Systems Thinking for Strengthening National Competitiveness in South Korea* **

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< Abstract >

This paper is not a research study but rather a preliminary framework constructed with regard to the problem of national competitiveness in the Republic of Korea, at a time of economic stasis and political and social disquiet. In order to strengthen South Korean economic competitiveness, major components of the Korean socio-economic and political structure need to draw on the lessons of systems thinking. In the globalized period, the systems approach necessary to optimize Korean competitiveness would build towards the unified identity of global citizenship. This would require redefining Korea's comparative advantage in terms of human capital accumulated through education and invested in interactions with other nations. The most productive contemporary comparative advantage, in terms of co-evolution, ultimately is based on global citizenship as part of the evolution of shared rights and responsibilities within universal citizenship.

[Keywords] system thinking, co-evolution, comparative advantage, global citizenship

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I. The Crisis in Korea

South Korea, like so many other nations around the world, has had a dispiriting start to the new millennium. The global "great recession" has brought sharply lower growth rates compared with those enjoyed by the Korean economy in the recent past, while China, although a crucial market for Korean goods, is also proving a potent rival. With exports knocking on doors that too often refuse to budge and consumer demand flat, the country has endured five consecutive quarters of sub-one percent growth from the fourth quarter of 2013 through the fourth quarter of 2014(Song 2015). Industrial centers such as Ulsan that helped fuel the country's startling emergence from third-world status to major global economic power have shown falling GDP per capita and lowered confidence levels among businessmen(Lee and Cha 2015). And the pessimism has spread: a poll conducted by the Federation of Korean Industries in early 2015 found that, among the country's 29 largest conglomerates, or *chaebol*, only five felt confident that the current economic travails represent only a temporary glitch, while the other 24 fear that the Korean economy "is on the verge of a structural, long-term recession" (Yonhap News Agency 2015a). As a result, their hiring of recent university graduates has dipped in favor of finding experienced workers, in a development that will only deepen an employment crisis for young Koreans that threatens one of the most significant gains within Korean society, its high levels of education – already one third of college graduates were still seeking employment a year after graduation in both March 2013 and March 2014(Kim 2015; CBNC 2015).

Unfortunately, the malaise in Korea extends well beyond economics. A defining moment for many Koreans came with the sinking of the ferryboat Sewol in April 2014. The disaster, which claimed more than 300 lives, most of them high school students, came to symbolize what seemed to many a "perfect storm" of modern Korean faults – the me-first individualism of the captain and most of the crew, the tardiness and incompetence of the government as represented by the Coast Guard, and the greed and graft of the Sewol's corporate owners. As the tragedy became entangled with the country's already divisive, often intemperate politics, its symbolic importance as a barometer of the nation's faults continued to grow even as its moral grandeur faded(Choe 2014). Even *chaebol* that to many Koreans continue to represent the best in recent Korean history have lately seemed mired in uncharacteristic torpor, as Lee Kun-hee, the aging head of Samsung, languished in a Seoul hospital (Lee 2014), or unbecoming buffoonery, as the daughter of the head of Korean Air was sentenced to a year in prison for physically abusing flight personnel, violating safety requirements, and helping engineer a cover-up after she became upset at how she was served macadamia nuts on a flight

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(Choe 2015). One measure of the current depth of cynicism and despair could be found in a recent poll by the Hyundai Research Institute showing that students at universities across Korea were more likely to trust complete strangers than Korean politicians or corporations(Yonhap News Agency 2015b)

