the 1980s and 1990s their real per capita incomes grew by more than 160 percent. This growth surge was not caused by sale of agricultural products but by large-scale exports of

²⁰ India ranked 143 on PPP and 160 out of 208 countries in dollars according to the previous data source.

²¹ http://www.worldbank.org/data/databytopic/GDP_PPP.pdf

- standardized manufacturing products ranging from steel to shoes to computer hardware.
- D. Real per capita income in the middle-income group grew by less than 20 percent during the 1980s and 1990s, less than half of the growth rate achieved in the high-income countries and less than one-eighth of that in the low-income countries.
- E. Q: Why has globalization been disappointing for countries in the middle? The answer seems to be they have not found a niche in world markets. They have been unable to compete in high-value added products dominated by rich countries because their workforces are not sufficiently skilled and they do not have the legal and banking systems for infrastructure support. As a result, they have been forced to try to compete with China and low-income economies. But because of their higher wages, the middle-income nations are losing that battle.

References

- Barkow, Jerome. (1989). *Darwin, Sex and Status*. Toronto: U of Toronto Press.
- Becker, G.S. (1976). Altruism, egoism, and genetic fitness: economics and sociobiology. *Journal of Economic Literature* 14(3): 817-826.
- Darwin, C. (1859). *The origin of species*. New York: Penguin reprint, 1979.
- Dawkins, R. (1976). *The selfish gene*. London: Oxford University Press.
- Friedman, Daniel. (1991). Evolutionary Games in Economics, *Econometrica* 59 (May), 637-666.
- Gould, S.J. (1983). *Hen's teeth and horses toes*. New York: W.W. Norton.
- Henderson, B.D. (1989). The origin of strategy. *Harvard Business Review* 67(6): 139-143.
- Hirshleifer, J. (1977). Economics from a biological viewpoint. *Journal of Law and Economics* 20: 1-52.
- Lopreado, J. (1984). *Human nature and biocultural evolution*. Boston: Allen and Unwin.

²² Source: "Globalization's Missing Middle," by Geoffrey Garrett, *Foreign Affairs* (November, December 2004) Volume 83.

- MacArthur, R.H. and Wilson, E.O. (1967). *The theory of island biogeography*.
Monographs in Population Biology. no. 1. Princeton: Princeton University Press.
- Magee, S.P. (1984). *Bioeconomics: a theory of economic selection*. Unpublished manuscript, 10 chapters, University of Texas at Austin.
- Magee, S.P., (1993). Bioeconomics and the survival model: The economic lessons of evolutionary biology, *Public Choice* 77, 117-132.
- Stephen P. Magee, "Bioeconomics: Lessons for Business, Nations and Life," in David C. Colander, ed., *The Complexity Vision*, Northampton, MA: Edward Elgar, 2000, 255-284. A paper presented at a Conference at the Max-Planck Institute, Jena, Germany, November, 1998.
- Magee, S.P., W.A. Brock and L. Young (1989). *Black hole tariffs and endogenous policy theory: political economy in general equilibrium*. New York: Cambridge Press.
- Olson, M. (1982). *The rise and decline of nations*. New Haven: Yale.
- Rosecrance, Richard. (1996). The Rise of the Virtual State, *Foreign Affairs* 75 (July/August), 45-61
- Rothschild, M.L. (1992). *Bionomics: the inevitability of capitalism*. London: Futura Books.
- Schwartz, Barry. (1986). *The battle for human nature*. New York: WW Norton.
- Thaler, Richard. (1992). *The Winner's Curse*. Princeton: Princeton University Press.
- Trivers, R.L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology* 46: 35-47.
- Tullock, G. (1990a). The economics of (very) primitive societies. *Journal of Social and Biological Structures* 13(2): 151-162.
- Ursprung, H.W. (1988). Evolution and the economic approach to human behavior. *Journal of Social and Biological Structures* 11: 257-279.
- Vehrencamp, S.L. (1983). *A model for the evolution of despotic vs egalitarian societies*. *Animal Behavior* 31: 667-682.
- Wilson, E.O. (1975). *Sociobiology*. Cambridge: Harvard University Press.
- Wittenberger, J.F. (1981). *Animal social behavior*. Boston: Duxbury Press.