The dysfunctional interactions of the Korean government, society, and economy have not escaped the attention of outside observers. As recently as 2012 the World Economic Forum's Global Competitiveness Index, a more methodologically robust derivative of Michael Porter's famous analyses of the "competitive advantage of nations," indicated that the Republic of Korea, in a turnaround from recent backsliding in the rankings, had jumped five positions among all 144 nations evaluated that year to claim a spot among the top 20, in 19th place nestled right above Australia and France(Schwab 2012, 13, 28, 221). But the editors have grown less sanguine about South Korea's current status and future prospects over the past two years. It has regressed in the rankings, falling in 2014 to 26th place(a notch lower than in 2013) right above Israel and the People's Republic of China. Within the Asia-Pacific region, the Republic of Korea currently lags behind three top ten nations– Singapore in 2nd place, Japan in 6th, and Hong Kong in 7th –as well as four others: Taiwan in 14th, New Zealand in 17th, Malaysia in 20th, and Australia in 22nd. In other words, it trails not only the Anglophone South Pacific island nations, its former colonial master, and the other three original Asian Tigers, but even one of the developing nations that Koreans like to pride themselves on leaving behind(Schwab 2014, 13).

II. Asymmetry vs. System

To understand the basis of the World Economic Forum's evaluation, the sources of its concerns, and the broader implications for resolving the current crisis in the Republic of Korea, it is important to note that the index is a composite of numerous separate items within twelve broad "pillars of competitiveness" – four connoting basic requirements(the actions and attitudes of legal and administrative institutions; the quality of transportation and communications infrastructure networks; the degree of macroeconomic stability; and the development of health and primary education); six functioning as efficiency enhancers (higher education and training; goods market efficiency achieved through competitive exchanges; labor market efficiency; maturity and efficiency of the financial markets; capacity and willingness to absorb new technology; and sufficient market size to generate economies of scale); and two as additional stimulants for more advanced economies(sophistication, quality, and level of interaction of individual companies; and openness to innovation). Korea's problem is the asymmetry among its pillars, or as the authors of the accompanying text laconically explain, "Its performance remains uneven across the different dimensions of the Index" (Schwab 2014, 27).

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Often the asymmetry is obvious within the twelve broad categories and brings the average score for a "pillar" far below the level one might expect. For example, Korea's superb ratio of university enrollment of college-age young men and women is acknowledged with a second place ranking across all 144 countries, but the quality of the educational system in which they are enrolled only ranks 73rd; such disparities average out to a 23rd place in higher education and training, well below Korea's potential. But some of the greatest divergences occur between "pillars," and asymmetric pillars can only support a limited weight load. Within the basic requirements, Korea comes in a very strong 7th place worldwide in its macroeconomic environment, with a number one rating for inflation, but a disappointing 82nd place for the country's institutions. Particularly abysmal were its rankings within the institutional pillar for transparency of government policymaking (133rd place out of 144 countries), the efficacy of its corporate boards(126th), and the protection of minority shareholders (119th). Within the efficiency enhancers, Korea scored well in market size(11th place) and held its own in technological readiness (25th) as well as higher education and training, but flunked badly in the development of its labor market(86th place) and financial market(80th). Korea's level of cooperation in labor-employer relations was rated as especially poor(132nd place), while its financial market was marked down on the soundness of its banks(122nd), the ease of access to loans(120th), and the availability of venture capital(107th). Although Korea's labor problems are often noted in the local press, the authors of the Index point in particular to the lagging financial sector as a key factor dragging Korea down vis-à-vis the other Asian tigers.

Moreover, even though many of these problem areas have been noted in previous iterations of the Index, too often decision-makers in Korea have not placed enough focus on improving them in comparison with the efforts in other countries. As a result, Korea fell six places in both institutions and the development of its labor sector from the 2013-2014 report, from 76th to 82nd and from 80th to 86th. Its overall drop from 25th to 26th place is a direct result(Schwab 2014, 16, 18, 20, 27, 234-235).

One might quibble with a score here and there in an index attempting to compare and contrast so many aspects of so many different nations(Malaysia's entrance into the top twenty, for example, will probably not last any longer than South Korea's single year), but not with the overall verdict on the Republic of Korea of diminished competitiveness and unfulfilled potential through national asymmetry. A symmetry in which the economic, social, and political components reinforce one another rather than generate undesirable and unnecessary friction as they rub against each other can be achieved only by considering them in an integrated, holistic fashion – by borrowing from the lessons of modern systems theory.

Systems theory has over the past four

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decades drawn on research across a number of different fields, including biology, cybernetics, computer programing, psychology, economics, and political theory, to locate processes shared by them all. There are inevitably differences within the interpretations and applications offered by various advocates of the systems approach (most systems theorists focus on open rather than closed systems, and few systems turn out to be more open than systems theory itself). However, there are a number of key shared assumptions, starting with the prioritization of holistic over reductionist methodologies, on the grounds that interactions among multiple components limit the understanding we can derive from any analysis of them on an individual basis. In the words of one of the founders of modern systems theory, Ludwig von Bertalanffy (1969, 68), "You cannot sum up the behavior of the whole from the isolated parts, and you have to take into account the relations between the various subordinated systems and the systems which are super-ordinated to them in order to understand the behavior of the parts. Analysis and artificial isolation are useful, but in no way sufficient" for understanding biological processes, and by extension any complex system. The modern systems approach therefore often discusses feedback circuits that recall one set of sources in engineering, but with an emphasis on complexity that at times rivals the "chaos theory" that became popular a quarter of a century ago. As another proponent of systems theory has noted, "systems often display nonlinear relationships, outcomes cannot be understood by adding together the units or their relations, and many of the results of actions are unintended"(Jervis 1997, 6).

The results are unintended because the operation of the system itself will affect the behavior of its constituent elements, whether they are muscle cells, people, life forms in an eco-system, or stars in the heavens. This constitutes what Donella Meadows(2008, 1-2) calls a "central insight of systems theory" – that "Once we see the relationship between structure and behavior, we can begin to understand how systems work, what makes them produce poor results, and how to shift them into better behavior patterns. As our world continues to change rapidly and become more complex, systems thinking will help us manage, adapt, and see the wide range of choices we have before us"(cf. Weinberg [1975] 2001; Corning 1983; Coveney and Highfield. 1995; Mainzer 1996; Gharajedaghi 2011).

Peter B. Checkland(1985, 31) explains that system thinking is founded upon two pairs of ideas: those of emergence and hierarchy, and communication and control(Checkland 1985, 31). Systems Thinking utilizes modal elements to consider the componential, relational, contextual, and dynamic elements of the system of interest (Davidz and Nightingale 2008). Among the components of the system there is a hierarchy, at the same time that there are mutual relationships across them. In this paper, systems thinking is presented as a pair of concepts: systematic

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and systemic. Systematic thinking means using a method, or following a plan or an explicit and rational procedure. Systemic thinking means using systems ideas, treating things as systems or from a systems view point and pertaining to a system or systems.

III. Systematic Practice for Strengthening National Competitiveness

A successful regeneration of South Korean competitiveness would include three kinds of systems thinking. First, improvement requires a simultaneous focus on all major components in the South Korean economic system, including its government, corporations, and individuals. Second, strengthening the competitiveness of Korea's economy requires improving its comparative advantage through open-ended, open-minded interactions with other countries' components. Human behavior is much less governed than that of other inhabitants of the Earth by patterns laid down by natural selection and adjusted by fine-tuning to their particular environment during a relatively standardized process of development – in other words, it is an open system in which people must understand others' interests and adjust intelligently to their actions(including their reactions to our actions). Third, to maintain and extend a comparative advantage the South Korean government, South Korean corporations, and South Korean individuals must be willing to act on the basis of more universal citizenship in the norms and values of its economic system.

Globalization has caused the lives of Koreans to diversify as interaction with other systems has multiplied. Because Aristotle placed moderation at the center of human values, he even argued that humans should have only a moderate number of friends. Within the modern social, economic, and political systems, however, a human being develops its identity through more complex interactions with the environment. Globalization means a kind of meeting with many more friends than before – friends at least of the Facebook variety, a social network designed for a *cosmopolis*, rather than Aristotle's *polis*. Cosmopolitanism is both a result and an enabler of globalization, which has brought a higher level of autonomous control to Koreans.

National economic exchange based on free trade has effected a massive transformation in South Korea's economic identity. Globalization needs an open economic mind and valuation, and less regulation than in the past as to components of economic system. Some groups, facing a direct loss in status, have resisted collectively against the free trade system in South Korea, but globalization approached through systems theory would suggest that the subsystems within the South Korean economy need to adjust their identities to interact effectively and symmetrically. Along these lines, in early 2008 the Lee Myung-bak government established the National Competitiveness Council as an institutional reflexive feedback mecha-

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nism to promote social reform in South Korea. The National Competitiveness Council is a new institutional device to embed new economic values and social norms through socialization and anti-socialization. Due to globalization, an emergent relationship needs a more emergent identity.

This emergent identity can maintain the diversity of its antecedents, but also and above all must work through governments, corporations, and individuals to foster a more committed, self-aware global citizenship based on the universal characteristics of all mankind. In the evolution of globalization, conflicts of valuations between nations and ethnics triggered an interest in global citizenship for human society. The expression of humanity depends on time and space. Throughout world history, state power has usually been the preferred metric, but today the gauge has become relative advantage in human and material resources, in which the human resources represent the element over which nations have the prospect of improvement through education and more effective systemic integration. National competitiveness today means that governments, corporations, and individuals systematically obtain comparative advantage from interactions with their counterparts in other nations.

IV. Systemic Practice for the Strengthening National Competitiveness

In order to have a comparative advantage, improved interactions and communications are needed between the subsystems of different levels of government, corporations from the largest *chaebol* to the small entrepreneurial startup, and individuals in all their complicated roles(consumers, workers, family members, beneficiaries of the education system, etc.). While each of these subsystems – government, corporations, and individuals – regularly engages in economic activity on its own behalf, they also, in the age of globalization and liberalization, need to interact in the service of the larger system. For corporations' effective competiveness, governments should improve the institutions criticized so severely in *The Global Competitiveness Report*. Governments need to mitigate administrative regulations in response to globalization, at the same time that, to increase the creativity of the private sector, they try to promote fair competition in the various institutions. A government in comparative advantage needs good understanding and practices in its institutional arrangements and human resources for world market economics. Governments should have the infrastructure for the interdependence of matter-energy and information. In other words, governments need to play the trigger role in promoting the competitiveness in all parts of industry through the expansion of infrastructure such as roads, ports and airports, and information networks.

The comparative advantage of enterprises is the ability to produce quality products and

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sell cheaply. Enterprises' competitiveness is enhanced by improvement of their financial structure, expansion of investment in R & D and technology development, cost reductions through innovative management, investing for a big industry in interrelated effects, industry specialization, increasing the transparency of management, the establishment of corporate ethics, and establishment of productive labor-management relations.

The competiveness of governments and individuals as another component of the economic system strengthens the competitiveness of the country through systemic combination with corporations.

Next, only through co-evolutionary interactions with the international economic environment can an individual have a comparative advantage. For individuals to participate in the modern comparative advantage they will need knowledge about global citizenship and the technical skills to implement it. Individuals should try to get a comparative advantage through ongoing self-innovation efforts. Innovative firms and consumer's healthy consumption and savings culture should promote investment to enhance national industrial production capacity and national competitiveness. In addition, interactions between governments, corporations, and individuals need to be based on global citizenship. Global citizenship combines two factors-the idea of global responsibility(for the environment, aiding the poor, human rights, peace, etc.) and the development of institutional structures through which this responsibility can be exercised (Blackmore and Smyth 2002).

In addition, government, corporations, and individuals should have the ability to foster systems thinking. Systems thinking competencies derive from the ability to define the “universe” appropriately; to understand how the system operates in this universe in relation to the overall system; to define the right boundaries and thus to perceive relationships within the system and between the system and universe; to see things holistically within and across relationships; to understand complexity – how relationships yield uncertain, dynamic, nonlinear states and situations; to communicate across disciplines in order to bring multiple perspectives to bear; to take advantage of a broad range of concepts, principles, models, methods and tools, because any one view is inevitably wrong. If we want world change, then we need to overcome systemic resistance to change.

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